NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.
POLARIZATION OF EDUCATIONAL OPPORTUNITY AND THE POTENTIAL OF DISTANCE EDUCATION IN BRITISH COLUMBIA

by

Douglas Leaon Brown
B.A., Carleton University, 1971
M.A., Simon Fraser University, 1975

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY in the Department of Geography

© Douglas Leaon Brown December 1987

SIMON FRASER UNIVERSITY

December 1987

All rights reserved. This work may not be reproduced in whole or in part, by photocopy or other means, without permission of the author.
Permission has been granted to the National Library of Canada to microfilm this thesis and to lend or sell copies of the film.

The author (copyright owner) has reserved other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without his/her written permission.

L'autorisation a été accordée à la Bibliothèque nationale du Canada de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

L'auteur (titulaire du droit d'auteur) se réserve les autres droits de publication; ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation écrite.

ISBN 0-315-48670-8
Name: Douglas Leaon Brown
Degree: Doctor of Philosophy
Title of Thesis: Polarization of Educational Opportunity and the Potential of Distance Education in British Columbia

Examining Committee:
Chairman: R. Hayter

T.K. Poiker
Senior Supervisor

M.E. Eliot Hurst
Professor

J.T. Pierce
Associate Professor

M. Manley-Casimir
Associate Professor

S. De Castell
Associate Professor

H. Kariel
External Examiner
Professor
Department of Geography
University of Calgary

Date Approved: December 10, 1987
PARTIAL COPYRIGHT LICENSE

I hereby grant to Simon Fraser University the right to lend my thesis, project or extended essay (the title of which is shown below) to users of the Simon Fraser University Library, and to make partial or single copies only for such users or in response to a request from the library of any other university, or other educational institution, on its own behalf or for one of its users. I further agree that permission for multiple copying of this work for scholarly purposes may be granted by me or the Dean of Graduate Studies. It is understood that copying or publication of this work for financial gain shall not be allowed without my written permission.

Title of Thesis/Project/Extended Essay

Polarization of Educational Opportunity and the Potential of Distance Education in British Columbia

Author:

(signature)

Douglas Leaon Brown

(name)

April 19, 1988

(date)
ABSTRACT

The problem of unequal access to higher education has persisted in British Columbia despite various government policies aimed at reducing disparities among social classes, residential zones, and geographic regions. The most recent initiative of this type saw the establishment over the past decade of a distance education system intended to expand opportunities for participation in higher education.

This thesis examines a number of theories concerning the reasons for unequal educational opportunity and proposes a theoretical framework for analyzing this problem. This framework uses a credentialist interpretation of urban-rural differences and intra-urban social disparities. Social and geographic dimensions of unequal access to higher education in British Columbia are empirically defined and mapped using social indicators. In addition, the potential and limitations of distance education as a remedy for unequal educational opportunity are explored, with reference to survey data on several student populations in British Columbia.

Educational opportunity in British Columbia is found to be polarized in favour of affluent metropolitan residents. Differences in the social class composition of British Columbia regions, and of residential areas within the major cities reveal a systematic association between social class segregation, educational achievement and participation in higher education.
There is little evidence, however, that distance education has a significant overall impact on social class and regional disparities in effective access to higher education. Distance education may, in fact, aggravate social class and regional inequalities in educational opportunity by providing greater benefits to the metropolitan, anglophone middle class than to other residents of British Columbia. On the other hand, for mature literate adults who otherwise would not participate in higher education due to the family obligations, job responsibilities, and/or geographic remoteness, distance education provides a viable access route to higher education.
ACKNOWLEDGEMENTS

The author is grateful for the advice of Dr. T.K. Poiker, Senior Supervisor, and other members of the Supervisory Committee. Financial support of Simon Fraser University, the Government of British Columbia, and the Government of Canada is gratefully acknowledged. Technical assistance with graphics and statistical analysis received from B.K. Wells and D. Talling, respectively, is recognised with thanks. The cooperation of A. Cornes of the B.C. Teachers' Federation, Jack Finnbogason of the College Institute Educators Association, and R. Faris of the B.C. Ministry of Education in providing data is also appreciated. Typing of the first draft was done by D. Dalton. A special note of gratitude is due to those whose sympathy for the author has spurred his efforts at various times during the 'long haul'. These include Francine, Curt, and Kirstine Brown and other family members. Thanks also go to D.R., C.C. and N.S. for particular understanding and support. In a time of crisis, B. Bird rose to the occasion. As regards limitations of this thesis, the usual caveats are in order.
DEDICATION

To Francine, Curt, and Kirsty, for all we have gone through together.
# TABLE OF CONTENTS

Approval ........................................................................ ii
Abstract .......................................................................... iii
Acknowledgements ............................................................. v
Dedication ........................................................................ vi
List of Tables ................................................................. xii
List of Figures ................................................................. xviii

A. Theoretical and Methodological Overview ......................... 1
  1. Unequal Educational Opportunity ................................. 2
     1.1 Purpose and Preview of the Dissertation ................. 2
     1.2 The Problem ......................................................... 11
     1.3 Thesis Statement: Polarization of Educational
         Opportunity ....................................................... 20
     1.4 The Aims of Distance Education ......................... 32
     1.5 Theoretical Synopsi's ........................................ 36
     1.6 The Geography of Education - German
         Contributions .................................................... 50
     1.7 Themes in the Geography of Education .......... 57
     1.8 Summary .......................................................... 85

2. Notes on Epistemology ................................................... 91
   2.1 The Context of Human Geography ............................ 91
   2.2 Pluralism and Convergent Explanation .................... 100
   2.3 Scope and Limitations of the Present Study .... 105
   2.4 Social Stratification and Education ....................... 111
   2.5 Conditions Influencing Educational Opportunity 117
   2.6 The Concept of a Polarized Landscape ............... 124
2.7 Social Class, Regionalism, and the Role of Education ........................................ 134

2.8 Summary .................................................. 147

3. Methodology ............................................... 154

3.1 Guiding Questions and Working Hypotheses .......... 154

3.2 From Theory to Methodology .............................. 159

3.3 Social Indicators and Educational Opportunity 165

3.4 Surveys of Selected Student Populations .......... 177

3.5 Summary .................................................. 185

B. The Human Resource Landscape of British Columbia ..... 189

4. Urban Aspects of the Human Landscape .......................... 190

4.1 The Urban Information Base .............................. 190

4.2 Human Well-Being and Urban Structure .................. 192

4.3 Vancouver and Victoria .................................. 199

4.4 The Interior Cities ....................................... 218

4.5 Summary .................................................. 238

5. School Districts of British Columbia ......................... 241

5.1 Rural/Urban Differences .................................. 241

5.2 Variations Among British Columbia School Districts ........................................ 255

5.3 Summary .................................................. 282

6. College Regions of British Columbia .......................... 286

6.1 Regional Disparities in Effective Access ............ 286

6.2 Conditions in the Education System .................... 292

6.3 Social Conditions ......................................... 298

6.4 Economic Conditions ...................................... 305

6.5 Government Financial Aid to Students ............... 314

6.6 Summary .................................................. 320

viii
C. Distance Education ............................................. 322

7. The Potential of Distance Education ......................... 323
   7.1 The Goals of Distance Education ......................... 323
   7.2 Theoretical Perspectives on Social Mobility .. 338
   7.3 Empirical Evidence: Education and Social Disparity ................ 361
   7.4 Research Tasks ............................................. 373
   7.5 Summary ..................................................... 377

8. A Profile of Distance Education Students in British Columbia 380
   8.1 Student Profile Traits ................................. 380
   8.2 Goals and Expectations ............................... 381
   8.3 Personal Traits ........................................... 384
   8.4 Educational Traits ....................................... 387
   8.5 Perceptual Traits ......................................... 390
   8.6 Socio-Economic Traits ................................. 393
   8.7 Geographic Traits ....................................... 400
   8.8 Variables Linked to Student Aspirations ............ 405
   8.9 Summary ..................................................... 417

9. Social Mobility and Social Class Differences ............. 419
   9.1 The Importance of Social Class ....................... 419
   9.2 Personal Traits ........................................... 423
   9.3 Educational Traits ....................................... 425
   9.4 Perceptual Traits ......................................... 432
   9.5 Locational Traits ......................................... 438
   9.6 Summary ..................................................... 444

10. Regional Differences ........................................ 446
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1 Regional Disparities and Distance Education</td>
<td>446</td>
</tr>
<tr>
<td>10.2 Student Goals and Expectations</td>
<td>447</td>
</tr>
<tr>
<td>10.3 Personal Traits</td>
<td>449</td>
</tr>
<tr>
<td>10.4 Educational Traits</td>
<td>452</td>
</tr>
<tr>
<td>10.5 Perceptual Traits</td>
<td>453</td>
</tr>
<tr>
<td>10.6 Socio-Economic Traits</td>
<td>456</td>
</tr>
<tr>
<td>10.7 Locational Traits</td>
<td>460</td>
</tr>
<tr>
<td>10.8 Summary</td>
<td>463</td>
</tr>
<tr>
<td>11. Distance Education Students vs. Other Populations</td>
<td>466</td>
</tr>
<tr>
<td>11.1 Census Data</td>
<td>467</td>
</tr>
<tr>
<td>11.2 Grade 12 Students</td>
<td>476</td>
</tr>
<tr>
<td>11.3 University and College Students</td>
<td>492</td>
</tr>
<tr>
<td>11.4 A Geographically Disadvantaged Regional Population</td>
<td>500</td>
</tr>
<tr>
<td>11.5 Summary</td>
<td>506</td>
</tr>
<tr>
<td>12. Main Findings and Conclusions</td>
<td>509</td>
</tr>
<tr>
<td>12.1 Access to Education in a Polarized Human Landscape</td>
<td>509</td>
</tr>
<tr>
<td>12.2 The Spatial Polarization of Educational Opportunity</td>
<td>511</td>
</tr>
<tr>
<td>12.3 Social Class Disparities</td>
<td>513</td>
</tr>
<tr>
<td>12.4 The Role of Distance Education</td>
<td>515</td>
</tr>
<tr>
<td>12.5 Unexpected Findings and Unanswered Questions</td>
<td>518</td>
</tr>
<tr>
<td>12.6 Theoretical Implications</td>
<td>520</td>
</tr>
<tr>
<td>12.7 Answers to Working Hypotheses</td>
<td>522</td>
</tr>
<tr>
<td>12.8 Policy Implications</td>
<td>529</td>
</tr>
<tr>
<td>Appendix 1 - Notes on Methodology</td>
<td>533</td>
</tr>
<tr>
<td>Raw Data</td>
<td>533</td>
</tr>
</tbody>
</table>
Classification of Survey Respondents .......... 536
Classification of Spatial Units ............... 539
Data Base Reduction .............................. 549
Relationships Between Variables ............... 558
Appendix 2 - Questionnaires Used for Student Surveys .... 569
Appendix 3 - Review of Findings and Conclusions ........ 592
Theoretical Concepts ............................... 592
The Polarized Human Resource Landscape .... 599
Distance Education and Social Equity ........ 618
Regional and Social Comparisons ............... 637
Bibliography ........................................... 651
<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>The Impact of Education on Socio-Economic Inequality: Six Theoretical Approaches</td>
</tr>
<tr>
<td>3.1</td>
<td>Summary of Indicators Used to Examine the Social Geography of Education in British Columbia</td>
</tr>
<tr>
<td>3.2</td>
<td>Five Case Studies on Access to Higher Education in British Columbia</td>
</tr>
<tr>
<td>4.1</td>
<td>Pearson Correlation Coefficients for Six Socio-Economic Variables in Vancouver</td>
</tr>
<tr>
<td>4.2</td>
<td>Average 1981 Values for Nine Variables in the Five Largest Cities of British Columbia</td>
</tr>
<tr>
<td>5.1</td>
<td>Pearson Correlation Coefficients for 1981 Census Variables - Education vs. Other Variables for British Columbia School Districts</td>
</tr>
<tr>
<td>5.2</td>
<td>Rural/Urban Variation in Educational Variables</td>
</tr>
<tr>
<td>5.3</td>
<td>Rural/Urban Variations in Demographic and Ethnic Variables (1981)</td>
</tr>
<tr>
<td>5.4</td>
<td>Rural/Urban Variations in Labour Force and Income Variables</td>
</tr>
<tr>
<td>5.5</td>
<td>Rural/Urban Variations in Household Variables</td>
</tr>
<tr>
<td>5.6</td>
<td>Gender of Grade 12 Students by Rural/Urban Background</td>
</tr>
<tr>
<td>5.7</td>
<td>Grade 12 Students Age 17 and 18 Years By Rural-Urban Background</td>
</tr>
<tr>
<td>5.8</td>
<td>Education Achievement of Father Versus Grade 12 Students by Rural/Urban Background</td>
</tr>
<tr>
<td>5.9</td>
<td>Grade 12 Decisions on Further Education by Rural/Urban Background</td>
</tr>
<tr>
<td>5.10</td>
<td>Occupational Goals of Grade 12 Students by Rural/Urban Background</td>
</tr>
<tr>
<td>5.11</td>
<td>Main Reasons for Grade 12 Students Choice of a Post-Secondary Institution Ranked by Rural/Urban Background</td>
</tr>
</tbody>
</table>
5.12 Main Financial Sources of Grade 12 Students by Rural/Urban Background .............................................. 254
5.13 Percentage of Grade 12 Students Certain of Obtaining Enough Funds for Further Education, by Rural/Urban Background ......................................................... 255

8.1 Participation of Students in Distance Education in British Columbia by Program Type ....................... 383
8.2 Highest Lifetime Educational Achievement Expected .... 383
8.3 Financial Dependents in Households of British Columbia Distance Education Students ......................... 387
8.4 Age Order of Distance Education Students in British Columbia ......................................................... 387
8.5 Highest Educational Level Achieved by Distance Education Students in British Columbia ............ 389
8.6 Time Since Last Attended Some Form of Schooling ...... 389
8.7 Factors Against Further Education After Completing Distance Education ............................................. 392
8.8 Most Important Perceived Effect of Distance Education on Career in Long Run ................................. 394
8.9 Primary Employment Status of British Columbia Distance Education Students ................................. 395
8.10 Current Occupation of Distance Education Students Grouped by General Educational Requirements ...... 396
8.11 Occupations of Parents of Distance Education Students Grouped by General Educational Requirements ...... 396
8.12 Income Levels of Distance Education Students and Their Families ..................................................... 397
8.13 Distance Education Students With Friends or Family Members Involved in Post-Secondary Education ...... 400
8.14 Regional Distribution of Distance Education Students Versus Adult Population of British Columbia ...... 402
8.15 Distance and Time to Nearest Adult Education Facility 406
8.16 Intention to do Further Education After Completing Distance Education, by Gender .............................. 409
8.17 Highest Expected Lifetime Education Achievement by Gender ................................................. 409
8.18 Intentions for Further Education Versus Perceived Ability to Pay for Education ................................................. 409
8.19 Intentions for Further Education Versus Information Regarding Financial Aid ................................................. 410
8.20 Highest Expected Educational Achievement Versus Perceived Ability to Pay for Education ................................................. 411
8.21 Intentions for Further Education Versus Family Income ................................................. 411
8.22 Student Occupational Background Versus Lifetime Educational Goal ................................................. 414
8.23 Father Occupational Background Versus Student Lifetime Educational Goal ................................................. 414
8.24 Student Long Term Occupational Goal Versus Confidence Regarding Ability to Pay for Education ................................................. 416
8.25 Occupational Goals Versus Present Occupations of Students ................................................. 416
9.1 Use of English at Home Versus Current Occupation of Student ................................................. 425
9.2 Use of English at Home Versus Family Income ................................................. 425
9.3 Education Achievement Level Versus Current Student Occupational Status ................................................. 426
9.4 Education Achievement of Students Versus Occupational Status of Father ................................................. 427
9.5 Confidence Regarding Affordability of Further Education Versus Family Income ................................................. 433
9.6 Two Leading Goals of Distance Education Students by Employment Status ................................................. 435
9.7 Awareness of Student Financial Aid Versus Family Income ................................................. 439
9.8 Awareness of Student Financial Aid Versus Occupational Status of Father ................................................. 439
9.9 Difficulty of Transportation to Attend Classes Versus Current Occupational Status ................................................. 441
9.10 Difficulty of Transportation to Attend Classes Versus Family Income ........................................ 441

9.11 Time Lived in a Major Metropolitan Area Versus Occupation of Father ....................................... 442

9.12 Time Lived in a Rural Area Versus Family Income ........ 443

10.1 Highest Expected Education - Metro Versus Non-Metropolitan College Regions of British Columbia 448

10.2 Participation in Distance Education by Region and Gender - Metropolitan Versus Non-Metropolitan ...... 451

10.3 Number of Financial Dependents of Distance Education Students - Metropolis Versus Hinterland ............. 452

10.4 Reasons for Taking Distance Education Courses - Metro Versus Non-Metro Students .......................... 454

10.5 Expected Long-Term Impact on Career From Participation in Distance Education - Metro Versus Non-Metropolitan Views ......................................................... 455

10.6 Occupational Status of Father by College Region for Distance Education Students ....................... 458

10.7 Family Income of Distance Education Students - Metropolitan Versus Non-Metropolitan .................. 459

10.8 Difficulty of Arranging Transportation to Attend Classes in Nearest Town by College Region ............. 461

10.9 Quality of Adult Education Opportunities - Metro Versus Non-Metropolitan ................................ 462

11.1 Percentage of Distance Education Students With Highly Educated Parents Compared to General Adult Population ................................................................. 469

11.2 Percentage of Distance Education Students With Under-Educated Parents Compared to General Adult Population ................................................................. 471

11.3 Percentage of Highly Educated Distance Education Students Compared to General Adult Population at 1981 Census ................................................................. 472

11.4 Distribution of Low Educational Credentials Among Distance Education Students Compared to General Adult Population ................................................................. 473
<table>
<thead>
<tr>
<th>Chapter Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.5</td>
<td>Non-Anglophone Distance Education Students Compared to the General Population</td>
<td>474</td>
</tr>
<tr>
<td>11.6</td>
<td>First Choice Programs for Future Education - Grade 12 Versus Distance Education Students</td>
<td>479</td>
</tr>
<tr>
<td>11.7</td>
<td>Desired Occupational Status of Grade 12 Versus Distance Education Students</td>
<td>479</td>
</tr>
<tr>
<td>11.8</td>
<td>Highest Expected Educational Achievement of Grade 12 Versus Distance Education Students</td>
<td>480</td>
</tr>
<tr>
<td>11.9</td>
<td>Secondary Grades of Grade 12 Versus Distance Education Students</td>
<td>483</td>
</tr>
<tr>
<td>11.10</td>
<td>Confidence Regarding Funds for Future Education - Grade 12 Versus Distance Education Students</td>
<td>485</td>
</tr>
<tr>
<td>11.11</td>
<td>Rankings of Educational Goals of Grade 12 Versus Distance Education Students</td>
<td>486</td>
</tr>
<tr>
<td>11.12</td>
<td>Application for Government Financial Assistance - Grade 12 Versus Distance Education Students</td>
<td>488</td>
</tr>
<tr>
<td>11.13</td>
<td>Occupational Status of Mother - Grade 12 Versus Distance Education Students</td>
<td>489</td>
</tr>
<tr>
<td>11.14</td>
<td>Family Income of Grade 12 Versus Distance Education Students</td>
<td>490</td>
</tr>
<tr>
<td>11.15</td>
<td>Frequency of Residential Moves, 1975-81 Grade 12 Students Versus Distance Education Students</td>
<td>492</td>
</tr>
<tr>
<td>11.16</td>
<td>Period of Residence by Urban/Rural Location Grade 12 Versus Distance Education Students</td>
<td>492</td>
</tr>
<tr>
<td>11.17</td>
<td>Age of Students by Type of Institution</td>
<td>495</td>
</tr>
<tr>
<td>11.18</td>
<td>Marital Status by Type of Institution</td>
<td>495</td>
</tr>
<tr>
<td>11.19</td>
<td>Financial Dependents of Students by Type of Institution</td>
<td>495</td>
</tr>
<tr>
<td>11.20</td>
<td>Highest Educational Credentials by Type of Institution Attended</td>
<td>497</td>
</tr>
<tr>
<td>11.21</td>
<td>Student Educational Goals by Type of Institution Attended</td>
<td>497</td>
</tr>
<tr>
<td>11.22</td>
<td>Gross Family Income of Students by Type of Institution Attended</td>
<td>498</td>
</tr>
</tbody>
</table>
11.23 Main Source of Funds for Students by Type of Institution Attended

11.24 Size of Community Lived in Longest by Type of Institution Attended
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>The Social Ecology of Educational Achievement</td>
<td>162</td>
</tr>
<tr>
<td>4.1</td>
<td>Educational Index for Adults</td>
<td>200</td>
</tr>
<tr>
<td>4.2</td>
<td>Adults With Grade 8 or Less</td>
<td>200</td>
</tr>
<tr>
<td>4.3</td>
<td>Educational Achievement Index for Adults</td>
<td>201</td>
</tr>
<tr>
<td>4.4</td>
<td>Percentage of Vancouver Population in the 0-19 Age Group</td>
<td>205</td>
</tr>
<tr>
<td>4.5</td>
<td>Percentage of Victoria Population in the 0-19 Age Group</td>
<td>205</td>
</tr>
<tr>
<td>4.6</td>
<td>Average Number of Persons Per Room - Vancouver</td>
<td>207</td>
</tr>
<tr>
<td>4.7</td>
<td>Average Number of Persons Per Room - Victoria</td>
<td>207</td>
</tr>
<tr>
<td>4.8</td>
<td>Educational Achievement and Housing in Need of Major Repair - Vancouver</td>
<td>209</td>
</tr>
<tr>
<td>4.9</td>
<td>Educational Achievement and Housing in Need of Major Repair - Victoria</td>
<td>209</td>
</tr>
<tr>
<td>4.10</td>
<td>Educational Achievement and Non-English Mother Tongue - Vancouver</td>
<td>209</td>
</tr>
<tr>
<td>4.11</td>
<td>Educational Achievement and Non-English Mother Tongue - Victoria</td>
<td>209</td>
</tr>
<tr>
<td>4.12</td>
<td>Native Indians and Unemployment - Vancouver</td>
<td>213</td>
</tr>
<tr>
<td>4.13</td>
<td>Native Indians and Unemployment - Victoria</td>
<td>213</td>
</tr>
<tr>
<td>4.14</td>
<td>Educational Achievement, Unemployment and Income - Vancouver</td>
<td>214</td>
</tr>
<tr>
<td>4.15</td>
<td>Educational Achievement and Unemployment - Victoria</td>
<td>214</td>
</tr>
<tr>
<td>4.16</td>
<td>Educational Achievement and Per Capita Income - Victoria</td>
<td>215</td>
</tr>
<tr>
<td>4.17</td>
<td>Adults With A University Degree - Victoria</td>
<td>215</td>
</tr>
<tr>
<td>4.18</td>
<td>Educational Achievement Index and Per Capita Income - Vancouver</td>
<td>217</td>
</tr>
</tbody>
</table>
4.19 Percent Highly Educated Adults Minus Percent Under-Educated Adults - Prince George .......... 219
4.20 Percentage of Population in the 0-19 Age Group - Prince George .................................. 219
4.21 Percent of Total Population With Non-English Mother Tongue - Prince George ...................... 222
4.22 Percent of Total Population With a Native Indian Mother Tongue - Prince George .................... 222
4.23 Households With More Than 1 Person Per Room - Prince George ..................................... 222
4.24 Percent of Total Dwellings in Need of Major Repairs - Prince George ............................... 222
4.25 Average Male Income - Prince George ......... .......................................................... 223
4.26 Percent of Total Labour Force Unemployed - Prince George .......................................... 223
4.27 Percent of Highly Educated Adults Minus Percent of Under-Educated Adults - Kelowna .............. 227
4.28 Percent of the Population With a Non-English Mother Tongue - Kelowna .......................... 227
4.29 Average Number of Persons Per Room - Kelowna .................................................... 227
4.30 Percentage of Major Dwellings in Need of Major Repair - Kelowna ............................... 227
4.31 Per Capita Income - Kelowna .......... .......................................................... 228
4.32 Unemployment Rate - Kelowna ............ .......................................................... 228
4.33 Percent of Highly Educated Adults Minus Percent of Under-Educated Adults - Kamloops ........... 232
4.34 Percent of Total Population in the 0-19 Years Age Group - Kamloops ............................... 232
4.35 Percent of Total Population With Mother Tongue Other Than English - Kamloops ............... 233
4.36 Percent of Total Population With Native Indian As Mother Tongue - Kamloops ............... 233
4.37 Percentage of Total Dwellings With 1 Person or More Per Room - Kamloops .......................... 232
4.38 Percentage of Total Dwellings in Need of Major Repair - Kamloops .................................................. 232
4.39 Per Capita Income - Kamloops ........................................ 237
4.40 Unemployment Rate - Kamloops ........................................ 237
5.1 School Districts of British Columbia ................................. 257
5.2 Librarians Per 1000 Pupils ............................................ 260
5.3 Counsellors Per 1000 Pupils ........................................... 260
5.4 Percent of Female Teachers With No Degree ....................... 263
5.5 Percent of Male Teachers With No Degree ............................ 263
5.6 Pupil Teacher Ratio (Elementary) ..................................... 265
5.7 Pupil Teacher Ratio (Secondary) ...................................... 265
5.8 Elementary Classes Violating the B.C.T.F. Class Size Criteria .................................................. 267
5.9 Secondary Classes Violating B.C.T.F. Class Size Criteria ........ 267
5.10 Secondary Participation Rate .......................................... 270
5.11 1980-81 Grade 12 Students Enrolled in University in 1981 ....................... 270
5.12 Percentage of Adult Population Attending School .............. 272
5.13 Ratio of Under-Educated Adults to Highly Educated Adults ................. 272
5.14 Educational Achievement and Secondary Drop-Out Rate ......... 274
5.15 Educational Achievement and the Unemployment Rate .......... 274
5.16 Highly Educated Adults ................................................ 276
5.17 Educational Achievement and Per Capita Income ................. 276
5.18 Percentage of Non-English Speaking Families ..................... 278
5.19 Persons Whose Mother Tongue is a Native Indian Language ........................................ 278
5.20 Families With Four or More Children at Home ................... 281
6.21  B.C. Government Aid to Community College Students in 1983-84 ............................................. 316
6.22  Canada Student Loan Funds Allocated to B.C. Community College Students: 1983-1984 .......................... 316
6.24  Increase in Canada Student Loans to College Students From 1982-1983 to 1983-1984 ................................. 319
PART A

THEORETICAL AND METHODOLOGICAL OVERVIEW
CHAPTER 1
UNEQUAL EDUCATIONAL OPPORTUNITY

1.1 Purpose and Preview of the Dissertation

The purpose of this dissertation is threefold:
1. to assess the degree of regional disparity in British Columbia in access to higher education;
2. to identify the extent of social class differences in educational opportunity, and especially the spatial manifestations of these differences within the major urban centres of the province;
3. to evaluate the potential effectiveness of distance education as a means of overcoming social and geographic inequities in access to higher education in British Columbia.

In order to achieve this purpose, relevant theory and research are reviewed, and geographic variations in social conditions within British Columbia are examined. The socio-demographic traits of distance education students in British Columbia are also appraised in comparison with the profile of reference groups more representative of the general population of the province.

Chapter 1 presents the problem of unequal educational opportunity in the context of a resource-dependent economy such as that of British Columbia, and defines the premises upon which
the dissertation is based. Distance education, i.e. the use of correspondence study, televised teaching, tutoring by telephone, and other such methods for delivering instructional services, is an approach to teaching designed to make post-secondary education more accessible to potential students. The aims and methods of this form of education are introduced in Chapter 1 as a strategy for overcoming unequal access to educational opportunity. Because the geography of education is not a well-defined branch of Anglo-American human geography, the theoretical and research background to this subject is reviewed in some detail in Chapter 1, starting with the substantial contributions of German human geographers and following with representative examples of work in this area by English-speaking social scientists in various disciplines.

The topic of unequal educational opportunity, like the sub-discipline of human geography itself, is bedevilled with many strongly-held and conflicting opinions based on different beliefs as to how society is, or should be, organized and how social reality can/should be understood and improved. Chapter 2 addresses a number of epistemological issues that need clarification in order to indicate the intent and limitations of research conducted as part of the dissertation.

To provide an explicit context for discussing the issues raised in Chapter 2, the literature related to these issues is reviewed in some detail. The main points made concerning the type of knowledge sought in this dissertation are as follows:
1. The dissertation is intended to emphasize applied research that serves practical humanitarian goals in social policy.

2. Value-laden terminology is not avoided; intense philosophical debates in human geography illustrate the futility of pretending the existence of a value-neutral social science.

3. The Rawlsian concept of social justice, stressing that priority be given to the needs of the most disadvantaged social groups, is central to the raison d'etre of this research.

4. The approach to explanation in this thesis is partial, convergent, and pluralistic, as suggested by Chamberlin's method of multiple working hypotheses; in effect, there is no attempt to espouse or create a single, all-encompassing paradigm of society.

5. Empirical methods and spatial analysis are used not as ends in themselves, but to complement other information and theoretical concepts used in checking the credibility of working hypotheses on which the thesis is based.

6. Educational achievement of parents and/or family is treated as one of several key independent variables vis-a-vis the dependent variable of educational achievement in students.

7. Sociological research in Canada and elsewhere has clearly indicated the existence of a social hierarchy of advantaged and disadvantaged socio-economic groups. In the context of this thesis, social class refers to broad socio-economic traits in the Weberian genre, rather than the more
narrowly-defined Marxist categories based on the ownership of capital.

8. Dependency theory figures prominently in this dissertation as a framework for describing and analyzing urban-rural disparities in educational opportunity. Carnoy’s approach to infusing class conflict and the notion of cultural hegemony into dependency theory is adopted in a manner consistent with the work of Canadian sociologists on class conflict and regionalism.

9. Marxism, structural Marxism, and structuralism are terms describing distinct theoretical approaches to socio-economic analysis. Marxism is traditionally based on historical materialism, and focuses on the role of class conflict over the ownership of the means of production as the driving force of social and economic change. Structural Marxism emphasizes that culture and social institutions are closely patterned after the structure of human relations established in the sphere of economic production. Structuralism per se is a form of social analysis that, without necessarily being Marxist, examines closely the division of society into distinct social status groups and industrial/occupational sectors, and emphasizes the importance of regional economic specialization based on the principle of comparative advantage in inter-regional (or international) trade. Each of these approaches provides insights into the connections between social stratification and education as a social institution. None, however, should be used as an exclusive
social research paradigm, as all three tend to focus narrowly on purely economic and technological variables as root causes of social phenomena.

The above points provide a conceptual framework and philosophical background for the research approach used in the dissertation.

Chapter 3 describes explicitly the methodology of the thesis. This methodology is guided by three postulates that form the basis for three families of working hypotheses. Each of these sets of working hypotheses addresses a distinct facet of the triad of issues that form the core of the dissertation, namely:

1. regional disparities in educational opportunity;
2. social class disparities in educational opportunity;
3. the potential and limits of distance education as a means of equalizing educational opportunity.

The theoretical approaches most relevant to the analysis of these issues are: social reproduction, de-schooling, credentialism, and the ecology of schooling.

In Chapter 3 the role of social indicators, survey research, and socio-economic mapping are explained in relation to the objectives of the dissertation. Regional comparisons, neighborhood typologies and comparisons of socio-economic profile data on distance education students and selected reference populations are the main elements of methodology discussed.
Chapters 4, 5, and 6 constitute a descriptive geography of educational opportunity in British Columbia at three different scales: census tracts, school districts, and college regions. In these chapters, key socio-demographic variables related to participation and achievement of adults in the education system are mapped and consistent spatial patterns are identified. Metropolitan/non-metropolitan differences, urban-rural contrasts and socio-economic variations within major urban areas of the province are the focal points of these chapters.

Chapter 7 reviews and highlights in detail the issue of whether distance education is a potentially effective means of re-distributing educational opportunity. The goals of distance education are discussed and situated in the context of theoretical viewpoints on social mobility. Research findings of other authors on distance education and social mobility are examined for clues as to what impacts distance education can be expected to have on social inequity in access to education. Both theoretical and empirical evidence suggest that distance education selectively benefits only certain social groups, most of which are not disadvantaged in terms of their socio-economic status and upward social mobility. It is thus important to establish whether participants in distance education in British Columbia can be considered to be disadvantaged compared to students of conventional learning systems, and compared to the general adult population.
In Chapters 8-10 the personal, socio-economic, and geographic traits of distance education students in British Columbia are examined in detail. Chapter 8 identifies their profile characteristics aspirations, and the anticipated impact of distance education on their social mobility. Chapter 9 provides more detailed information on the personal and social class traits of distance education students to discern any particular combinations of student characteristics that may indicate a selective distribution of the benefits from distance education. Gender, ethnicity, age, and location are among the variables that are considered in combination with social class as defining degrees of access to educational opportunity via distance education. Chapter 10 focuses on comparisons of metropolitan to non-metropolitan distance education students. The objective is to identify any salient regional disparities in participation in distance education and to note whether the socio-economic status of distance education students varies systematically by region.

Chapter 11 addresses the question of whether distance education students constitute a disadvantaged social group as compared to other students and to the adult population of the province. Comparisons are made between distance education student traits and census data describing the general population; also, distance education students are compared to other selected student populations. Results of a survey of a geographically disadvantaged regional population are examined to
determine whether distance education is likely to provide a significant improvement of educational opportunity for this reference group.

Findings and conclusions are presented in Chapter 12. In general, effective educational opportunity in British Columbia is greatest in the metropolitan southwest. There are, however, systematic spatial variations within major cities in social conditions that influence the practical accessibility of higher education. The spatial distribution of adult educational credentials is a reliable predictor of variations in socio-economic well-being. Variations in socio-economic status in turn, are closely associated with variations in adult participation in the education system. In general, anglophones occupy more favourable positions than non-anglophones in terms of the social class hierarchy and locations that have high levels of educational opportunity. Distance education, although of some benefit to residents of small rural communities, attracts heavy participation from metropolitan areas. The vast majority of distance education students are upwardly mobile, middle class anglophones who cannot be considered disadvantaged in either a socio-economic or geographic sense. Metropolitan women of middle class origins, and non-metropolitan men of working class background are significant beneficiaries of distance education.

As in most Phd. dissertations, research intended to answer questions leads to new questions. Four unanswered questions are
raised by this research:

1. Do women benefit more than men from distance education?
2. What socio-economic, cultural and geographic factors account for avoidance of distance education?
3. Why is the disparity in educational opportunity between metropolitan and rural areas so great?
4. How important are local historical and cultural factors in explaining regional differences in participation and achievement in higher education?

These questions merit further investigation by other researchers.

The present work is an experiment with the flexible and eclectic style of research suggested by Chamberlin's method of multiple working hypotheses. Although empirical research methods are used, they are guided by mutually complementary concepts from social theory. The concepts of social reproduction, de-schooling, credentialism, and the ecology of schooling are useful in interpreting variations in educational opportunity between different social groups. Geographic aspects of this topic are assessed with reference to Carnoy's use of dependency theory in defining the role of education in cultural imperialism.

Distance education is found to have little positive impact on the problem of unequal educational opportunity in British Columbia. A number of alternative policy options therefore are suggested including:
re-formulations of student aid policies to take account of the social class and geographic handicaps of some students; modifications in the service delivery practices of post-secondary institutions so as to target specific disadvantaged client groups for programs designed to meet local needs; affirmative action enrollment policies; systematic identification of educationally deprived areas as priority locations for specially designed education programs. inclusion of advocates of disadvantaged social groups in policy-making bodies of post-secondary institutions.

These alternatives imply a more pro-active public policy in pursuit of social equity in higher education.

1.2 The Problem

In 1962 the then President of the University of British Columbia, Dr. J.B. MacDonald, authored a report entitled Higher Education in British Columbia and a Plan for the Future. MacDonald was convinced that expected rapid demographic and socio-economic changes in the province, coupled with an irregular geographic distribution of population, made it urgent that post-secondary education be massively expanded and decentralized. His conviction was based on two personal beliefs, clearly stated in his report:

1. that an expanded higher education system was crucial to
future economic progress (MacDonald, 1962, p.6);

2. that only a geographically decentralized higher education system would permit the realization of the talents and legitimate aspirations of youth throughout the province (ibid., p. 59).

The MacDonald report had a dramatic impact on public policymakers and led to the creation of both Simon Fraser University and the present system of community colleges, but did it eliminate unequal access to higher education in British Columbia? This dissertation addresses both the problem of unequal educational opportunity and the issue of what impact distance education (See pp. 17 - 19.) can have on this problem.

Research since the MacDonald report has revealed the persistence of inequalities of educational opportunity in British Columbia, in spite of policy initiatives designed to address this problem. Adams (1964) grouped the school districts of British Columbia into four rural-urban categories by municipal status and population size and ranked them against 20 variables indicating the level of educational demand, provision and achievement. He concluded that educational excellence was most commonly found in urban districts and least commonly found in rural districts. Moreover, he noted great variations in rankings among districts, indicating wide variations in educational opportunity. Dennison et. al. (1975) investigated the impact of community colleges and reached a number of findings suggesting an interplay of socio-economic and
geographic conditions affecting participation in higher learning. Among the findings of Dennison were the following:

1. For areas of equal socio-economic status, proximity to a community college was associated with higher education participation rates.
2. College students were of lower socio-economic status backgrounds than university students.
3. College students were not representative of the socio-economic status of the general population including low socio-economic strata.
4. Location of colleges played an important role, along with cost, in the decision to participate in higher education.
5. Lower income people were not as aware of the community college as compared to middle and upper income groups.

These findings were suggestive of, and consistent with the results of other research on variations in educational opportunity, participation, and achievement in British Columbia.

During the late 1970's, Dickinson (1975, 1978) examined census data with a view to identifying social and geographic disparities in low educational achievement and illiteracy. He defined the undereducated as those people with Grade 7 or less, while illiterates were defined as those with less than Grade 5. In general, he noted substantial differences in educational achievement between rural and urban areas, in favour of the latter (op. cit., 1975, p. 2, 3, 9, 16). He also noted that the incidence of undereducation was higher than average for certain
ethnic groups (e.g. native Indians) and lower for high income groups. There was also a notable association between educational disadvantage and primary industry occupations such as fishing, forestry, and mining (ibid., 1978).

In 1976, the provincial government established the Winegard Commission to examine regional variations in post-secondary educational opportunity. The commission found there were extreme regional differences in post-secondary participation rates, with rate in metropolitan areas being two or three times higher than the rest of the province. (Winegard, 1976; also S.F.U. Week, 1976). It also found that many people were tied to small communities through their family, job, and lifestyle, and that student migration from the Interior to Vancouver and Victoria would decline if more postsecondary programs were available in the Interior. Winegard made a number of recommendations to alleviate this situation, including the establishment of university centres in the Interior, promotion of public awareness of non-metropolitan university programs, and the creation of a university advisory council of non-metropolitan residents.

Studies of Grade 12 students in British Columbia by Wennevold (1976) and Brown (1981) have revealed persistent disparities in post-secondary participation rates and in aspirations for educational and career achievement linked to the socio-economic status, gender, and location of students. A selection of typical findings includes the following:
equal participation rates but highly unequal aspiration levels between males and females, with males aspiring to higher levels of achievement;

proximity to a college or university as a major influence on the decision to proceed to post secondary education;

high dependence on parents and family as a source of financing for higher education;

strong influence of the immediate family on student decisions about further education;

a clear link between strong previous academic performance and the decision to enter post-secondary education;

a significantly positive relationship between the aspirations of students and the educational achievement and occupational status of their fathers;

sexual stereotyping in career choices;

a positive relationship between family income and the choice to participate in post-secondary education;

a positive relationship between family income and student educational/career aspirations;

division of British Columbia into a high opportunity metropolis and a low opportunity periphery, based on disparities in conditions supportive of participation in post-secondary education, such as family socio-economic status, family financial support, travel costs, availability of jobs, information on education, and peer group support.

These findings suggest that educational opportunity and motivation are influenced by a combination of three key factors:
socio-economic status, gender, and location.

In 1977, the report of the Ad Hoc Committee on Accessibility to the Universities Council of British Columbia recognized that, in spite of the established system of universities and regional colleges, "...there is a serious problem of accessibility to post-secondary institutions of British Columbia and ... there are barriers to participation in the education opportunities of the Province ... which should be removed." (Ad Hoc Committee on Accessibility, 1977, p.6). The committee endorsed the use of participation rates for different sectors of the population as indicators of equal educational opportunity and recommended that all barriers to accessibility be removed. The committee explicitly emphasized that the problem was geographical, and pointed out that a regional association often exists between, on the one hand, relative inaccessibility of higher education and, on the other, indicators of economic stagnation, social deprivation, and distance barriers.

The most visible policy response to the problems identified by the Ad Hoc Committee was the creation of a distance education system for British Columbia. The Open Learning Institute (O.L.I.) was established by the British Columbia government and given an official mandate "... to improve educational opportunities for all residents of British Columbia wherever they live, whatever their educational standing or economic circumstances." (O.L.I. information brochure, 1979) O.L.I.'s public information specifically singled out the geographically
isolated as one of its target client groups. In the 1980's the Knowledge Network (KNOW) and the Open University Consortium, along with outreach programs in the various colleges, have reinforced the trend toward spatial de-centralization of post-secondary education opportunities.

In theory, these agencies were designed to expand educational opportunity for British Columbia residents of all social classes, thus favouring the development of a more democratic and equitable society. To assess potential progress toward this goal, information is needed on distance education students as to their socioeconomic traits, geographic distribution, and educational/occupational aspirations. Such information is essential to judge the effectiveness of distance education as a means of reducing social and geographic disparities in educational opportunity.

Distance education as a system for delivering educational services to students has been described in the following terms (Holmberg, 1981, p. 11): "...learning supported by those teaching methods in which because of the physical separateness of learners and teachers, the interactive, as well as the pre-active, phase of teaching is conducted through print, mechanical or electronic devices." The main feature of distance education, then, is that it is a form of teaching that operates mainly, and often entirely, independently of physical distance between teacher and learner. Because it operates this way, it can be structured to fit the busy schedules of students.
otherwise pre-occupied with family or job responsibilities, and it can provide instructional services to those who are geographically handicapped (e.g. prisoners, the physically disabled, rural residents, northerners, etc). Practitioners of distance education often describe it as the triumph of pedagogy and technology over space and time.

Smith et. al. have identified five types of distance education in Canada (Smith, et. al., 1984):

* correspondence programs;
* open universities;
* "outport" programs;
* extension programs;
* networks (e.g. educational television).

These systems are characterized as having high start-up costs. Their efficiency, however, lies in their low marginal cost per extra student, their centralized administrative structure, and their flexible use of communications media (ibid., pp. 79, 80).

The development of modern distance education is based on three major contemporary educational trends (Perry, 1976, pp. 1-9):

1. the expansion of adult education;
2. the growth of educational broadcasting;
3. the political promotion of egalitarianism in education.

Research on the impacts of distance education in Canada has been almost exclusively focused on the first two of these phenomena, while the third one has been largely ignored. Much has been made
by distance educators of the aspect of "openness" as to admission requirements, pedagogical flexibility, and accreditation of a variety of learning and working experiences. Serious doubts have been raised, however, regarding the practical "openness" of distance education to socio-economically deprived, the educationally disadvantaged and cultural minority groups (Shale, 1987, pp. 17, 18). Ager affirms that, in fact, the social equity aspect of distance education is a mirage in developing countries, where it is mainly the dominant social elites that benefit from this form of education, rather than the poverty-threatened workers and peasants (Ager, 1987, pp. 48-50).

In Canada there is a dearth of research into the impact of distance education on social equity. In a recently published authoritative book on the status of distance education in Canada (Kaufman and Mugridge, eds., 1986), only one of twenty-four papers paid significant attention to the social traits of distance education students. The apparent lack of concern of distance education policy makers and planners regarding the social implications of their actions is described by Coldeway as follows (Coldeway, 1986, p. 88): "The published results over the last six years on distance education clearly reflect a bias towards non-empirical decision-making on the part of most institutions and programs. It appears that the lack of empirical data only serves to encourage that trend to continue. Nobody appears willing or able to do the research needed to answer even basic questions about learner characteristics and success."
1.3 Thesis Statement: Polarization of Educational Opportunity

Unequal educational opportunity has persisted in British Columbia in spite of measures to decentralize higher education. The response to this problem was the creation of a distance education system, but the impact of the system is not yet fully known. This raises the following questions:

1. What underlying conditions in our economic system are systematically associated with an uneven distribution of educational opportunity between different social classes?

2. Does the unequal access of different social classes to educational opportunity have a spatial dimension?

3. How effective can distance education be in overcoming the social and spatial obstacles that block the access of certain social classes to the benefits of higher education?

These questions are addressed in this dissertation in the following three propositions:

1. Access to higher education in British Columbia is polarized between rich and poor regions in such a way as to favor the more affluent socio-economic groups in metropolitan areas.

2. There is an uneven distribution of human resources in British Columbia based on unequal opportunity among social classes and reflected in a spatially polarized pattern of both material capital (wealth) and cultural capital (education facilities and credentials).

3. Inequality of educational opportunity between the regions of British Columbia and between the social classes that occupy...
those regions can be mitigated by distance education, at least for some social groups and geographical areas.

The first two propositions require empirical confirmation (See ch.4 - ch.6), while support for the third will be derived from both empirical and theoretical evidence (See ch.7 - ch.11).

The dependency perspective (A.G. Frank, 1969) is a convenient heuristic device for exploring these propositions. This model postulates that the relationship between large urban-industrial agglomerations (i.e. metropoli) and rural, agrarian and/or resource based (i.e. hinterland) regions is essentially a colonial one. Vital factors of production including natural resources, capital and skilled/educated labour are drained out of hinterland areas and into parasitic metropolitan centres. Hinterland regions are assigned the role of suppliers of raw materials and human resources while being exploited as captive markets for the manufactured goods of the metropolis. Hinterland areas are also required to be the passive recipients of metropolitan cultural values and technology.

The limitations of dependency theories have been summarized by Regan (1976). In general, the notion of dependency overemphasize the spatial aspects of economic inequality while failing to come to terms fully with the dynamics of class conflict that underly these spatial inequalities. It is useful as a concept for describing the economic relations between regions, but it does not focus clearly enough on class relations that are at the root of regional disparities.
It is clear, in the light of these shortcomings, that the dependency perspective must not be viewed in itself as a complete explanatory model for identifying the causes of regional social disparities. Dependency theory merely provides a vocabulary (e.g., metropolis, hinterland) and a conceptual framework for defining a set of spatial, technical and economic relationships between metropolitan and non-metropolitan areas. Its basic terminology is convenient for identifying spatial and regional traits that characterize a polarized human landscape; but spatial entities do not have a life of their own outside the human groups, processes, and institutions that create the human landscape. More will be said on this subject in the next chapter.

Other writers on the metropolis/hinterland theme have tried to specify the particular conditions reinforcing the dominant/subordinate relationship between metropolis and hinterland. Friedman (1969) cited institutional factors, including:

1. monopolization by the metropolis of institutions related to high level research and planning functions, technology, and socio-economic change;
2. persistent cultural differences between metropolis and hinterland populations that reinforce the regional division of political/economic interests in favour of the metropolis;
3. slow adjustment of hinterland areas to technological, socio-economic and cultural changes emanating from the
metropolis, and related to "brain drain" from the hinterland.

Peucker (1968, 1972) suggested that metropolitan dominance of the education system is a key factor in perpetuating the metropolis/hinterland relationship. This relationship, as has already been mentioned, is not limited to its spatial dimension but stems from the conflicting interests of different social classes. If the most powerful social classes are highly concentrated in metropolitan centres it is to be expected that control of the educational superstructure will be anchored in the metropolitan social elite.

The above interpretations of the metropolis/hinterland concept shed some light on the institutional structures at work in maintaining regional disparities. It must be stressed, however, that institutional structures are surrogates for class relations. In this sense it is appropriate to consider dominant/subordinate relationships among classes within a capitalist mode of production as the main vector of regional disparity. Class relations are mediated by institutions that have spatial ramifications. If educational and research institutions, planning and technology facilities, etc. are spatially concentrated it is because the dominant social classes, whose interests these institutions serve, are also spatially concentrated. An uneven distribution of capital, and of the benefits that flow from the ownership and/or control of capital, is at the heart of the capitalist system. Higher
education facilities, as a form of cultural capital, follow this pattern of uneven distribution. Education can, in this context, be seen as a form of cultural imperialism serving the interests of the dominant metropolitan social classes.

Because the institutional apparatus for transmitting the culture of the dominant classes is unevenly distributed in both "real" space and social space it is to be expected that cultural barriers between dominant and subordinate classes will persist. These cultural barriers will manifest themselves on the landscape as spatial patterns of socioeconomic inequality between different social classes. Canadian economists, geographers, and sociologists have described in some detail the translation of regional economic inequalities into cultural conflicts between classes. (Gonick, 1972; Usher, 1972; Davis, 1971). It is worth noting that these same class conflicts are found within both metropolitan and hinterland regions as a purely socioeconomic conflict that is more-or-less independent of spatial organization per se. Spatial relations may in effect be considered to depend on class relations rather than vice versa. The spatial organization of the social landscape should properly be seen as an effect rather than as a cause. Causality resides in the socio-economic and cultural processes through which society defines its spatial priorities.

Once the economic relationship between metropolis and hinterland is defined as the spatial aspect of a relationship between dominant and subordinate classes in capitalist society,
it is possible to conceptually integrate the role of the education system into a dependency perspective. This was formulated by Carnoy as follows: "... institutions in highly developed countries which are geared to the colonization of others must by their very nature also colonize the people in the developed country itself. Thus, imperialism colonizes everyone but those who make the decisions at the centre of the metropole." (Carnoy, 1974, p. 69). This interpretation of the metropolis/hinterland framework as a form of imperialism applied to education is highly relevant to the Canadian situation.

Canadian economic growth has traditionally depended on the export of natural resources to the industrial metropoli of the capitalist countries. The Canadian economy can therefore be regarded as a hinterland one. Given this economic base, an uneven pattern of socio-economic development can be expected, of which one feature is an irregular social and spatial distribution of higher education and technical skills. How does the higher education system contribute to this hinterland pattern of uneven socio-economic development?

If the main role of education in regional economic development is the transmission of technical skills (i.e. technocratic function) or the catalyzing of cultural change (i.e. diffusionist function), then Canadian production can be expected to be less capital intensive and more labour intensive compared to that in the capitalist metropoli. This is due to a distance decay function in the spread of technical knowledge
The outward from metropolitan centres (Peucker, 1968). The chronically low productivity of the Canadian manufacturing sector supports this expectation. However, the Canadian resource sector has been technologically advanced, capital intensive, and relatively efficient (Innis, 1962; Aitken, 1961).

Rush (1979) has suggested that an unfavourable aggregate production function in the Canadian economy is not due to low labour productivity as such but rather to the historical dominance of the Canadian economy by a merchant capitalist class. Merchant capitalism in Canada has led to a growth rate in tertiary sector employment higher than any other OECD country, and almost double that of the U.S. (Rush, 1979, pp. 29, 31). The result is that more and more labour power is diverted toward the financial, distribution, and service sectors whether or not productivity is increasing in other sectors of the economy. Over time, low worker productivity in the tertiary sector combines with inefficient branch plant manufacturing to offset the technical efficiency in resource extraction. This system is sustained by three conditions:

1. an unequal distribution of income among social classes, residential areas and regions, respectively, reflected in wide variations of unemployment levels among occupational groups, neighbourhoods and regions;
2. a heavy reliance on high volume resource exports made possible by capital-intensive production methods;
3. dependence on foreign capital imports for further growth of
the primary and secondary sectors, and imported foreign technology in the secondary sector.

Class relations within this Canadian economic system have been described by Davis (1971), Porter (1966; 1979), Lucas (1971), Naylor (1974) and others as authoritarian, elitist, and metropolitan-dominated. The dominance of Canadian society by a monopolistic mercantile/financial elite based in the largest cities of Central Canada in a few peripheral sub-metropoli has been reinforced and reproduced by the education system, in that "... educational choices and ideologies have become professionally biased" (Rush, op. cit., p.25). Demand for higher education in Canada is based on an ideology of upward social mobility. The goal of the individual is to achieve personal security through white collar professionalism in the private monopoly sector or in the public bureaucracy: "... education is the only viable route to the tertiary sector of the economy upon which the majority of Canadians depend for their livelihood." (ibid., p.34).

Schecter (1977) has documented how the metropolitan capitalist classes, acting in their own self interest, have dominated the historical development of the Canadian education system. Educational reform in Canada has traditionally had the following class objectives:
1. subordination and discipline of the working class;
2. legitimation of social and regional inequalities;
3. maintenance of the illusion of upward social mobility;
4. development of an educational bureaucracy committed to the dominant (capitalist) ideology;
5. containment and/or deflection of incipient class conflict in ethnic, labour, and politically radical social movements;
6. concentration of power over the education system in the hands of an urban upper middle class elite;
7. integration of surplus labour power (e.g. women) and redundant social classes (e.g. petite bourgeoisie) into a white and/or blue collar proletariat at the service of the expanding tertiary sector;
8. siphoning the most talented students out of hinterland communities and into metropolitan areas.

Over time, the distribution of human resources can thus be expected to become increasingly polarized geographically as people with high education credentials become spatially concentrated in the major urban centres. Some hinterland residents move to metropolitan areas to get improved access to education while those with high educational credentials are propelled toward large urban centres in search of jobs that match their educational status.

A plausible explanation of spatial variations in economic productivity, income, and employment (related to the class relations described above) can be derived from the credentialist hypothesis. Credentialism emphasizes that technical skills and attitudes are acquired mainly through on-the-job experience rather than through formal education. The role of the education
system in ensuring the social dominance of the metropolitan elite is therefore not primarily the transmission of technical knowledge or cultural values per se, but rather the regulation of access to jobs, especially those that confer high social status and/or income. This is the so-called screening function.

Job openings are generally more available in locations where there is a concentration of new capital investment. The geographic distribution of employment opportunities resembles the distribution of metropolitan-based capital investment activities both in the metropolis itself and in regional satellite locations. There is a difference between new investment activities versus established facilities. A large hydroelectric dam, for instance, only generates significant local employment during its construction, after which most of the employment dependent on it is located in the metropolitan centres that use its electric power. The distribution, type, and duration of employment created by the dam is controlled by the metropolitan managerial elite that owns and/or controls the capital represented by the dam. The geographic distribution of actually or potentially successful job candidates, however, is a function of the prior distribution of educational opportunity among social classes. Thus, the education system prepares people primarily to adapt to the immediate formal education requirements of capitalism on the basis of their social class position rather than to be productive per se.
The spatial availability of employment tends to be preconditioned by educational credential requirements that are contingent more on social class background than on empirical aptitude or skill. To the extent that capital-owning classes and/or their proxies dominate both the education system and the spatial deployment of capital investment they will determine both where employment (and income) is located and who is eligible for that employment (income). The result is the reproduction of the existing class system in both its social and spatial aspects. In this context, both the social and the geographic mobility derived from education are more readily available to members of the upper social classes, since they control the process that confers such mobility (Barkens, J. and Pupo, N., 1978).

Owners of substantial capital, most of whom are metropolitan residents with above average educational credentials, determine the spatial distribution of jobs involving high income, social status, and/or decision-making power (i.e. positional wealth). These jobs have generally high educational requirements. Thus, the residential location pattern of those who possess higher education is determined by the distribution of jobs with high positional value. The demand for higher education among youth is a function of parental education/occupational status, i.e. it is a form of class consciousness. Therefore, high participation rates and effective community demand for higher education are closely related to the existing distribution of highly educated
people. In effect, metropolis-based ownership of capital determines areas of high educational opportunity through the spatial concentration of professional/managerial jobs, material wealth, educational facilities, educationally-motivated youth, and residential communities that place high value on post-secondary education. These areas appear as zones within the metropolitan area itself or as local concentrations of high educational opportunity in regional satellite communities that are dependent on the metropolis.

This credentialist interpretation of the metropolis-hinterland relationship broadens the spatial definition of hinterland to include a human resource hinterland (i.e. social hinterland) that encompasses both areas in resource extracting regions and areas within the metropolis itself. In effect, any territory occupied by "raw" or "semi-processed" human resources, i.e. those lacking the cultural currency derived from formal education/training, is host to a "labour reserve army" that drains its labour power into the metropolitan-dominated production process. Since residents of the human resource hinterland lack the credentials to purchase jobs in the positional economy they are partly absorbed into the production processes of the material economy as unskilled or semi-skilled labour, and are partly left idle as the unemployed, welfare recipients, etc., until such time as the material economy may require their labour. Thus, the human resource hinterland may include rural communities, Indian reserves, blue collar suburbs
of major regional cities, and urban working class neighbourhoods of the metropolis itself.

1.4 The Aims of Distance Education

The deployment of decentralized learning systems such as distance education has as its formal goal the redistribution of educational opportunity in favour of less advantaged locations in the human resource hinterland. The philosophical rationale for this is derived from the notion of equal educational opportunity as a right of citizenship (Dahrendorf, 1967, pp. 78-80). The most prevalent criterion for evaluating the relative equality of educational opportunity is the distribution of educational achievement levels among various sectors of the population. Given equal average genetic endowment, if equal educational opportunity also existed the proportions of the population achieving various educational levels would be equal for all social classes, racial/ethnic groups and/or locations.

The operational objective of distance education is to make post-compulsory education available equally to all regardless of locational, cultural, or socio-economic background. To do this, distance education caters to two groups:

1. mature students who seek "second-chance" education route to personal achievement, material success, etc.;
2. those whose access to educational credentials is blocked by social or spatial handicaps (McIntosh, 1976; Medsker, 1975).
Implicitly, the objective is to alter the geographic and social distribution of the more highly educated so as to reduce the influence of economic capital on the distribution of cultural capital. If the educational level can be substantially raised in the population of the human resource hinterland, then the ongoing demand for higher education, expressed through political and institutional channels would be made at least partially independent of the distribution of material capital.

Such a development could hypothetically improve the ability of the population in the human resource hinterland to compete successfully with metropolitan residents for jobs. In particular, it could supply those of hinterland origins with enough cultural currency to penetrate the positional economy, i.e. gaining access to jobs of higher social status, decision-making power, etc. This is the ideal of upward mobility. However, the degree of penetration possible would be limited by the cultural and family origins of hinterlanders. They would be generally less conversant with the cultural norms of metropolitan social elites and less able to benefit from influential friends and relatives, compared to upper middle class metropolitan persons.

If the supply of educational credentials in the positional economy could be sufficiently expanded to induce a general devaluation of cultural currency based on educational differences, then access to jobs might have to be based more on performance-related criteria such as personal attributes, proven
technical efficiency, prior job experience, etc. A relative oversupply of educational credentials would also imply a reduction of income differentials between jobs in the positional economy and those in the material economy, i.e. a disincentive to those who pursue higher education for purely mercenary motives. Theoretically, job satisfaction for the more highly educated would therefore have to be derived more from personal interest or knowledge and/or service to society rather than from the search for prestige and material wealth.

As long as the location of economic activity is determined by the owners of capital, modifications to the education system aimed at improving access can have only a limited mitigating effect on the spatial inequalities in the distribution of socio-economic well-being. For example, distance education could possibly aggravate social inequality within regions to the extent that expansion of educational services is only taken advantage of by middle class residents, i.e. those least in need of measures to induce their upward social mobility. Many working class people, having been already labelled by the school system as academic failures, may not see educational upgrading as a feasible and/or attractive route to an improved socioeconomic status (Porter, 1979).

Re-distributing educational credentials in favour of hinterland residents, however, may equip the latter with the cultural currency they need to take advantage of opportunities to expand their influence over their place in society. This
result may include increasing the occupational mobility of hinterland residents and/or attracting capital into hinterland locations where the labour force has high credentials. It may also include arming hinterlanders with more effective political skills and insights needed to apply pressure on the metropolitan elite for greater redistribution of material wealth. This could occur through raising the level of hinterland class-consciousness and focusing public attention on hinterland problems. Whatever the form (i.e. organizational/pedagogical format) and function (e.g. diffusion of cultural capital through redistribution of credentials) of education it is the objective content (i.e. relevance to local social context) that ultimately determines how useful education is to hinterland communities.

Increasing the number of hinterland residents whose educational credentials are on par with those of the metropolitan population could at least compensate, through re-allocation of cultural capital, for existing imbalances in the ownership of economic capital. In Dahrendorf's terms (op.cit.) education is not only a right, but also a necessary condition for exercising many other rights of citizenship.

In examining inequities in the distribution of educational opportunity it must be recognized that access to higher education has both a geographic and a social dimension, both of which are important. The terms "effective accessibility" and "effective educational opportunity" thus have more meaning than unqualified notions of accessibility and opportunity. In this
context, "effective accessibility" takes account of the fact that even where educational facilities are spatially accessible, they remain practically inaccessible to those who lack the economic and/or cultural resources that make higher education a feasible choice. If distance education is supposed to help reduce unequal educational opportunity it must increase not merely the physical accessibility of education, but also its effective accessibility.

1.5 Theoretical Synopsis

Social scientists interested in the problem of unequal educational opportunity have focused their attention on two main concerns:

1. **Educational inequality is a waste of potential economic opportunity.** From the perspective of capitalist economics, a less educated population is an underutilized or less productive stock of "human capital". In terms of Marxist economics such a population constitutes a reserve army of labour power, subject to capitalist exploitation by virtue of its low level of recognized technical skills, i.e. a "human commodity" in relative oversupply on the capitalist labour market. As such, it is more readily compelled to surrender its labour to the capitalist class (Bowles and Gintis, 1976).

2. **Educational inequality reinforces social inequality.** Social barriers between different occupational classes, communities
and cultural/regional groups are reflected in different levels of income, social status, and political power. These barriers are also associated with different levels of educational achievement.

Advocates of educational democratization have stressed the need for redistribution of educational opportunity, both to increase economic efficiency and to build a more equitable social order. The impact of higher education on socio-economic disparities has been interpreted in the relevant literature from six different points of view, as shown in Table 1.1.

The first two approaches in Table 1.1 (technocratic and diffusionist, respectively) are theories of regional development used to support the notion of "trickling down" or "spread" effects. This refers to the idea that poor regions learn from interaction with rich regions how to become prosperous through the acquisition of appropriate technical skills and attitudes. The next two approaches (social reproduction and de-schooling) are used in theories of underdevelopment to explain how the dominant social classes and/or regions use the education system to foster economic exploitation and cultural dependency of subordinate classes/regions. The fifth approach (credentialism) does not address as such the question of whether higher education leads to regional development or underdevelopment, nor does it define social class conflict as being derived from purely economic relations in either production or consumption. Rather, it focuses on education's role in maintaining social
hierarchy, recognizing both economic and non-economic factors and defining the specific mechanisms through which education acts as a social screening device. An extension of this concept to the definition of regional socioeconomic disparities is part of this dissertation. The final approach (ecology of schooling) is a way of examining education as one aspect of a complex, interdependent set of socio-economic processes constituting a
distinct regional human ecology. Within the regional ecology, the education system is viewed as a means of adjusting local human resources to the physical possibilities and economic requirements of the region.

Each of the theoretical approaches referred to above is based on assumptions about how higher education affects the course of socio-economic affairs. The technocratic approach holds that economic progress can be speeded up in depressed areas and/or disadvantaged social groups through increased investment in education. Such investment is described as human capital formation because education is assumed to impart technical skills and knowledge that substantially raise the marginal productivity of labour. As better educated labour is thought to make more efficient use of physical capital, it should improve economic conditions in two ways:
1. by increasing output per unit of labour input in industry;
2. by improving the spatial articulation of labour and physical capital, i.e. through migration of educated labour to those locations where its marginal productivity is highest.

The key assumption here is that the main outcome of higher education is a higher level of usable job skills, especially in the more complex tasks required for the production of goods and services. Another implicit assumption of human capital theory, derived from classical economics, is that there are no barriers to social or spatial mobility. These assumptions underpin educational policy in the capitalist countries, insofar as
In the diffusionist approach, higher education is thought to contribute to economic development in depressed areas because of its assumed role in cultural change. As the educational level of the population increases, social institutions, cultural values, and personal psychology are re-structured in the image of the society of the more economically advanced regions. The conversion of social institutions is usually described as a change from a social hierarchy based on ascription of social status to one based on meritocracy (Hoselitz, 1960). Thus, higher education is assumed to make societies in depressed areas more "democratic" in the sense of encouraging upward social mobility. The process of development is also assumed to make both the individual and the regional population more achievement oriented, i.e. goal-directed, in economic affairs (Nash, 1963; McClelland, 1964). There is no recognition of the potential role of spatial mobility of the workforce in this process, nor of potential barriers to social mobility. The implication is that upward socio-economic mobility, whether of regions, social classes, or individuals, proceeds primarily through acculturation of economically deprived people to the psychology and ideals of the dominant social classes and/or regions. This is supposedly accomplished through cultural association between the rich and poor; the higher education system is a major vehicle through which this association is supposed to occur.
The assumptions of both the technocratic and diffusionist viewpoints are vulnerable to criticism. Berg (1960), Collins (1979), and others have challenged the technocratic assumption that higher education improves labour productivity through the learning of technical skills. The alternative argument (i.e. credentialism) is that skills are learned mainly in the practical job environment. In this context higher education does not impart productive skills but rather determines who will be permitted to learn given skills, since access to jobs is regulated by educational requirements. The essence of the credentialist hypothesis is that the main function of higher education is not to increase labour productivity but rather to determine the distribution of social status and wealth in society through the competition for cultural credentials. The diffusionist position has also been attacked on the grounds that it constitutes a thinly-disguised doctrine of cultural superiority, turning a blind eye to social elitism in wealthy areas while providing a convenient rationalization for extremes of poverty in depressed areas (Frank, 1979).

To this, Marxists have added that economic production is a social as well as a technical process. In this context, the real contribution of education to economic growth is to reproduce a labour force that is segmented, submissive, disciplined and accepting of social inequalities, i.e. one which will facilitate capital accumulation by the capitalist class (Bowles and Gintis, 1975). In fact, it is argued, formal education has the
effect of excluding the majority of workers from technical and intellectual skills that would make them more productive. Thus, the minority who monopolize technical knowledge and decision making can more easily extract labour power from a workforce that is relatively less technically efficient, i.e. more dependent on management directives, because this workforce is relatively ignorant of the production process as a whole (Gorz, 1977).

The latter four concepts in Table 1.1 represent a set of mutually consistent interpretations about the impact of higher education on socio-economic inequality, even if they are somewhat different in their respective points of emphasis. These interpretations offer the potential elements of a more comprehensive approach to analyzing the role of education in the relationship between social and economic life. In particular, they show how education in a capitalist society is related, respectively, to production, consumption, culture, and social ecology.

The social reproduction model is essentially a structuralist form of Marxist social analysis. It is sometimes called correspondence theory because it views the education system as virtually the mirror image of the dominant mode of production in a given society. For example, in capitalist societies the education system is considered to be an experiential replica of the capitalist economic base. Human relations, cultural values, attitudes toward authority/subordination, social hierarchy, and
the organization and control of activities are close facsimiles of those embedded in the capitalist mode of industrial production. The education system provides a behavioural milieu that prepares its participants for their respective roles in the workplace. In so doing, education strengthens and reproduces the class divisions upon which capitalism is based. Thus, the structural similarity between the way the education system is organized and the way capitalist production is organized leads to social processes and behaviour that are similar within these two social structures, and that perpetuate the social class hierarchy of capitalist society.

The psychological result of formal education for the individual in a capitalist society is an addictive dependency on the education system to create and validate a sense of competence and self-worth. In this perspective, the education "market" is a surrogate form of the high mass consumerism that prevails under bureaucratized monopoly capitalism; consumer demand for education is manufactured by the very system which dispenses the product being consumed. Social status and the self-esteem derived from social status depend on the consumption of "educational commodities", embodied in a formal educational product that is preconceived and mass-produced for, not created by, the individual consumer. Just as in material consumption, the individual is conditioned by social expectations, rewards and punishments, and subliminal advertising to believe that the possession of a certain type/level of education is essential to
The ominous implication for society is that those who control the educational bureaucracy have at their disposal a manipulative system of status symbols capable of imposing mass thought control in exchange for material and psychological rewards. The antidote, according to Illich is deschooling, or the achievement of cultural anarchism in the most constructive, libertarian sense of the term, i.e. consumer sovereignty for the individual in the realm of learning.

The credentialist hypothesis takes a more mechanistic approach in assessing the role of education as a device for assigning individuals to particular social niches; this approach is strongly focused on the interaction of the education system with the labour market. Credentialism does not explain social stratification primarily in terms of either a particular mode of production or ownership of the means of production; it is therefore not a structural Marxist model of society. Credentialist theory simply takes social stratification as a given and recognizes that the latter has both economic and non-economic sources particular to whatever society is being considered. Thus, materialist reasons for social stratification are combined with such factors as religion, cultural traditions, ethnicity, territorial behaviour, and the values and perceptions of individuals without imputing dominance to any single materialist root cause. The Marxist premise that social structure is derived from the operation of society's economic
base is neither explicitly affirmed nor denied.

Rather than explaining social structure in terms of root causes, credentialist theory gives high priority to examining the empirical mechanisms through which social stratification, whatever its structural origin, is maintained. In particular, credentialism focuses attention on the role of the education system as a key bridging device for regulating relations between the social superstructure and the economic base via the labour market. Credentialism postulates that education performs the function of empirically regulating access to jobs and secure social status. As such, educational credentials may be regarded as a sort of cultural currency that individuals use to purchase membership in certain occupational groups and/or social classes.

Cultural currency is a concept formulated by Collins (1979) to explain the interaction between the cultural and material aspects of economic life. Religious, educational, and other social institutions dispense formally certified cultural and cognitive traits which are then used by individuals as a form of currency to purchase jobs, income, and social status. Thus Collins divides life into a material market and a cultural market. Ordinary money is used in the former to buy consumer goods and services while cultural currency (i.e. educational credentials) is used to buy positional property (i.e. socio-economic status, economic power, political influence, etc.)
The problem is that the most favoured social groups are able to manipulate the supply and distribution of educational credentials so as to maintain a stratified society. This is done by various means, including:

1. the definition of educational requirements for jobs;
2. adjustments of educational standards;
3. financial, cultural, and academic impediments that curtail access to certain fields of education;
4. variations in recognized academic prestige among institutions.

Thus, the education system is an instrument for maintaining class divisions on both a cultural and economic level. Essentially, credentialism provides a more refined articulation of the concept of cultural capital that is central to social reproduction theory. Apple (1978) defines cultural capital as "... a system of meanings, abilities, language forms, and tastes that are directly and indirectly defined by dominant groups as socially legitimate." Thus individuals possess three forms of capital: genetic, material (economic), and cultural. In its larger sense, cultural capital would refer to the institutional superstructure through which a given society allocates people to positions in the social hierarchy. Credentialism correctly emphasizes the point that cultural capital is not merely a set of behavioural patterns, values and attitudes, nor a set of social institutions as such, but rather a device used in the labour market as a form of currency (i.e. educational
credentials) to purchase positions in the social hierarchy.

The concepts of social reproduction, deschooling, and credentialism have not escaped criticism. Social reproduction, perhaps because of its Marxist bias, has attracted much critical attention. Its detractors charge that it is essentially a form of rigid economic determinism which blames all social ills on the class conflict between workers and capitalists, and that it fails to recognize the purely cultural variables involved in the education system. Collins (1976), for example, has pointed out the respective roles of the non-capital-owning upper middle class, of ethnic groups, and of large bureaucracies in influencing the purposes and content of formal education. Moreover, if capitalist education is an instrument of class oppression it can be argued that the onus is on Marxists to demonstrate that the education systems of Marxist regimes are less authoritarian and more intellectually liberating than the education systems produced by bourgeois culture (Heilbroner, 1976). Similarly, Marxist education systems must be demonstrated to provide equal opportunity and equal outcomes in both a social and geographic context before they can be pronounced superior to education in bourgeois society. In general, critics of the social reproduction model see it as being too pessimistic an analysis of Western education to be objective about notions of class interests, social mobility, and cultural pluralism (Featherstone, 1976). Even Marxian challenges to a too-literal interpretation of social reproduction have
emerged, on the grounds that a strictly deterministic framework leaves no room for individual consciousness of social repression and, therefore, no scope for class struggle within the education system itself (Erben and Gleeson, 1977). Thus social reproduction, taken in its strictest sense, may signify defeatism.

Critics have indicted deschooling as naive Utopianism and/or destructive social anarchism. Marxists find it overemphasizes the psychology of mass consumerism while failing to recognize the capitalist system of production as the root cause of social conflict. Others argue that simply discarding existing educational institutions will cause neither a re-structuring of social relations nor a flourishing of all that is good in human nature. In any case, Illich's critics argue that he fails to offer a realistic agenda for preparing youth for adult life, and for maintaining continuity of social institutions. Instead, they see him leaving to chance the very opportunity for self-fulfillment that should be guaranteed to all members of society. These and other criticisms have been summarized by Whitney (1976).

Because of its more recent vintage, critics have challenged credentialism less effectively. Hurns (1980) has tried to re-assert the achievement-based concept of American society, versus the ascriptive model inherent in credentialism. This was done, however, by a specious pro-mobility interpretation of sociological data produced by Jencks (1972), an interpretation
that was explicitly repudiated by Jencks' more recent work (Hacker, 1981). Hurns also alleged that credentialism implies a reduction over time in content-specific educational credentials (a point which he disputes). This, however, is a misrepresentation of credentialist theory. Collins (1979) specifically recognized program content as a factor which, through educational credentials, segments the labour force. Credentialism may be subject to some of the same criticisms as social reproduction and de-schooling, to the extent that it incorporates elements of those two concepts.

A complementary view (to those in Table 1.1) of the relationship between education and socio-economic disparities is what could be called the ecological approach (Eggleston, 1977). This approach is one based on the notion that regional differences in educational achievement are the result of a complex of local physical, social, economic, and psychological environments. For example, a given regional economic environment will be made up of a distinctive local resource base, technology, and infrastructure that will require and create particular levels and types of educational achievement. The demand of the local economy for a particular mix of educational credentials and occupational skills is transmitted to the education system through both informal and formal channels that include the cultural/social milieu, public institutions, and the labour market.
The ecological approach emphasizes the empirical study of local cultural and socio-economic conditions as the key to describing and analyzing regional differences in educational achievement. It leaves unanswered the larger questions of social ideology and class conflict, and as such, may be criticized as being ahistorical and philosophically shallow. Practitioners of this approach, however, see themselves as constructive realists who seek to improve the education system by developing a clearer understanding of its relationship to other elements of the human ecosystem. Moreover, the ecological approach is presented as an explanatory mode intended to augment rather than supplant other forms of explanation (Eggleston, 1977, ch. 1).

1.6 The Geography of Education - German Contributions

Geographic variations in educational needs, provision and achievement have attracted attention from economists, sociologists, planners, as well as geographers. Because education is a prominent sector in government spending, it deserves the attention of social scientists. In Canada, for example, full time post-secondary enrollment more than quadrupled between 1960 and 1985, while between 1970 and 1985 total expenditures on post-secondary education rose from $2.2 billion to $9.3 billion (Institute for Research on Public Policy, 1987, pp. 1, 4). Leading member countries of the Organization for Economic Cooperation and Development (OECD) typically spend up to 9% of Gross National Product on education,
of which about one third is spent on post-secondary education (ibid., p. 6). In addition, the fact that education is labour-intensive and universally experienced in advanced industrial countries makes it an important matter of political concern. It has been estimated that in economically developed countries one-fifth of the population attends schools and colleges, and in the United States, in particular, thirty percent of the total population is involved in education as students, teachers, or administrators (Vaizey, 1973, pp. 13, 14). Various strands of theory and research suggest that education is a strong influence on technical change, regional economic growth, migration, community development, and social equity.

German human geographers, since the 1960's, have recognized the geography of education as a distinct branch within their sub-discipline. This German interest in the geography of education has continued into the 1980's, as exemplified by Heinen's 1982 study of the service area of Osnabrueck University, focusing on student motivations for attending the university (Heinen, 1982).

Geipel provides a concise history of the research approaches used by German geographers in the study of education (Geipel, 1976). The German studies have focused on economic behaviour, migration, and regional planning. One of the earliest contributors to the German research was Edding, who studied refugees, regional public investments in education, and regional
education participation rates (e.g. Edding, 1962). Edding criticized national educational investment policies as being regionally inequitable. His work was followed by a major attack on German educational policy published by Picht (Picht, 1964) that drew national public attention. Peisert reinforced this critique by identifying disparities in enrollment ratios in subprovinces, counties, and communities (Peisert, 1967).

Edding's research led to several approaches to the study of educational differences between urban and rural areas. Provinces were compared with respect to their political (progressive versus conservative), religious (Protestant versus Catholic) and social class characteristics. Students were compared in terms of social, psychological, personal, and academic traits (Aurin, 1966). Transition ratios between different educational levels (i.e. cohort survival rates) were also prominently used in the German research (e.g. Picht, op. cit.). Projections were made of the expansion of the education system as a means of predicting the required supply of teachers and post-secondary academicians, and the interaction between the education system and the labour market was explored. This technical planning approach was, however, criticized by Dahrendorf on the grounds that education is a citizen's right and not simply another variable to be included in a social planning model (Geipel, op.cit., p.7).

German geographers identified the educational potential as a decisive factor for maintaining the growth of the national economy. They also recognized that standards for educational
progress were set by the cultural climate of major cities, which Geipel refers to as "pedagogical workshops". The diffusion of educational innovations from large cities to rural areas, however, was found to be impeded by declining population density over space, transportation obstacles, and a less receptive rural cultural climate. Moreover, disparities between metropolitan and non-metropolitan areas increased over time due to the selective rural-urban migration of educated persons. Meusburger found that this resulted in the spatial concentration of the highly educated in major metropolitan areas (ibid., p. 8).

A comprehensive statement on the development, status and tasks of the geography of education appears in an article by Meusburger (Meusburger, 1976). He defines education as a distinct, specialized human function that has emerged in the twentieth century, as an activity that is spatially separate from residence, work and recreation. The relationship between education and affluence is noted as is the tendency of the educated to migrate from economically less developed regions to more economically advanced ones, i.e. the so-called "brain drain" effect. Meusburger also notes the political aspects of education, namely that as the demand for realization of all human reserves of talent has risen, education has been more and more perceived as a civil right, leading to a veritable education explosion in the 1960's and 1970's.

This increasing public attention toward education has spurred the development of spatial and quantitative research
focusing on aspects of educational service delivery, including studies on facility location, service areas, and commuting patterns. The recognition of regional educational differences has led to the creation of a geography of education as a distinct field of study and theoretical development. Meusburger points out that the demand for education is a function of regional socio-economic conditions. In this context, educational institutions have an important role to play in the social, economic, and cultural development of regions.

Meusburger also reviews in some detail the historical development of the geography of education as a field of inquiry. The early origins of this branch of social geography were in migration studies, particularly those focused on government policies related to migration of the highly educated, studies of technical innovations and their diffusion (e.g. Hagerstrand, 1952), and regional studies of universities. Two very early works cited are Galton, F., The Relative Supplies of Town and Country Families to the Population of Future Generations (1873), and Weber, A. F., The Growth of Cities in the Nineteenth Century (1899).

In German human geography one of the prominent initialial concepts in the geography of education was Edding's definition of education as a portable asset that can be substituted to some degree for fixed capital. In the 1960's, thanks to the work of Peisert, German social scientists were acutely sensitized to the significance of regional analysis in the study of participation

54
Meusburger also recognizes the emergence among North American geographers of an interest in the geography of education. In particular, he mentions three Phd. theses done at the university of Chicago in the 1940's and reported in Volumes 1, 2, and 8 of the university of Chicago Department of Geography Research Papers. Gross (1948) did a comparative study of educational land use in affluent white and poor black areas of Chicago; Eisen (1948) studied the relationship between regional wealth and educational achievement in rural Ohio; and Philbrick (1949) compared two residential areas of Chicago in terms of the relationship between wealth and educational achievement, and the perpetuation of social class differences through educational differences. A comparative examination of American variations in literacy and educational achievement at different geographic scales and for different social status groups by Kariel (1972) is also cited by Meusburger.

Meusburger credits Geipel's research in the 1960's (Meusburger, op.cit., p. 51) with having launched the geography of education as a field of study in Germany. Geipel's main contributions were the following:

. integrating educational planning into regional planning;
. systematically researching the location of schools in relation to their service areas;
. identifying regional differences in education participation rates.
Geipel asserted that variations in regional distance decay functions for participation rates depended on the occupational status of parents, i.e. steep decay for working class families, low decay for upper class families. He also identified a rural elite composed of doctors, teachers, and mayors. Geipel's work was followed and expanded upon by Geisler (1965) who initiated many studies of school service areas and founded an institute for regional educational planning.

In summary, Meusburger divides research on the geography of education into four types:

1. **spatial patterns**, including regional distribution of achievement, the study of service areas, and regional impacts of institutions;

2. **transportation**, in particular commuting and migration as they relate to education;

3. **participation**, especially the relationship between participation and regional socio-economic structure;

4. **achievement**, i.e. the educational achievement levels in the adult population, and social conditions affecting achievement.

Within each type there is a variety of research methods. German geographers have been especially strong in empirical analysis of socio-economic and regional disparities.
1.7 Themes in the Geography of Education

Although theory and research in the geography of education have not been the exclusive domain of geographers there has nevertheless emerged a body of literature focusing on geographic aspects of the education system. This literature is based on five distinct themes:

1. the origin, role, and diffusion of technical innovations;
2. the contribution of education to economic growth and/or income;
3. the relationship between education and migration;
4. the development of the education system as a technical planning problem in social policy development;
5. regional and local studies of the relationship between education and the socio-economic structure of the population.

The following is a selective, and by no means exhaustive, review of examples that illustrate these five themes.

1.7.1 Technical Innovations

An early pre-cursor of studies on innovation and technical change was by Schmookler, who found that over time there was an increasing correlation between the number of patents issued and the number of trained technologists in the U.S., and that seventy-six percent of technologists had at least a college education (Schmookler, 1957, pp. 325, 333). The socio-geographic implications of this tendency have been explored by Peucker, who...
asserts that most technical progress is induced through the concentration of physical and human capital in research and development activities of large urban-industrial centres. He postulates that increasing education levels outside the main urban centres would increase local demand for better communications and mass media facilities, facilitate retraining of the labour force, and speed up the rate of diffusion and exchange of information. This suggests the need to create autonomous sub-centres for education and training in peripheral areas of less developed countries as a means of speeding up induced technical progress (Peucker, 1968, 1976). Other studies have shown that, although there is a high rate of return on investments in research and development, private sector investment may lag due to the fact that firms cannot capture all the benefits of their own technical improvements. This suggests the need for public investment in high level education and research (National Science Foundation, 1971).

Geographers and regional economists have examined the role of higher education and technical innovations in the process of social and economic development. For example, education has been recognized as a major force in the modernization of traditional societies (de Souza and Porter, 1974). In the post-industrial era, society is said to undergo an information revolution in which information media such as telephone, radio, television and computers are concentrated in metropolitan centres. In post-industrial societies the knowledge industries are found
dominate all other industries, and the agglomeration of knowledge industries in large cities reduces the relative importance of small and medium-sized cities (Sanuki, 1975). The function of universities, research centres, and science-based industries in this context is to generate spin-off activities and to act as a magnet that attracts a highly skilled labour force and new investment capital. The geographic result of this process is a spatial polarization between science-rich and science-poor regions (Shimshoni, 1971).

In less developed countries the post-secondary education system has been identified as a major force in social and economic development, providing a vehicle for cultural change, skills training, research, teaching, and community services (Lewis, 1977). By enhancing the capacity for self-reliance in science, technology, and administration, Third World universities make an important contribution to national pride (Soedjatmoko, 1977). In China, the university has also been used to re-structure the social order through selective recruitment of students from the lower occupational ranks, through combining physical and intellectual labour, and through direct linkages between the universities, factories, and agricultural production units at the policy-making level (Swearer, 1977).

The assigned role of post-secondary education is to absorb, digest, synthesize and disseminate new technology, thus multiplying the potential practical applications of the latter (Solo, 1972, pp. 167-178). In addition, the task of higher
education is to increase the adaptability of the labour force to
technological change (Norman, 1976, pp. 37 -39). The
significance of education in spreading technical knowledge has
been confirmed by research (Rogers and Shoemaker, 1971) showing
that:

* Earlier knowers of an innovation have a higher education
  than late knowers.
* Earlier adopters of innovations are more literate than late
  adopters.
* In interpersonal information diffusion among people of
  different backgrounds, followers seek leaders who have more
  education.

However, it has been found that a period of twenty to thirty
years is required before the full social impact of a newly
established university is realized in less developed countries,
the full maturity of the institution usually being marked by the
development of extension programs, open learning services, and
special task forces or research institutes (Bowles, 1977). Thus,
the implantation of universities is not an instant panacea to
the problems of less developed countries.

1.7.2 Economic Growth and Income

Assessment of the contribution of education to economic
growth and income is usually a task of economists rather than
geographers. It is, however, of interest to geographers to the
extent that such research is occasionally used for international
or inter-regional comparisons, or as a means of studying
regional economic development.

One of the pioneers of this type of research was Denison, who used multiple regression equations to describe the relationship, or production function, between the dollar value of total goods and services produced by the U.S. economy (GNP) and the dollar value of total inputs of land, labour and capital used by the national economy (Bertram, 1966, pp. 116-121). By analyzing the amount of variation in GNP over time accounted for by each of the three input variables (land, labour and capital), and by imputing changes in the impact of labour on GNP to changing educational levels, Denison was able to use time series data to estimate the proportion of economic growth in the U.S. accounted for by rising educational achievement levels in the labour force. (Denison, 1962; Denison, 1974). In this way, he estimated that education accounted for 42% of growth in U.S. employment income, or 23% of growth in GNP, between 1929 and 1957 (Bertram, op.cit., p. 4).

The concept of translating educational achievement levels into income was extended by Becker into so-called human capital research, using a benefit-cost analytical framework, Becker estimated the rate of return on public and private investments in higher education by representing the material benefits from various education levels as a stream of income over the average professional lifespan of educated individuals, minus the amortized value (based on a standard interest rate) of income foregone during the time spent as a post-secondary student.
(Becker, 1964). Thus, both Denison and Becker provided empirical frameworks for assessing the quantifiable economic impacts of education.

The human capital approach derived from the work of Denison and Becker has been used to study educational investment in regional and national economies, and to make inter-regional and international comparisons. Lassiter, for example, showed that there was a weak positive relationship between income and education for different racial groups and regions in the U.S., and that rates of return on investment in schooling were higher for whites than for non-whites in the South (Lassiter, 1965). Bertram used human capital methodology to compare the impact of education on economic growth in the U.S. and Canada, and to compare the provinces of Canada; his main finding was that Canada lagged behind the U.S. in educational achievement, labour productivity, and measurable economic growth (Bertram, op.cit., pp. 11-22, 29-34, 46-64). Glen applied similar methodology to human capital variations among five regions of Canada, focusing on inter-regional net gains and losses due to migration. He found that the university-educated were the most mobile segment of the population in terms of inter-provincial migration and that the two greatest net losers in terms of human capital were the Prairies (losing to British Columbia) and the Atlantic (losing to Ontario). The greatest in-migration occurred in those areas with high incomes, a high degree of urbanization, and high employment in proprietary, managerial, and professional
occupations. He concluded that increased investment in higher education in poor regions without increased job-creation, would amplify regional economic disparities by speeding up the outflow of human capital from poor to rich regions (Glen, 1969). Lankford reached similar conclusions as to the technological/economic advantages of large industrially advanced urban centres compared to smaller, less industrial urban centres in the context of regional economic disparities in the U.S. (Lankford, 1972, ch. I, oh. VI).

On an international level, human capital analysis has been used to explore the possible reasons for different levels of economic development and to examine patterns in international trade. Krueger, for example, found that over half of the difference in per capita income between the U.S. and less developed countries was attributable to differences in the stock of human capital (Krueger, 1968). Davis and Morrall postulated five beneficial effects of education on the quality/productivity of the labour force (Davis and Morrall, p. 69):

1. increased discipline and reliability;
2. better health due to greater health awareness;
3. improved technical skills and efficiency;
4. greater adaptability to a variety of production tasks;
5. more inter-occupational mobility.

They also attributed the relatively high value of U.S. exports to the fact that many of these goods and services have a high embodied human capital content based on the highly advanced
research and development capacity of the U.S. economy, made possible by its sophisticated higher education system (ibid. pp. 83-92). Ritzen has incorporated similar concepts into an elaborate econometric model integrating the education system into a dual economy with traditional and modern sectors. This model, however, is highly constrained by many rigid simplifying assumptions, and is unlikely to be amenable to practical use (Ritzen, 1977, pp. 3, 4).

A greater emphasis on the practical application of human capital analysis to economic development was put forward by Cohn, who stressed four arguments in favour of educational investment (Cohn, 1979, pp. 146-148):

* Increased literacy promotes social mobility, communications, record-keeping and deposit banking.
* Improved technical knowledge enhances the effectiveness of natural resource management.
* Human capital is less subject to depreciation than physical capital.
* Investment in education is normally made at the expense of consumption rather than savings, thus maintaining a reserve of potential investment capital.

These arguments are consistent with international comparisons showing a positive correlation between participation in the education system and various measures of economic progress (ibid. pp. 156-159).
A number of technical criticisms of human capital analysis have been advanced by Vaizy. These criticisms focus on unrealistic underlying assumptions of the human capital concept, assumptions that are typical of neoclassical economics such as (Vaizy, 1972, pp. 30, 31):

* The aggregate production function is linear.
* The economy is in a state of general equilibrium, under pure competition and with full employment.
* Wages are determined by the marginal productivity of labour.
* The physical capital stock is composed of an equal proportion of old and new equipment, i.e. technology is stable and homogeneous.

A major objection to human capital analysis is that expenditures on education are treated as a form of investment rather than consumption. If education spending is considered as a form of consumption, then earnings are related to socio-economic status and cultural variables rather than to the marginal productivity of labour. Vaizey cites empirical research indicating that human capital analysis is systematically biased toward overestimating the contribution of human capital, and underestimating that of physical capital, to economic growth (ibid., pp. 47-58). He also points to the unreliability of historical data on incomes, and to possible multicollinearity between education achievement and various socio-demographic variables (ibid., pp. 63-66).
Bowles and Gintis have also criticized human capital analysis from a Marxian perspective. They make the following standard criticisms: that labour markets under advanced capitalism are often non-competitive; that education serves mainly as a social screening device rather than a means of increasing technical productivity; that actors in the labour market are not perfectly informed, rational beings; and that the human capital approach reduces humans to dollar values (Bowles and Gintis, 1975, pp. 74-75). The main thrust of their critique, however, is that human capital theory ignores the social relations of production and over-emphasizes the technical relations of production. The rate of return on education, in the Marxist view, results more from the socio-economic agenda of the capitalist class, i.e. to perpetuate its dominance of the social superstructure, than from the technical division of labour. In this context, education contributes to economic growth not through its impact on technical productivity but through its impact on the wage labour system, on class conflict, and on the ability of capitalists to accumulate profits (ibid., pp. 79, 80). Bowles and Gintis see the main role of schooling as the socialization of individuals into acceptance of the unequal levels of power, income, and ownership possessed by different social classes. In this sense, they describe the human capital concept as a partial theory of economic production that fails to provide a complete theory of social reproduction.
1.7.3 Migration

Another consistent theme in the geography of education is that of the association between education and migration. As early as 1958, Hirschman asserted that the spatial polarization between rich and poor regions results in migration of the better educated workers from poor to rich areas where material rewards are higher (Hirschmann, 1958, p. 188). Rashi confirmed that during the 1950's and 1960's there was a net out-migration of educated people from the American South; college-educated whites, and blacks with a Grade 9-11 education level, were identified as the most mobile groups within the southern work force (Rashi, 1965). Pursell discovered that between 1965 and 1970 there was a net influx of migrants into the South, but that migration levels for the college educated were over three times higher than migration of those with less than a high school education (Pursell, 1977).

Gisser found that increasing schooling levels in rural areas had the effect of inducing an out-migration of surplus farm labour, increasing the productivity of the remaining farm labour force, and thus relieving the problem of rural poverty (Gisser, 1965). Horowitz, however, concluded that some states attracted a disproportionately large share of skilled scientific workers, to the detriment of other states, in response to the regional distribution of U.S. defense spending on research and development (Horowitz, 1965). The geographic centralization of high educational credentials and technical skills is viewed by
French planners as a chronic problem retarding the economic growth of rural areas in France. It has been shown that 72% of all French scientific researchers and over 55% of engineers live in the Paris region, for example. This spatial imbalance is at least partly the result of the close association between high literacy and the propensity to migrate (Hansen, 1965, pp. 123-126).

Out-migration of labour from economically depressed areas has both negative and positive economic effects, depending on the socio-economic and demographic structure of the local labour market, and does not always result in a more efficient spatial distribution of workers in relation to jobs. Therefore, government programs aimed at inducing or facilitating labour migration need to be carefully planned and selective (Parr, 1966; Holland, 1976). Canadian government research on migration indicates that inter-urban migration is much more substantial than rural-urban migration and that long distance migrants have higher education levels than short distance migrants. As migration opportunities for highly specialized workers are normally limited to large urban centres it is important to assure an efficient distribution of information about these labour markets (Department of Manpower and Immigration, 1977, pp. 35, 36, 44, 45).

Bouvier has formulated a comprehensive model of migration that takes into account education levels of migrants, the rural-urban dimension of migration, and the level of economic
development of society. The model is based on three hypotheses (Bouvier, pp. 31-33):

* Education effects depend on the socio-economic status of origin and destination regions.
* In less economically advanced societies migrants are less educated than non-migrants.
* In more economically advanced societies migrants are more educated than non-migrants.

Bouvier defines five general migration patterns related to whether a society is classified as traditional, industrial or post-industrial (ibid.). In traditional societies migration is defined as mainly rural-urban; and in post-industrial societies it is mainly inter-urban.

1.7.4 Planning

A fourth theme in the geography of education is the study of education as a technical planning problem. This theme focuses on the task of assessing and improving the spatial efficiency of education as a public service delivery system. The analytical approach is often quantitative, using some combination of social indicator research, mathematical modelling, or market survey research. The conceptual frameworks of these studies usually lie within the categories of locational analysis, regional planning, or the definition/comparison of service areas.

One of the earliest Canadian examples of this approach to the geography of education was a comparison by Brown of
educational and socio-demographic statistics for the provinces of Canada (Brown, 1967). The purpose of the study was to rank the education systems of the provinces against seven performance criteria to establish national standards for the provision of education. Each performance criterion was represented by a set of statistical indicators. The seven criteria were: population growth, enrollments, educational achievement, teaching force characteristics, economic status of teachers, ability to finance education, and public educational spending. Another early approach to quantifying standards of educational provision was put forward by Klaassen, who identified a series of methods for systematically estimating the demand for higher education. These methods include the following general types (Klaassen, 1968):

* delineation of market areas;
* ranking of communities on the basis of the accessibility of public services and the relative importance of these services to the population;
* population and student enrollment forecasting models;
* estimation of a distance decay function in the demand for higher education;
* regional labour marked analysis.

Klaassen used examples from European countries to illustrate these methods.

Coates and Rawstron presented an early prototype of a regional geography of education in their regional comparisons of educational participation rates and achievement in Great
Britain. This study examined individual types of educational program and the public financial subsidies provided to education at different spatial scales. It also included data on the reproduction of the teaching profession (Coates and Rawstron, 1971). A microgeographic elaboration on this approach to studying the geography of education was developed by Little and Mabey, who developed a composite index of socio-economic deprivation used to define special needs areas (educational priority areas) among the school catchment areas of the Inner London Educational Authority (Little and Mabey, 1972).

The use of an input-output matrix approach has also been suggested as a tool for educational planning. In his original proposal of this approach, Stone likened the demand for education at various levels to a multi-stage epidemic, where the probability of infection (i.e. demand for education) at a later stage (i.e. higher educational level) is the result of the infection rate at earlier stages (levels). If this approach can yield accurate projections of future enrollments, it should also produce estimates of the future infrastructure and personnel requirements of the education system (Stone, 1965, p. 173). Thus, input-output coefficients are used to represent both the numbers of students in various types of education, and also the requirements to successfully supply education services. Student enrollment in the input-output output matrix could be subdivided into socio-economic classes. (ibid., p. 181). Absorption of graduates by the labour market into various economic sectors
could also be represented by input-output coefficients (ibid., p. 182). King has suggested the use of this model in conjunction with regional educational and socio-economic data bases (King, 1972). Both Stone and King, however, recognize that input-output analysis has severe practical limitations including massive information collection requirements, complex mathematical modelling statements, and the unrealistic assumption of stable input-output coefficients over time.

Writers on the theme of education as a planning problem often see educational planning as an integral aspect of regional development strategies. Harbison has examined the role of education in less developed countries, and suggests that investment in human resources is a more powerful force for development than is physical capital investment, for the following reasons (Harbison, 1973, pp. 112-133):

* Human resources are most abundant and most underutilized.
* Labour force skills are limitless in their growth potential.
* Labour productivity can be substituted for scarcities of capital and natural resources.

Harbison therefore proposes the use of a composite index of human resource development as a guide to the need for public investment in education (ibid., pp. 13-15). He also recommends the use of separate indicators (ibid. pp. 135 -137) to assess distinct aspects of human resource development (e.g. labour utilization, health, nutrition, social/regional disparities, education. In the case of education he suggests indices of human
resource stocks (e.g. achievement levels per 1,000 population) and flows (e.g. enrollment ratios).

The articulation of educational and regional development policies requires attention to the particular state of socio-economic development in a given region. Neave suggests a fourfold typology for classifying regions according to their level of income (high, low) and economic growth (stagnating, growing) that can be used as a guide for assessing the role of education in the regional economy (Neave, 1979, pp. 215-223). This regional framework is based on a recognition of the different roles of academic and vocational education. Neave also points out that the benefits of education for regional development can only be realized if investments in education are complemented by an autonomous economic growth process into which education is integrated. He does, however, formulate an "uncoupling thesis" whereby education may help a regional population to break out of a pattern of external domination, through providing ideas on economic and technological alternatives, cultural and political awareness, and enhanced protection of the natural environment (ibid., p.228).

Education has also been studied as a regional economic activity in its own right, and as a community resource. Lechat, for example, analyzed the local economic impacts of the implantation of a new university, Louvain-La-Neuve, in a rural area of Belgium. He identified a variety of impacts, including the following (Lechat, 1979, pp. 242-246):
consumer spending of students;
real estate prices and rental practices;
employment in university operations, construction, research, new businesses, public services;
social infrastructure, including transportation, and community facilities (educational, cultural, and sports);
regional government and planning activities.

Demunter, expanding on the administrative implications of these impacts, describes how the education sector can become a leading vehicle for community development and regional planning through the creation of the "social-educative and cultural district". The purpose of such a special planning jurisdiction is to find ways of pooling educational and community infrastructure, equalizing opportunities among social groups and residential areas, and increasing community participation in the planning process. Demunter describes a pilot project in Charleroi, Belgium where this concept was put into practice (Demunter, 1979, pp. 265-270).

A common approach to educational planning is to analyze the potential efficiency with which an institution delivers services to the client population throughout its service area. This type of research has two dominant forms: The regional needs assessment and the location study. An example of the former is an education needs assessment of the Sunshine Coast/Bowen island region of British Columbia (Wilson, 1979). This study takes the form of a market survey aimed at identifying the social traits,
motivations, and perceived educational needs of the general public, students, and employers in small rural communities. It also identifies distance constraints on access to higher education, and attitudes toward different methods of delivering educational services. An example of the location study approach to the planning of higher education is found in a study by Brown of a planning model for optimizing the size and location of university facilities. The model takes into account five aspects of the location/allocation decision (Brown, 1978):

* spatial access to facilities;
* flexibility in facility size over time;
* location costs;
* social value criteria;
* inter-regional impacts.

Operational problems in the application of a number of planning techniques are discussed, including linear programming, demographic forecasting, locational cost analysis, benefit/cost analysis, and input-output analysis.

1.7.5 Socio-Economic Structure

The fifth main theme in the geography of education is the linkage between the geography of educational opportunity and social stratification. This type of study focuses on the tendency of different socio-economic and/or cultural groups to occupy distinct residential areas or regions, and on spatial disparities in educational opportunity across these socio-demographic zones. Wilson, for example, asserted that
residential segregation of different social classes leads to spatial separation of cultural norms that affect motivation toward educational achievement (Wilson, 1960, pp. 836, 837). He divided schools into three socioeconomic groups determined by the dominant occupational classes in their respective client populations as follows: upper white collar, lower white collar, and industrial. In studying student motivation he found that proportionally fewer students were motivated toward higher education as the socio-economic levels of the schools declined. This relationship prevailed within individual schools across all categories of parents' occupations, parents' education, and students' I.Q. (ibid. pp. 839-844). Students of middle class backgrounds in predominantly working class schools had lower aspirations than their counterparts in middle class schools. Wilson ascribed this to the affect of working class peer group cultural norms that place relatively low value on education as compared to employment in occupations that bring modest, secure income. Thus, educational opportunity is seen to be partially a function of culturally-induced motivational levels that vary between different socio-economic territories.

Rogoff took a more detailed approach to variations in educational achievement, citing four sources of upward mobility of students in the education system:

. personal, i.e. genetic endowment;
. family influence via attitudes and material support;
. community social class composition;
the school environment taken as a system of rewards and punishments.

Measuring scholastic ability of Grade 12 students with an academic skills test, and comparing test results with the social class, academic record, and size/type of home community of students, he found a positive correlation between scholastic ability and past performance, social class, urban geographic origin and residence in affluent suburban areas (Rogoff, 1965, pp. 246-250). His research results strongly suggest that educational opportunity, as reflected in academic outcomes, emanates from a geographic hierarchy of social classes.

The distinctive socio-economic structure and cultural configuration of rural areas is also a topic of interest as it relates to educational participation and achievement. Conner and Magill suggest that working class socio-economic status and cultural values are more prevalent in rural areas than elsewhere, and that this accounts for relatively low educational aspirations and performance in rural students (Conner and Magill, 1965, p. 5). In surveys of rural populations they found there was a high level of ignorance regarding educational and occupational opportunities, and that rural youth were less likely than urban youth to pursue higher education goals (ibid., p. 48). A high percentage of rural school drop-outs remained in their home region and were employed in clerical, service, manual and recreation jobs; other students were strongly oriented toward out-migration. Conner and Magill postulate that the
level of motivation toward education and geographic mobility is the result of three main forces: family social status, the urban or rural nature of the community, and the socioeconomic status of the surrounding regional population. These three forces may be either mutually reinforcing or divergent in their influence on the motivation of individuals toward education and mobility (ibid., pp. 82-85).

Yet another approach to the geography of education in relation to social structure is that of inter-regional comparisons. This approach is well illustrated by the work of Bowman, who compared northern and southern states of the U.S. with respect to education, income and occupational status (Bowman, 1965) of whites and non-whites. With respect to migration, she found that in-migrants to the South were well-educated while in-migrants to the North were relatively less educated. She also found the incidence of functional illiteracy to be highest in rural areas, in the South, and among non-whites. In general, educational achievement, incomes and occupational status reflected a comparatively higher socio-economic status among whites, especially in urban areas and in northern states. Bowman postulated that regional socio-economic disparity between the North and the South was based mainly on differences in educational achievement and racial composition of the population (ibid., p. 101); economic rewards accrued more readily to the well-educated, and especially among the white population.
Kariel and Kariel provide a somewhat more elaborate framework for inter-regional comparisons of this type. They assert that education is important as a major source of literacy skills that provide access to jobs, income, scientific information, and cultural experience (Kariel and Kariel, 1972, p. 135). In reviewing the international distribution of literacy rates they related literacy to five independent variables:

1. primary school enrollment ratios;
2. teachers as a percentage of the adult population;
3. government education expenditures as a percentage of national income;
4. the percentage of males employed in agriculture;
5. newspaper circulation.

They also examined the relationship between the median and school years completed in states of the U.S. and four socio-demographic variables: per capita local government revenue, percent of blacks in the population, percentage of the population that is urban, and median family income. Educational achievement was positively correlated with measures of wealth and, to a less degree, with the degree of urbanization (ibid., pp. 149-161). These authors point out the importance of comparing the same variables at different geographic scales, as a means of checking the consistency of results (ibid., pp. 162-165).

Morrill has explored the political geography of education in some detail. In this context, he describes the school system as
one that serves the conflicting goals of competing constituencies, and as an institutional vehicle for promoting either social stability or change (Morrill, 1974, pp. 6-16, 17-22, 77-82). In policy development regarding deployment of educational resources, access to a quality education is a central concept, and criteria for defining a quality education include the following (ibid., pp. 24-66).

- security;
- diversity of cultural values;
- decision-making power;
- individual fulfillment;
- development of value systems and goals;
- freedom of movement/access;
- adequate facilities and services;
- group and individual growth toward greater independence.

Morrill explores the political tensions that emerge between senior governments and local school district jurisdiction in interpreting and implementing the above criteria.

A central focus of educational policy is the manipulation of service area boundaries as a means of defining the cultural distance between different social groups, based on economic, ethnic and racial differences. Whether these boundaries are defined in terms of financial efficiency, transportation efficiency, or political objectives (e.g. racial integration) the way service areas and school administrative systems are structured reflects the authoritarian or democratic orientation
of the political system. Morrill identifies four models of the spatial organization of school systems (ibid., pp. 104-112): centralized, de-centralized, pluralist, and consolidated. These different models illustrate the spatial organization of education as a form of social control. In effect, administrative boundaries and powers determine which elements of society control and allocate educational resources, and how open to re-distribution of political power the education system is.

A number of authors have explored the relationship of education and social structure in the context of regional development. Furter for example, states that the existence of regional cultural identities distinct from social class and the labour marked requires the articulation of educational services to respond to diverse local community needs (Furter, 1979, pp. 251-257). The problems of rural areas are acute in this regard. In general, fewer program options are available as rural teachers have less opportunity to specialize than urban teachers. School centralization and phasing out of village schools threaten local cultural identity, especially as teachers often constitute a sub-culture separate from the rural community. Furter proposes two types of research to facilitate effective regional educational planning (ibid., pp. 258 -260). The first is in-depth analysis of regional supply and demand conditions, including administrative statistics, student attitudes, and accessibility factors. The second is the study of the extent to which the school system harmonizes or conflicts
with local cultural values. This research would be based on opinion surveys, interviews and the assessment of interaction between teachers and their client population. The evaluation of the cultural content of curriculum would also be useful in this regard.

In a similar vein, Kormoss and Cerych have studied the regional socio-cultural role of higher education in Europe. They found that a southern belt of universities in economically backward regions of France and Italy served as a route through which members of the provincial middle classes moved into careers in the national civil service and public administration (Kormoss and Cerych, 1974, pp. 236-238). They also noted the need to regionally counterbalance the spatial over-concentration of universities in metropolitan centres like Paris and Copenhagen. Another cultural role of universities, especially those in or near border areas, is to encourage intercultural exchange between neighboring countries.

The linkage between education and social stratification has attracted the attention of urban geographers. Carey et al., for example, used factor analysis to identify seven variables that delineated distinct socio-demographic zones in Washington, D.C. These variables include the following (Carey et al., 1968, pp. 529-532):

1. dilapidated housing;
2. transient population;
3. blacks employed as domestic servants;
4. proximity to cultural, scientific, and educational centres;
5. urban poverty traits (low income, crowded housing, broken families);
6. growth of black population;
7. general population growth.

The distribution of these variables was compared to a spatial hierarchy of factors describing the quality of the education system, including the following:

1. local concentration of white pupils;
2. low teacher turnover;
3. new schools;
4. teachers with young families;
5. uncrowded schools;
6. teachers from rural areas;
7. teachers without master's degrees;
8. problem schools (poor attendance, less qualified teachers).

Examination of patterns of correlation between socio-demographic and educational factors revealed that neighborhood conditions reflecting poverty, social stress and a high proportion of blacks were spatially associated with schools considered to be ill-equipped and lacking highly trained, experienced teachers (ibid., pp. 532-537).

Urban geographers have also studied associations between spatial variations of literacy and social conditions, respectively. Panton found that, although middle-class children generally scored higher than working class children on reading
ability, middle class children in some working class areas scored lower than working class children (Panton, 1980). He attributed these results to the social class composition of an area being a dominant influence on academic achievement. Substantial variations in reading ability among working class children were attributed to parental attitudes, as perceived by teachers. Panton grouped all possible independent variables related to reading ability into four types situated in the personal abilities of the individual child, the family, the school, and the neighborhood. The social variables found to be most highly correlated to reading ability were the percentage of families headed by managerial/professional workers and non-manual workers, respectively (Panton, 1982, pp. 2, 3). Working class families in middle class neighborhoods were found to have adopted positive, middle class attitudes toward education, and this was reflected in the comparatively high reading ability of their children. Panton concluded that the family and the neighborhood were the main sources of influence on literacy.

Sammons conducted similar research on the linkage between social class and participation in vocational education. He hypothesized that vocational enrollments in London wards would be inversely related to both the distribution of non-manual and/or professional workers, and to the distribution of high academic credentials (Sammons, 1983, p. 124). He selected thirteen census variables as indicators of five types of neighborhood social conditions: social class, stability, value
placed on education, housing, and ethnic composition. Using correlation coefficients, participation levels of wards in vocational training were related to scores on neighborhood social indicators. The spatial distribution of social classes was found to be systematically related to participation in vocational training. In particular, Sammons found that:
1. There was a pattern of social class and sexual stereotyping in career choice.
2. Wards with a stable population of skilled tradespersons participated most in vocational training.
3. Vocational training was relatively unpopular in wards with a high non-manual component in their occupational structure.
4. The social class composition of an area affected educational choices, i.e. students of non-manual fathers were more likely to opt for vocational training if they lived in an area of predominantly skilled manual workers.

Sammons' findings indicate that a detailed knowledge of social conditions in a given urban area can be useful as a guide to planning policies for the local provision of education and training.

1.8 Summary

This chapter has pointed out that unequal access to higher education in British Columbia has persisted since the 1960's, despite the de-centralization of post-secondary facilities via regional community colleges. Since the late 1970's a distance
education system has been developed to address this problem, but the impact of distance education on unequal educational opportunity has not been thoroughly assessed. Such an assessment requires an examination of the socio-economic traits, geographic distribution, and aspirations of distance education students.

Research on the geography of education has been pioneered in Germany. Since the 1960's German geographers have focused their attention on the social, spatial, economic, and psychological variables that may account for regional differences in participation in higher education. Much of this research has consisted of the integration of educational planning into regional planning and social policy. German geographers have also been instrumental in promoting the concept of education as a right of citizenship, and in recognizing the existence of sharp urban-rural differences in educational opportunity.

Although the geography of education is not widely recognized outside Germany as a distinct branch of human geography, there is nevertheless a diverse and voluminous body of research on topics related to the geography of education. This research includes the following five themes:

1. technical innovation and its diffusion;
2. regional economic growth and income as effects of education;
3. migration;
4. regional planning and spatial analysis;
5. the spatial association between education and social structure;
Representative examples of this research literature were reviewed to illustrate the treatment of these themes.

As a first step toward analyzing unequal educational opportunity in British Columbia, six theoretical approaches to defining the linkage between education and socio-economic inequality were reviewed. These included:

1. the technocratic paradigm;
2. cultural diffusionism;
3. social reproduction;
4. de-schooling;
5. credentialism;
6. ecology of schooling

While each of these approaches is open to criticism, the technocratic paradigm and cultural diffusionism are especially vulnerable due to their simplistic assumptions about the social role of education and culture, respectively.

While the dependency perspective is limited in its explanatory power, it provides a useful heuristic framework and terminology within which to conceptualize the geographic aspects of unequal educational opportunity. Dependency theories emphasize the dominant economic power of large metropolitan centres over a hinterland of regional cities, small towns, and rural areas that provide the metropolis with industrial raw materials, markets, and labour power. Originally a mainly spatial framework for explaining regional differences in wealth, the dependency perspective has been refined by Canadian
economists, geographers, and sociologists to incorporate the role of social class conflict in generating regional disparity. It is important to recognize that cities and social regions do not possess an ontological identity separate from the socioeconomic interest groups (classes), social processes, and social institutions of which they are constituted.

The unequal relationship between metropolis and hinterland is based not only upon purely economic and locational differences, but also upon an uneven distribution between social classes of power over the distribution of cultural capital. Educational credentials and the institutions that dispense them constitute forms of cultural capital. In Canada, the spatial and social distribution of access to higher education has traditionally been controlled by a dominant merchant capitalist class based in the largest cities.

The boundaries between social classes are reinforced by an educational superstructure that makes accessibility of higher education largely contingent on both the social class and geographic origins of potential students. The human resource landscape is thus partitioned into zones of varying levels of educational opportunity. Those residential zones most closely linked to the spatial locus of the dominant metropolitan bourgeoisie normally coincide with the locations of highest educational opportunity. This places important limits on the possibility of upward social mobility in a space economy in which most regions are essentially part of the world resource
hinterland. Because secondary industry is underdeveloped, and because primary industry (i.e. resource extraction) is highly mechanized, the main avenue of social mobility for the mass of people is the tertiary (i.e. service) sector. Upward mobility in the service sector, however, depends heavily on educational credentials for most participants. If the educational superstructure is more accessible to those of higher socio-economic status, and if families of high socio-economic status are spatially concentrated in those major urban centres where the main post-secondary institutions are located, then the human resource landscape is polarized in terms of unequal educational opportunity.

In theory, distance education provides a means of overcoming spatial and social obstacles to participation in higher education by making education directly accessible to all at home and in a flexibly scheduled format. The effect of distance education should therefore be to reduce socio-economic and geographic differences in educational opportunity and thus over time to promote greater social and spatial equity in society. It cannot be assumed, however, that distance education itself is equally accessible to all, as participation in this form of education may vary by social class, ethnic group, and/or location. A methodology is needed to identify systematic variations in those social and/or locational conditions that may selectively promote or hinder participation in distance education. Such a methodology should be based on working
hypotheses about the spatial and social distribution of educational opportunity, and about the specific impacts of distance education on educational opportunity.
CHAPTER 2
NOTES ON EPISTEMOLOGY

2.1 The Context of Human Geography

If the geography of education is not widely recognized as a well-defined branch of human geography, there is, nevertheless, a substantial body of research dealing with geographical aspects of education. In identifying unequal educational opportunity and the potential of distance education as topics for geographic research, the place of these topics within the geography of education and within human geography in general needs to be identified. In other words, what types of information, research, and analysis are most relevant to the study of these topics? In a broader context, it is necessary to consider not only research precedents, but also theories of knowledge within human geography that may enhance understanding of these topics.

As for the geography of education, the research problems addressed in this dissertation must be viewed simultaneously from three perspectives:

1. spatial efficiency;
2. regional disparity;
3. social equity.

The issue of spatial efficiency is whether the various administrative units within the education system of British Columbia are effectively delivering programs to the populations
of their respective service areas on the basis of meeting recognized norms and standards. The regional disparity question is whether there are substantial differences in access to higher education among regions of the province. The urban-rural and metropolitan - non-metropolitan dichotomies are especially relevant to this question. In the matter of social equity, it must be asked to what extent different socio-economic groups have different levels of access to and achievement in the higher education system, and whether unequal educational opportunity among social classes is reflected in the socio-economic profiles of residential areas. The question being asked with regard to distance education is whether it shows promise of being able to improve spatial efficiency in the distribution of educational services, to reduce regional disparities in access to higher education, and to increase equity in the distribution of educational opportunity among different socio-economic groups.

The main orientation of the present work is toward applied research rather than theory. The intention of this approach is to provide a well-ordered body of objective information against which the impacts of educational planning and policy making can be assessed. The sources of information to be used in this task are census data, student survey results, educational statistics and findings of similar research conducted elsewhere. The relative consistency in spatial and social patterns of access to higher education will be verified by examining social and educational indicators at different levels of spatial
aggregation (e.g. census tracts, school districts, college regions), and by gathering both objective and perceptual information. The types of information gathered correspond closely to the information commonly used in educational planning and policy analysis in British Columbia.

Having identified the research approach to be employed, it is clear that this approach is mainly inductive and empirical rather than deductive and theoretical. If this approach is positivist, it is also guided by humanitarian concerns and an awareness of relevant social theory. There is no intent in this approach to embrace a belief in technocratic social engineering. The aim is rather to enhance understanding of the problem under study, using information that is relevant in a practical sense to the way in which decisions on educational and social policy are actually made and/or justified. By clearly defining the dimensions of the problem (i.e. unequal educational opportunity), and the potential impact of a given policy option (i.e. distance education), it may be easier to identify improvements needed and the limitations of current practice in the education system.

Before embarking on this project, however, it is worth pausing to consider how this research relates to contemporary human geography. As there is currently no universally accepted mode of conducting research in social geography, each research project needs to be qualified to avoid misinterpretation of its basic premises, to indicate its potential limitations, and to
identify antagonistic research paradigms.

Over the past two decades human geography has been in a state of fragmentation and turmoil, focusing on differences of opinion over questions of epistemology. It has been argued that this is the result of three events in the evolution of the discipline (Brown, 1984A):

1. the quantitative revolution of the early 1960's;
2. the widespread acceptance by human geographers during the 1960's and 1970's of the Kuhnian theory of scientific progress through paradigm revolutions;
3. the rejection of quantitative geography by many human geographers in the 1970's and 1980's. Johnston has documented in detail this process of intellectual conflict between human geographers (Johnston, 1979, ch. 6, 7; Johnston, 1983, ch. 5).

The term 'quantitative revolution' refers to the widespread adoption by human geographers in the early 1960's of mathematical models and statistical analysis. These analytical techniques were felt by their practitioners to be more powerful than the idiographic regional studies they supplanted. Quantitative techniques seemed to provide a means of testing assertions against measurable facts, and of formulating law-like generalizations that would enable the prediction of geographic phenomena. A number of authors advanced forceful arguments to the effect that geographical research should be based on the scientific method and the mathematical approach imported into

About the same time as the quantitative revolution was running its course in human geography, T.S. Kuhn's theory of scientific revolutions (Kuhn, 1962) was becoming widely popularized among human geographers (Haggett and Chorley, op. cit., pp. 19-41). The essential concept of Kuhn's theory is that scientific research at any given point in time is guided (and constrained) by a dominant paradigm. The dominant paradigm is a comprehensive set of principles encompassing the general philosophy, theory, and methodology that is recognized by the leading authorities in a given discipline as the acceptable mode of solving problems and formulating explanations.

According to Kuhn, scientific progress occurs through periodic paradigm revolutions in which weaknesses in the dominant paradigm lead to a successful challenge by an alternative paradigm. Proponents of this alternative mode of explanation are at first treated as renegades or charlatans until, through a process of intellectual struggle, they succeed in demonstrating the superiority of their own theory of knowledge, the old dominant paradigm is overthrown, and the discipline falls under the dominance of the new paradigm. Stoddard asserts that Kuhn's theory of scientific revolutions has become widely accepted by human geographers since its introduction (Stoddard, 1981, pp. 70 -72).
The acceptance of Kuhn's theory was reinforced by the general view, best expressed by Myrdal (1969), that valid scientific explanation must be based on a single, all-encompassing and internally consistent union of theory and methodology. In this view, the social scientist must choose one set of explicit assumptions about the nature of the problem being studied; these assumptions form the core of the mode of explanation to be used and strictly limit the choice of methodology to be employed. This view, coupled with Kuhn's theory of scientific revolutions, has fostered the belief among many human geographers that the evolution of their discipline necessarily takes the form of a power struggle between different modes of explanation that are pure and mutually antagonistic (Brown, op. cit., p.3). In this approach to social science, there is no place for partial or mixed modes of explanation; to be worthy of respect, scientific explanation must be derived from a single, comprehensive and monological paradigm.

Acceptance of the Kuhnian model of scientific progress, with its emphasis on the need for philosophical purity and intellectual combat, has produced two decades of internecine struggle within human geography. Various schools of thought have, in turn, declared war on positivism and then on each other, seeking to produce a new paradigm revolution on the scale of the quantitative revolution of the 1960's. While this process has seriously weakened the influence of positivism in human geography, none of the rivals of positivism have gained the
upper hand, nor have quantitative methods been abandoned. The result is a stalemate in which rival schools of thought continue to ignore each other's strengths and harp on each other's weaknesses (For example, see Johnston, 1979, op. cit., ch. 6).

The main protagonists in this ongoing struggle can be divided into four camps:

* postivists - those who still believe that there is, to some extent, a role for quantitative analysis in human geography;
* behaviouralists - those who emphasize the need to study the psychology of the individual human being in terms of motives, perceptions, and decision-making;
* humanists - those who explain human geography through the subjective interpretation of landscape symbolism, cultural tradition and lived experience;
* Marxists - those who analyze human geography in terms of structuralist explanation, i.e. underlying social relations in the economic system (e.g. class conflict) that are taken as the root causes of observable social phenomena.

Each of the latter three groups above emerged as a challenger to the impersonal quantitative techniques of positivist geography, claiming to offer a more humane and socially useful way of explaining social phenomena.

None of the above rivals for paradigmatic supremacy is immune to criticism (Brown, 1984A, op. cit., pp. 4-7). Positivism has long been attacked for its reification of space, and for its reduction of human beings to a mere set of
measurable, predictable quantities, devoid of knowledge, insight, or powers of judgement. Behaviouralism is criticised as a form of veiled positivism that conceives of human beings as passive objects of environmental conditioning. The behaviouralist concept of environment has been said to ignore the willful actions of humans, and behaviouralists are accused of bias in their methods of collecting data. Critics of humanism see it as a superficial form of elevated description, non-verifiable, incapable of creating generalized knowledge, and naive in its indifference to powerful social and economic forces that shape individual consciousness. As such, it is irrelevant to serious collective problems of poverty and social injustice.

The strident claims of Marxists that they possess an holistic, scientific mode of explanation have also been strongly criticized (Duncan and Ley, 1982; Eyles, 1981). Marxist and radical geographers have been described as being highly dogmatic and deterministic in their interpretation of society, in that they ascribe an independent teleological evolution to abstract economic entities like capital, while down-playing the role of culture and individual choice in the unfolding of human events. Marxist definitions of social class have been characterized as simplistic and out-dated, focused almost exclusively on capital ownership as opposed to ethnicity, sex, religion, lifestyle and notions of social prestige. Marxists are also accused of wasting too much time on bombastic rhetoric, quarrelsome polemics, and utopian prescriptions for the wholesale restructuring of society.
Historical materialism is useful in understanding the past, but whether it is a uniquely sound basis for analyzing the present or projecting the realistic future may be open to question.

Perhaps the most useful result of the debates that have succeeded the quantitative revolution and its demise is the recognition that there is no such thing as value-neutral social science. That being the case, it is self-deception to pretend that the terminology used by social scientists to describe social phenomena can or should be totally value free (Krige, 1979, p. 55; Young, 1979, p. 72). "It should be recognized that social scientists, in spite of their formal commitment to objectivity, do go about their work with informal bias. This should neither surprise nor offend anyone as long as bias expressed in words does not result in intentional distortion of research methods or falsification of results (Keat, 1979, pp. 81-85). Moreover, the advantage of admitting bias is that this alerts the reader to the fact that social scientists are always to some extent subjective in their selection and interpretation of data. If the writer is frank about his/her biases this aids the reader in understanding the intention and limitations of a given piece of work."
2.2 Pluralism and Convergent Explanation

If controversies over epistemology in human geography are not to result in a general intellectual paralysis of the discipline, researchers must seek a more flexible, pragmatic and tolerant approach to methodology. Buttimer, for example, suggests that rhetorical, technical, and practical types of explanation can be used to complement each other (Buttimer, 1982, p. 91). Robson recommends that two or more distinct forms of explanation be combined where this serves pragmatic, humane purposes, such as redistribution of wealth or services to the disadvantaged (Robson, 1977, p. 485). The use of Marxian concepts in guiding more conventional forms of non-marxist research has been suggested by Eyles as a means of gaining insight into social structure and process, without losing sight of the practical realities of local situations (Eyles, op. cit.). Jackson asserts that Marxist concepts may be used in tandem with more flexible definitions of social class derived from Weberian sociology (Jackson, 1983, p. 120).

Johnston has argued that elements of positivism, humanism, and structuralism can and should be incorporated into the same explanatory framework, where they serve mutually compatible purposes. (Johnston, 1980, pp. 410, 411) Positivism provides methods for organizing information and identifying patterns; humanism aids interpretation of meanings and values; and structuralism brings insight into social processes that account
for observed patterns. This notion of convergent explanation derived from a pluralist appraisal of social problems is supported by Gregory, who sees humanist and structuralist modes of explanation as mutually complementary (Gregory, 1980, p. 16). In this mode of explanation, the integration of positivist methods with non-positivist theory is acceptable, as long as quantitative methods are not in conflict with social theory: "As a means of manipulating information, quantification can be employed within any social scientific philosophy." (Johnston, 1983, p. 131)

Interest among human geographers in more versatile forms of explanation has been spurred by the so-called structuration problematic of the British sociologist, A. Giddens (See Giddens, 1979). Thrift, for example, recommends that human geographers explore the use of structuration theory as an approach to understanding the recursive interaction of social structure and human agency (Thrift, 1982). The advantage he cites for structuration theory over structuralist explanation (e.g. structuralist Marxism), is that structuration theory does not conceive of social structure as an underlying phenomenon that is somehow separate from the observable social phenomena to which it is linked (ibid. p. 1281). This is an important distinction, in that structuralist explanation has been accused of theoretical bias stemming from its heavy reliance on theory about the inner structures of society and its avoidance of factual verification of theory in the here and now of immediate
social reality (Johnston, 1983, pp. 120, 121). To human geographers, the structuration problematic suggests the need for empirical research on the links between spatial and social structure, the use of descriptive language in analyzing social reality, and an emphasis on the potential for both reproduction and transformation of society through the evaluation of social structure (Thrift, op. cit.).

Although there is not yet a well developed methodology for the application of structuration theory to research problems, there are historical precedents in geography that provide some pragmatic guidance as to the proper use of methods in a more open framework of inquiry. Chamberlin's method of multiple working hypotheses (Chamberlin, 1890, pp. 756-759) and Platt's article on strong inference (Platt, 1964, pp. 349, 350) both invoke the dangers of purist, single-tracked explanation, and the need to avoid tautological statements and circular reasoning. They suggest as an alternative the formulation of families of mutually complementary hypotheses that explain different facets of a single problem. It is the task of the researcher to discard successively those hypotheses that are most dissonant and/or most easily contradicted. The resulting analysis is convergent and multi-dimensional rather than monological. As long as no serious contradictions are found among the surviving hypotheses, the research findings can be considered valid.
Since the early 1980's there has been a growing interest among human geographers in the development of research methodologies that are eclectic, convergent, and flexible in their application. Christensen, Gould, and Couclelis argue that the research problems of human geography should be treated as too multi-dimensional and complex to be resolved within a single, unitary epistemology (Gould and Olson, eds., 1982); Gregory urges human geographers to study the spatial structure of social relations (ibid.). This trend toward multi-dimensional explanation has led to a more refined perception of the role of quantitative methods. Mercer, for example, has pointed out that our attitudes toward quantification depend on whether we believe in adapting, reforming or radically re-structuring the relationship between society and the economic system (Mercer, in Billinge, et. al., 1984, p. 193). Wilson argues that, in the context of social planning and policy analysis, numeric methods can and should be used to test metaphysical statements against the concrete experience of social conditions, provided that quantitative analysis is not treated as an end in itself. The role of planning technology therefore, should be to focus on social issues, clarify questions of value and define policy options and their socio-political consequences (Wilson, ibid., pp. 221 -224).

The recent interest of human geographers in a more open approach to epistemology has revived interest in the spatial manifestations of social structure. Saunders, for example,
suggests that social structure is a function of the social organization of consumption, and that inequalities in the consumption of public services should become a major focus of urban sociology (Saunders, in Gregory and Urry, 1985, pp. 85-86). Soja proposes that the reproduction of social relationships and structures is inextricably linked to the reproduction of the spatial structure of society (Soja, ibid., pp. 92-99). He also asserts that the social organization of space is not simply a passive background upon which social relations are played out, but that space constitutes a medium through which social relations are produced, sustained and/or transformed (ibid. pp. 109, 110, 114-118). Thus, the spatial structure of society can be seen as both a means through which social classes interact and the outcome of that interaction.

In view of this renewed interest in spatial structure, it is sensible for human geographers to use numeric methods and spatial analysis where these approaches can serve to clarify rather than mystify social theory and social issues. It is important, however, that the use of so-called scientific method (i.e. hypothesis testing with empirical data) not be construed as revealing universal laws in the same sense as in the physical sciences. Only the accumulation of empirical research results over long periods of time can indicate whether social relationships are durable or transient (Hay, in Johnston, 1985, pp. 140-141). Bennett emphasizes this point by stating that empirical methods in human geography, if useful in shedding
light on social theory, should be accepted as only a partial explanation of social reality (Bennett, ibid, pp. 218-223). Johnston describes research in social geography as a balancing act in which there is a need for judiciously blending theoretical concepts and relevant empirical information (Johnston, 1985, pp. 334-337).

There are still, however, human geographers for whom the blending of distinct research approaches is anathema. Eliot-Hurst, for example, feels that historical materialism is "... the only holistic scientific theory of human praxis ..." (Eliot-Hurst, 1985, p. 60) and, therefore, geographic inquiry in its present form should be abandoned and replaced by Marxism (Eliot-Hurst, 1980, 1981, 1985). This view is criticized on the grounds that it is more aimed at discrediting other branches of human geography than at offering a practical alternative, and that geography cannot be more "de-defined" than it already is (See commentaries in Eliot-Hurst, 1980, also Barnes, 1987, p. 127).

2.3 Scope and Limitations of the Present Study

In defining the central problems of the dissertation as the polarization of educational opportunity in British Columbia and the potential of distance education, the author is faced with a choice of an appropriate research approach. The central concern underlying the choice of the problem to be studied is social
justice in the distribution of public services. The term 'social justice' as used here is based on Rawls' definition: "All social primary goods - liberty and opportunity, income and wealth, and the basis of self-respect are to be distributed equally unless an unequal distribution of any or all of these goods is to the advantage of the least favoured." (Rawls, 1971, p. 303). Under this definition of justice, universal access to education is a necessary, but not a sufficient condition for achieving social equity. As wealth is unevenly distributed in capitalist society, the use of public policy measures that discriminate positively in favour of the disadvantaged is also a prerequisite of social justice.

Acknowledgement of unequal educational opportunity as an important social problem in British Columbia begs the question of how extensive the problem is, which sectors of society are most directly affected by it, and which sectors of society are most apt to benefit from remedial policies such as distance education. Methods used in addressing this question need to be effective in identifying and comparing social groups in terms of levels of socio-economic well-being, and in delineating the territories these groups occupy.

It is not the purpose of this dissertation to provide a definitive and universal explanation of the cause(s) of unequal educational opportunity, nor to formulate an optimal solution to this problem. The research approach adopted is therefore not exclusively bound to a single, unitary, and internally
homogeneous form of analysis. Given the complexity of the relationship between educational opportunity and social structure, the most promising approach to understanding and defining this relationship lies in the acceptance of convergent and pluralist methodology, as described earlier.

The research framework to be used in this study emphasizes empirical investigation, informed by relevant concepts from social and geographic theory. The aim is not to develop a comprehensive theory of unequal educational opportunity, but to generate empirical results useful for the development of social theory and social policy. This approach is based on the recognition that empirical research can help to define social relationships and spatial structure at a given point in time without claiming to be discovering generalized laws of social organization. It is recognized that structuralist, humanist, or behaviouralist inquiry may provide important insights into the long-term evolution of social and geographic phenomena on a theoretical level. In the absence of empirical definition of current social realities, however, social theory is largely irrelevant to the practice of social policy.

In exploring and defining unequal educational opportunity it must be emphasized that social structure and spatial structure coexist in symbiosis. In this context, spatial analysis and regional comparisons do not signify the reification of space, but rather the recognition that the occupation and control of distinct territories by different social classes is both a
medium and a result of social stratification. In effect, differences among social classes in access to higher education reflect disparities not only in the ownership of capital and the distribution of wealth, but also in the ability to occupy and control strategic zones of spatial access to educational facilities.

The particular form of inquiry within human geography that is closest to the research approach adopted in this dissertation is welfare geography. The history and development of welfare geography as a branch of human geography has been summarized by Johnston (Johnston, 1979, op.cit., pp. 168-173). The main purpose of welfare geography as defined by Smith is "...helping to reveal the spatial malfunctionings and injustices, and contributing to the design of a spatial form of society in which people can be really free to fulfill themselves." (Smith, 1977, p. 373). Welfare geography contributes to an understanding of the role of the state in capitalist society by systematically defining variations in the various dimensions of human well-being at different geographic scales. The use of mapping and regional comparisons of social indicators is prominent in this branch of geographic research. Its methods are especially well-suited to assessing the impacts of government policies for the delivery of social services such as education.

The linkage between welfare geography and social theory lies in the recognition that spatial variations in human well-being emanate from inequities embedded in the social and economic
structures of capitalist society. The division of labour, for example, is seen as a primary source of variations in social well-being (Coates et. al., 1977). Thus, welfare geographers accept the value of the insights provided by structuralist and Marxian social theory.

Welfare geography can be criticized as a form of positivist Liberalism, dedicated to legitimating and perpetuating the capitalist economic system through a process of technical adjustment to social stress (Brown, 1984C). However, in the context of the present work, adoption of the methodology of welfare geography does not signify support for the capitalist status quo. Rather, this approach is based on the pragmatic view that while a radical re-structuring of capitalist society may be the ideal solution to the problem of unequal educational opportunity, this is not a realistic option at the present time. Capitalist society has proven itself to be an extremely resilient and durable, if unequitable, form of social organization. Welfare geography provides a means of assessing the impacts of social institutions and policies, and of indicating where humane improvements are needed, whether change proceeds as gradual reform or as radical re-structuring.

A major limitation of welfare geography is that it is largely ahistoric in its approach to knowledge. Most welfare geography research focuses on cross-sectional rather than longitudinal data. Thus, while research of this type may be useful in enhancing our understanding of current social issues,
it does not provide a nomothetic model that accounts for the long term evolution of society. Added insight into generalized social process must therefore be gleaned by reference to humanist theory, to structuralist explanation (e.g. historical materialism), or to the accumulation and replication of cross-sectional empirical studies over time and space.

In studying the problem of access to higher education in a welfare geography framework it must be recognized that education achievement levels of the population are a commonly used social indicator in describing social well-being. This raises an interesting methodological problem, namely that educational achievement is being viewed simultaneously as a dependent and independent variable, as both an effect and a cause of social well-being. At first blush, this may appear to be a form of circular reasoning. However, when education is treated as an independent variable it is understood, in combination with other measures of social well-being (e.g. income, occupation), to indicate the socio-economic status of the family unit and especially the parents. When, on the other hand, educational achievement is treated as a dependent variable it refers to the educational success of the individual student. The implication is that the academic success of a student is at least partially a function of the social status and academic abilities inherent in his/her family.

Educational achievement is also, however, the outcome of a complex process of learning that involves the cultural and
cognitive content of curricula, teaching methods, and social interaction between individual students, their peers, their teachers, and their families. In order to have a full understanding of how individuals and/or groups of students are promoted within a given education system, we need detailed information on the cultural values and social behaviour that are formed and transmitted throughout the school experience of students. In addition, information on the specific ways in which the school harmonizes or conflicts with the cultural values and social norms of its client population would be useful. Because of the sheer breadth of the problem of unequal educational opportunity, it was not possible to include a detailed investigation into the cultural and pedagogical aspects of the education system. The relative lack of detailed analysis on education as a form of communication is an important limitation of the present study.

2.4 Social Stratification and Education

Established theory and research on the problem of unequal educational opportunity are strongly focused on the division of society into social classes, or socio-economic status groups, that have different degrees of access to and/or success in the education system. Theories on social stratification generally fall within two distinct perspectives: functionalism and conflict (Anisef, 1982, pp. 158-162). In the functionalist perspective, differences in socio-economic rewards to different
social classes are based on the need for incentives to induce individuals to accept difficult jobs and responsibilities. This is thought to promote an efficient allocation of tasks among people of different levels of competence and motivation (Davis and Moore, 1945). Acceptance of social disparities is believed to be based on a broad social consensus about the appropriate matching of rewards to occupational positions. In the conflict perspective, however, society is made up of different groups having different levels of power over material resources and the political process. Under these circumstances, education is just one device that is used by the dominant social group(s) to reproduce and legitimize the existing social order. In the conflict model of society, rival social classes are constantly struggling to increase their respective levels of ownership and control over society's resources.

Functionalist thought is based on a competitive model of society in which individuals compete with each other for social rewards, including educational credentials, and the outcomes are determined by individual ability. This concept of society is referred to as meritocracy. In the conflict perspective, however, it is social classes or status groups that compete with each other, and the outcomes result from different levels of control by these groups over economic and social institutions, including the education system.

Critics of functionalism argue that those social classes with more wealth and power use their advantages to control the
conditions under which education is accessed, and to ensure that the education system promotes the existing social class system.

The critique of education as meritocracy comprises four main points (Hunter, 1981, Part II):

1. Education does not produce most practical job-related skills.

2. Job skills are learned at work, not at school.

3. The main role of education is to prepare people to fit into the existing social class system.

4. Wealth and social position are mainly inherited, rather than earned.

If these points are accepted, then it follows that occupational status and social rank are not determined by merit, but may be rather the result of prior membership in a given social class.

There is a large body of empirical research on social stratification, the role of education in relation to social inequality, and differences of educational opportunity among social classes. Within this literature, the term "social class" is defined in several distinct ways (Hunter, op. cit., ch. 2, 4). In the Marxist model of society, for example, social classes are defined with reference to the ownership and control of the means of production, i.e. capital. In the Marxist definition of social class, it is generally held that the dominant class consists of those who own capital, and the subordinate classes are made up of those who do not own capital, but must sell their labour power to the owners of capital. In this model, conflict
between classes is centred on ownership and control of capital, and on the economic surplus that capitalists extract from the labour power of their employees. Within this context, the capitalist class uses its ownership of the economic infrastructure to control the social superstructure, which includes the education system and other social institutions. The general scheme of Marxist social class categories is bipolar, with the bourgeoisie (capitalist classes) in control of the economic system and the proletariat (working classes) seeking to challenge that control through an on-going process of class struggle.

As capitalism has evolved, other typologies for defining social class have emerged. The most widely recognized is that of Max Weber, who saw Marxist class definitions as being too narrowly based on the relations of economic production (Weber, 1964). He based his own class typology on class, status, and party, where class refers to market position, status refers to lifestyle and consumption, and party refers to power alliances within a community (Hunter, op. cit. pp. 22-26). Although Weber recognized the importance of property in the Marxist sense, he also foresaw the emergence of various middle classes who, though they do not own substantial property as do capitalists, are able to exercise considerable social power through their skills, knowledge and social prestige. Weber saw class conflict as becoming more diffuse and complex via the rise of large corporate and public bureaucracies.
Dahrendorf adds another dimension to social class. He asserts that in modern corporations, diffusion of stock ownership and the rise of a complex corporate administrative structure shifts the definition of social class from ownership of capital to control of capital. In a system where ownership and control are separate, class is defined more on the basis of occupation (i.e. level of operational decision-making authority) than by ownership of property (ibid. pp. 26-28).

To these definitions of social class, Giddens has added the concept of the structuration of classes. In this definition of social relations, classes are not defined mainly on the basis of ownership of private property, but rather in terms of the exercise of power through the effective control of social organizations. For example, Giddens emphasizes the division of labour within an enterprise as an important source of class structuration. In structuration theory, it is the exercise of authority rather than the ownership of property that gives one class of people dominance over another (Giddens, 1981, ch. 2).

The social process of structuration as defined by Giddens involves the active participation by people who are aware of how social institutions operate and who, in the course of seeking to acquire power may either reproduce or transform social structure, depending on the intentional and/or unintentional outcomes of their actions.

Structuration theory assigns importance to the role of a propertyless middle class of persons who, because of their
educational or technical qualifications, and through recursive interaction with social institutions, acquire skill in activities connected to administrative powers of surveillance, authority, and legitimation. These people depend on education and training for their social position, are socially mobile, and play an instrumental role in the reproduction and transformation of social structures. (Hunter, op. cit.).

Other contemporary social theorists have offered various definitions of social class. Collins, for example, describes social classes as status groups that share a distinct set of social traits including lifestyle, ethnicity, religion, occupational affiliation, or geographic origin. These status groups compete for wealth, power, and prestige within the context of large social and economic organizations (Collins, 1971).

Given the vast array of social class definitions, it is no easy task to decide which typology is most appropriate for assessing and comparing the relative access of social classes to educational opportunity. Moreover, socio-economic data that define social classes are not equally available for all typologies. In the present research, social class is intended to mean primarily social groups classified by their respective levels of socio-economic status (i.e. well-being). Income, occupation and educational credentials are important elements of socio-economic status. Social groups identified by their cultural affiliation (e.g. ethnicity), however, are also
recognized as having a distinct communality of interest. It is therefore more appropriate to speak of classification by general social class traits rather than by a specific social class typology. This approach is closer to Weber than to Marx.

2.5 Conditions Influencing Educational Opportunity

Interest in the factors related to participation and achievement in the education system was aroused by sociological research conducted in the 1960's. Coleman, for example, identified four variables related to the academic achievement of American students (Coleman, 1970, p. 258); these were:

1. family socio-economic background;
2. student peer group characteristics;
3. teachers' characteristics;
4. non-teacher school inputs.

Of these four, the first two were found to be strongly correlated to student achievement, while the latter two had only a weak association with academic success. These results were supported by a similar study in Great Britain (Plowden Report, 1967). Other studies of the same era produced a variety of results. Jencks, for example, found that neither the school system, family background, nor genetic inheritance accounted significantly for social inequality in the U.S. (Jencks, 1972). He concluded that social equality could best be achieved by re-structuring the allocation of wealth in society rather than by redistributing educational opportunity. Rossi, on the other
hand, asserted that educational achievement is the outcome of identifiable social variables, including intelligence, socio-economic status, attitudes, region of origin, and community of origin (i.e. wealthy versus poor) (Rossi, 1965).

Social researchers in Canada have been actively engaged since the 1960's in an effort to identify social and economic conditions that influence educational opportunity. Public debate on access to higher education has focused on four main sources of inequality: social class, ethnicity, gender, and region (Anisef, op.cit; pp. 35-41). Perhaps the most widely recognized Canadian author on social stratification as it relates to educational opportunity is John Porter (Porter, 1966, Porter et. al., 1970).

Porter stresses the importance of education as a means of stabilizing and perpetuating the existing social order. In his view, social class divisions in modern capitalist society are based on the control, rather than ownership of capital, and this control is exercised through the medium of large public and private bureaucracies (Porter, 1966, op.cit., pp. 20-28). These large bureaucracies are, in Porter's view, dominated by managerial elites whose power stems from their education and training, their control over information, and their communications skills, rather than from the ownership of capital per se. Social mobility in this type of society is highly contingent on educational credentials (ibid., pp. 49-54). Conditions affecting access to higher education are therefore of
key importance to the distribution of power among social groups and geographic regions.

Since the 1960's there has been a growing body of sociological research on social conditions related to educational motivation, opportunity, and achievement. A selection of some major findings includes the following (Anisef, op.cit., pp. 60-72):

1. Porter (1965) classified fathers of university students by occupational status, using a socio-economic index derived from income and educational credentials. In comparing university students to the general population, he found that certain social groups were over-represented in the university student population. These included: high income families, high occupational status families, women of high income families, and children of highly educated parents.

2. Rabinovitch (1966) found that children of fathers in professional, managerial, or proprietary occupations were substantially over-represented among university students, and that students from small population centres were grossly underrepresented.

3. Breton (1972) found that children of fathers with high occupational status were less prone to indecision about career choice; that urban students were more likely to finish school than rural students; and that high socio-economic status was positively related to the self-confidence of students.
4. Clark, et.al. (1969) found urban youth had higher expectations of attending university, as compared to rural youth.

5. Porter, et.al. found that, independently of mental ability, there was a strong positive correlation between socio-economic status and expected participation in university education. They also found large disparities in educational aspirations between metropolitan and rural areas, although social class was a more significant factor than rural-urban residence. Gender differences in educational aspirations were greater among low socio-economic students, and ethnicity and family size were also found to be related to aspiration levels.

6. Anisef, et.al. (1980) found that the choice of academic programs by secondary students was strongly related to both socio-economic status and rural-urban origin. Participation in post-secondary education was positively related to the size of communities in Ontario. Rural students of low socio-economic status were least able to participate in higher education.

These studies suggest that the main variables related to educational opportunity are socio-economic status, place of residence, and gender. Little information, however, has been generated on intra-urban and inter-ethnic variations in educational opportunity, nor is it clear to what extent rural-urban differences are widely generalized.
More recent attempts to identify conditions affecting participation in higher education have stressed economic and demographic trends over time. Foot and Perrin, for example, cite per capita income, per student operating grants to universities, the age structure of the population, and unemployment rates as the main variables accounting for Ontario post-secondary enrollments in the 1960's and 1970's (Foot and Perrin, 1983). Guppy, examining the social equity aspect of access to higher education, tentatively concludes there is a steadily declining gap in post-secondary participation rates between social class, gender, and ethnic groups (Guppy, 1984). This conclusion is only valid for some types of education, however, and may indicate either a temporary trend or the emergence of a dual higher education system, divided into university and non-university sectors. Guppy's overall conclusion is that there remains large scale wastage of human talents due to access barriers based on gender, ethnicity, and class (ibid., pp. 88-90).

In view of abundant empirical evidence on social class differences in access to higher education, social status, and the Rawlsian position cited earlier on social justice, it is pointless to pretend that research on unequal educational opportunity can or should use value-neutral terminology. Terms like "privileged", "disadvantaged", "favoured", "social hierarchy", and "social elite", have been shown to accurately reflect material realities in social life, and therefore have a legitimate place in social research, provided methodologies used
to generate these categories are accurately applied.

If theoretical and empirical support for this position is needed, it can be found in historical research and structuralist theory. Miller, for example, cites historical evidence that the classical economists advocated the introduction of public education as a means to reinforce social class divisions and the ideology of industrial capitalism (Miller, 1966). Johnson documents historical records on early public education that show its emphasis on social discipline, propagation of the cultural values of the dominant social classes, and limited access to higher education for working class people (Johnson, year?). This research sustains the structuralist view that the underlying force that accounts for unequal educational opportunity is social class interest.

The structuralist interpretation of the social role of education is best expressed in the theory of cultural and social reproduction. According to this theory education is a form of symbolic wealth (cultural capital) whose unequal allocation in different types and amounts to different social classes has the effect of reproducing the existing social class system (Bourdieu, 1973). In effect, the unequal allocation of educational credentials perpetuates the cultural hegemony of the dominant classes, i.e. those who own or control the economic infrastructure. In this system, the relationship between educational achievement, consumption of cultural commodities, and the transmission of cultural values via the family is such
that members of the middle and upper social ranks move upward in the education system, while those of lower social ranks are screened out and assigned to lower occupational positions (ibid., pp. 74-84). The education system thus creates an illusion of meritocracy that legitimates the social class system while concealing the reproduction of that system. Those occupational groups most dependent on educational credentials (i.e. middle class professionals) invest heavily in education for their children; upper class groups (i.e. propriety occupations) depend less on the education system per se, providing their children with a network of social and commercial contacts that assures career success.

The fact that the conditions affecting access to higher education are controlled to a large extent by social elites is reflected in the composition of executive bodies of universities. University boards, together with government policy makers, play an important role in determining the location and size of institutions, programs offered, entrance requirements, tuition fees, student financial aid, etc. Fox and Ornstein, in their research on corporate elites in Canada, have found that executive interlocks between corporations and universities were much higher than interlocks between the corporate sector and other public institutions. (Fox and Ornstein, 1986, pp. 490, 493, 497, 501, 502-503). As most corporate executives reside in large metropolitan centres, this raises the question of how sensitive universities are likely to be toward the educational
needs of the lower socio-economic and/or non-metropolitan segments of the population.

2.6 The Concept of a Polarized Landscape

The concept of a polarized human landscape is not novel, mysterious or unfamiliar to social scientists. Historians, sociologists and geographers, in Canada and elsewhere, have spawned an incredible plethora of terminology that describes various versions of this concept. What were the inventors of these expressions trying to say?

Here is one example from Canadian geography (McCann, 1987, pp. 3, 4): "It is in the Canadian tradition to speak of metropolis and hinterland ... Not only have Canadian scholars long recognized the pervasiveness of the metropolitan influence over Canada's economy and society, and its role in the spatial ordering of the country's landscape, but the approach also readily lends itself to regional analysis. Heartlands ... display a diversified profile of secondary, tertiary, and quaternary industries; they are characterized by a highly urbanized and concentrated population which participates in a well-integrated urban system; they are well advanced along the development path and possess the capacity for "innovative change"; and they are able to influence and usually control through the metropolis - economic, social, and political decisions of national importance. Hinterlands are characterized
by the obverse: an emphasis on primary resource production; scattered population and weakly integrated urban systems; limited innovative capacity; and restricted political prowess. Hinterlands, therefore, are all the regions lying beyond the heartland whose growth and change is determined by their dependency relationships with the heartland."

What is not immediately obvious about the various definitions of a polarized landscape is which (if any) should be understood as a causal explanation of regional disparity and which are merely intended to serve as a conceptual framework within which inter-regional relationships are analyzed. The key to clarification of this issue is interpretation of the "dependency relationships" between heartland and hinterland.

Dependency relationships between heartland and hinterland regions or countries are often described with reference to ten types of interdependence between metropolitan and non-metropolitan areas. These are as follows:

1. Investment capital flows from metropolitan to non-metropolitan areas, either as direct ownership of industry and resources or in the form of loans. In return, profits and interest payments flow back to metropolitan investors.
2. Non-metropolitan areas provide markets for the relatively expensive manufactured goods and services of metropolitan areas.
3. Metropolitan areas import relatively inexpensive industrial raw materials and food from non-metropolitan areas.
4. Non-metropolitan areas provide metropolitan enterprises with a reserve of cheap labour.

5. Metropolitan industries create technological and administrative innovations which, in time, spread to non-metropolitan areas.

6. The cultural institutions of the metropolis, including popular culture, higher education, and the mass media disseminate metropolitan cultural values throughout non-metropolitan areas.

7. The transportation and communications network of non-metropolitan areas is structured to facilitate trade and cultural interaction mainly with metropolitan centres, rather than with other non-metropolitan areas.

8. The urban structure of the non-metropolitan areas is organized in support of commercial linkages with metropolitan centres. Heavy public investment is made, for example, in developing one or more large cities that cater to large metropolitan based enterprises (e.g. multinational banks and corporations).

9. The social class structure of non-metropolitan areas is organized to reflect an inter-regional or international division of labour dominated by metropolitan economic interests. A substantial proportion of the non-metropolitan bourgeoisie, for example, are employed directly or indirectly in enterprises controlled by metropolitan economic interest groups. Through a process known as "brain drain" many of the most highly talented and educated members
of non-metropolitan society are absorbed into the middle and upper ranks of metropolitan society. A comparatively large proportion of the non-metropolitan population consists of the urban poor and untrained primary sector workers. The bulk of employment in skilled industrial occupations is located in metropolitan areas.

10. The metropolis exerts its influence over non-metropolitan areas through control of political institutions, political accords, and military alliances.

Because metropolitan social and economic organizations are usually larger, better funded, and more technically advanced than those of non-metropolitan areas, the metropolis is commonly held to be dominant in its interactions with non-metropolitan areas. The most often cited forms of metropolitan dominance are; exploitation of the non-metropolitan labour force, unfavourable terms of trade for non-metropolitan areas, and financial indebtedness of non-metropolitan areas. Concentration of high order economic decision-making, research, and higher education in metropolitan areas is another manifestation of metropolitan dominance.

Dependency theory is the term used to describe a variety of contemporary concepts and models that define economic and social relationships between metropolitan and non-metropolitan areas. These approaches include contributions by Myrdal (1971), Hirschman (1958), Prebisch (1950), Friedmann (1969), Perloff (1960), Galtung (1971), Frank (1969) and Wallerstein (1974),
among others. Historical precedents for these authors are found in the works of Hobson (1938), Lenin (1939), Luxembourg (1964) and Schumpeter (1954). As the literature on these authors is vast and well-known, no attempt is made here to summarize or cite them individually. Overviews are plentiful in economic geography reference books (e.g. de Souza and Brady Foust, 1979, ch. 12; McCann, op. cit., ch. 1; Berry and Conkling, 1987, ch. 16).

Most treatments of this topic focus on the ways in which economic growth in the metropolis controls, limits or distorts the pattern of economic growth of dependent, non-metropolitan areas. In general, there are three distinct theoretical approaches (Petras and Trachte, 1979):

1. The liberal approach stresses the necessity of free international trade based on comparative advantage, and the roles of the nation state and the international corporation as media for diffusion of economic management skills, technology, and the commercial infrastructure around which economic regions and trading blocks are organized.

2. The structuralist approach focuses on the ways in which large metropolitan enterprises control international investment, trade, and exchange to the detriment of non-metropolitan areas.

3. The radical (usually Marxist) approach emphasizes that the primary unit of analysis is not the nation state or the corporation but rather the social class structure of
societies involved in the international capitalist system. This approach focuses on imperialism, the exploitation of labour, and class conflict, stressing that metropolitan dominance is a class-directed process.

The first two of the above focus mainly on the technical parameters of the national or international economy, while the third views economic development and exchange as manifestations of class struggle within societies dominated by either commercial or industrial capitalism.

Since the mid 1970's there has been a growing body of criticism directed toward liberal and structuralist versions of dependency theory. As much of this criticism is repetitive, it will only be summarized here. The main points are as follows:

1. The dependency concept is nothing more than a classification system based on traits of advanced capitalist countries that are absent in less developed countries (Lall, 1975).

2. Dependency is defined in tautological terms, i.e. less developed countries are dependent because they lack autonomy and are non-autonomous because they are dependent (Roxborough, 1976, p. 121).

3. Most dependency theory glosses over the "deep underlying structural relations" in the capitalist mode of production, e.g. class structure, the creation and accumulation of surplus value, class struggle, etc. (Regan and Eliot Hurst, 1976, p.11).

4. Dependency theory ignores the possibility of autonomous
capital accumulation leading to capitalist economic growth in less developed countries, and over-emphasizes the self-reinforcing stability of international capitalism (Leys, 1977, pp. 94-96, Skocpol, 1977, pp. 1078-1088).


6. The terminology of dependency theory over-emphasizes spatial aggregates and abstractions (e.g. metropolis-hinterland, centre-periphery, nation state) thereby diverting attention away from social structure and class relations (Petras and Trachte, op. cit., pp. 122-123).

7. Dependency theory ignores the possibility of successful social and economic reform in dependent regions or countries (Browett, 1980, pp. 109, 110).


9. There is an unrealistic emphasis in dependency theory on socialist revolution as an escape from dependency. This ignores the problems created by economic autarchy, and the need to develop the social and economic infrastructure required to sustain a massive social transformation (Browett, 1982, pp. 146-148).

It is by no means clear, however, that the critics of dependency theory have won the day. Nor are these critics themselves immune from criticism. The following points summarize
the basic elements of a rebuttal:

1. Critiques of dependency theory are themselves highly abstract and theoretical, confined to academics and have no identifiable connection to the political practice of the oppressed and exploited classes they purport to defend (Leys, op. cit. pp. 106-107).

2. In the modern world new modes of production emerge alongside old ones. Thus, the traditional Marxist categories for defining the historical sequence of modes of production (i.e. feudalism, capitalism, socialism) are inaccurate and irrelevant. This renders historical materialism a rather precarious and convoluted alternative (Roxborough, op. cit., pp. 131, 132; Browett, op. cit., pp. 150-155).

3. Dependency theory, in spite of its weaknesses, has redeeming features such as its denial of underdevelopment as an original state, the concept of a world economic system that impacts on less developed areas, and the recognition of imperialism as a force in the modern economy (Regan and Eliot Hurst, op. cit., p. 17).

4. Dependency provides a useful framework for the study of concrete situations, when used in the light of empirical information (Palma, op. cit.; p. 912).

5. The debate over dependency theory is itself a sterile maze of mutually contradicting and theoretical polemics that stifles substantive geographic and empirical research without producing any improvements in our understanding of the nature of underdevelopment (Forbes, op. cit., pp. 68,
6. Marxist theorists do not offer a realistic program for alternative processes of social change, and seldom take the risks they recommend to others in matters of social activism, class struggle, etc. (Browett, 1982, op. cit., pp. 150-155).

7. Marxist theorists on the dependency concept usually prefer teleological historical analysis to empirically based, low order (i.e. pragmatic) theory. There is a real need, instead, for the empirical study of present social conditions (ibid).

8. Marxist critics of dependency theory fail to recognize common points between dependency concepts and Marxian analysis (i.e. uneven development across time, space, and social groups) (Bienefeld, 1980, p. 7).

9. The main features of dependency theory are supported by actual contemporary conditions in the world economy (ibid. pp. 7-10).

10. Marxists, liberals and structuralists are all too preoccupied with the elaboration of all-encompassing theories and models. The subjects of theory (i.e. people in less developed areas), however, do not need or want theory. They need instead access to useful information and ideas about objective social conditions and possible options for improvement. The disputants in debates over dependency are therefore irrelevant because they fail to communicate their theories and prescriptions in intelligible and useful
fashion (Porter, 1980, pp. 135-139).

In view of the controversies surrounding dependency theory in its various forms, it is legitimate to ask whether there is any theory at all, of any ideological persuasion, that can help geographers to better understand the polarized human landscape.

To discard dependency theory entirely, however, simply because some academics disagree about its validity, would be to throw the baby out with the bath water. It is more reasonable instead to use the concept of dependency with caution, avoiding extravagant claims about the breadth of its explanatory power. It is prudent to recognize, as Frank has done, that much of the early theoretical work on the dependency concept failed to adequately emphasize the importance of class relations and class conflict (Frank, 1972). It also should be noted that dependency theory has tended to be somewhat narrowly technical in its accent on the management of the economic infrastructure, and that spatial concepts have been overly stressed. It should, however, be recognized that the terminology of dependency theory is widely used and does provide a helpful framework for conceptualizing and exploring interregional relationships. Words like metropolis and hinterland provide no blinding flashes of insight into the secrets of the universe, nor should they be intended to do so. They are, however, useful in describing and understanding interregional relationships, provided the importance of social class interests and social institutions is respected.
2.7 Social Class, Regionalism, and the Role of Education

Virtually all of the theoretical disagreements about dependency theory are narrowly focused on questions about the relative importance of economic infrastructure and trade in the process of regional economic development. Very few, if any, of these discussions seriously address the role of social institutions as a medium of interaction between classes and regions, and as a vehicle for regional development. The role of education, in particular, does not figure in the debates over the relative merits of dependency theory.

This is a serious oversight on the part of most dependency theorists and their critics. Marxist critics of dependency theory have been especially short-sighted in this regard. In their haste to condemn what they perceive to be a lack of ideological purity in dependency theory, they have almost totally ignored the concept of education as cultural imperialism, as developed by Carnoy (Carnoy, 1974). This concept forms a major theoretical bridge between dependency theory and the analysis of class conflict that is so dear to Marxist theorists. To argue that dependency theory cannot be or has not been combined with Marxian social analysis is to disregard the importance of the social superstructure in inter-regional relations, and overlook Carnoy's significant contribution. If dependency theorists have committed errors of omission, so have their critics.
Carnoy examines four main aspects of the role of education in a polarized human landscape:

1. the role of education in capitalist society;
2. the role of education in economic colonialism;
3. education as cultural imperialism;
4. the impact of education on dependent societies.

Each of these will be briefly summarized below.

Carnoy takes the Marxian position that the education system, both within dominant areas and in dependent areas, plays a significant role in creating and maintaining an inequitable organization of economic production and political power. In this view, schooling serves to reproduce a disciplined labour force with the skills and attitudes required by the capitalist production system. The education system has the effect of controlling social change and instilling the individualistic, competitive ethics of capitalist society in the workforce. It is a system of rewards and punishments that produces rational behaviour motivated by extrinsic rewards and responsive to market forces.

Individuals in this system are selected for social promotion on the basis of their verbal or literary ability, awareness of time, and responsiveness to external material rewards (ibid., pp. 6-13). The self-image of students from rich families is boosted while students from poor families are programmed to accept lesser status. Authority is conferred on those who succeed in school, while dependency is fostered in those who
fail. In short, education serves to legitimize the acceptance and integration of people into a social class hierarchy based on unequal social status and economic power.

Carnoy argues that, historically, schooling provided support for the economic colonialism of capitalist countries (ibid., pp. 13-25). This occurred in several ways:

1. Indigenous social elites were created through transplanted metropolitan school systems. These elites served as intermediaries between metropolitan and colonial political/economic interests.

2. School systems modelled on metropolitan patterns were used to induce participation of the colonial work force in metropolitan-controlled economic enterprises.

3. European concepts of work and interpersonal relations were imposed on colonial peoples through European-style schooling.

4. Metropolitan education was a key instrument in obtaining a passive, obedient workforce for capitalist enterprise in both metropolitan and colonial countries.

As advanced formal schooling under capitalist colonialism was restricted to wealthy families, a sharp division of labour and of economic power emerged in the colonies based on occupational differences sanctioned by educational credentials: professionals and bureaucrats of well-to-do origins versus industrial, clerical, and agricultural workers of low social status and with limited education. This occurred through legislation, not social
Carnoy refers to several theories of economic imperialism to establish a link between the roles of different regions in the world capitalist system and the respective class structures of these regions (ibid., pp. 33-47). In Lenin's version of imperialism, he notes that the merging of large industrial corporations with large international banks leads to a pattern of increased international investment and trade that stimulates the rise of national bourgeoisies in colonial areas. The spatial implications of this development, in terms of international and inter-regional class conflict, are spelled out in Galtung's structural theory of imperialism. This theory emphasizes community of economic interests between the dominant social classes of the capitalist world Centre regions and major regional centres within the world Periphery of capitalist neo-colonial areas. At the same time, it recognizes incipient antagonism of subordinate classes in the Periphery vis-à-vis dominant classes in centres within the Periphery, dominant classes of the world Centre, and subordinate classes of the Centre.

Education figures prominently in this pattern of interregional and inter-class relationships as it provides the main route through which people of the Periphery access the culture of the dominant European and American centres. It therefore controls access to the occupational niches that directly or indirectly sustain international capitalism.
This dependence on education is compounded by forms of cultural colonialism (ibid., pp. 59-69). Memmi, for example, argues that legitimation of colonialism requires the erosion and/or destruction of the culture and history of colonized people. Because the national (or regional) bourgeoisie of a colonial area is the transmission line to the society of international capitalism, the culture of the colonized area is divided; the bourgeoisie adopts metropolitan culture via the education system, while the colonized working classes retain traditional culture that is not reinforced in the school system (Fanon, ibid., p. 64). In Raskin's model of cultural colonialism, (ibid., pp. 67-69) education is but one of four cultural colonies:
1. the Violence Colony - the military and police;
2. the Plantation Colony - large monopolistic corporations;
3. the Dream Colony - mass media;
4. the Channeling Colony - the education system.
It is the role of the Channeling Colony to produce acceptance of the existing structure of authority in society.

In the context of the above theories, Carnoy identifies ways in which the education system reinforces the dependency of less developed areas. These include (ibid., pp. 54-56, 70-72, 324-334, 347-356):
1. Strong cultural links form between the dominant social classes in metropolitan and non-metropolitan areas.
2. Urban-rural cultural differences are accentuated.
3. Non-metropolitan areas depend on metropolitan criteria for academic standards, occupational qualifications, and institutional prestige.

4. The higher education system itself is spatially concentrated in large urban areas to cater to the needs of affluent middle classes affiliated to the metropolitan economy.

5. Vocational education is emphasized in dependant regions to adapt the local labour force to the needs of international capitalism.

6. Schooling is used as a means of attracting metropolitan capital into dependent regions, by the creation of workforce that is literate, trained for integration into the capitalist production system, and oriented toward the dominant metropolitan culture.

In short, he sees education as playing a key role in the reproduction of class structure, spatial structure, and regional interaction between developed and less developed areas.

Carnoy does not, however, subscribe to the notion of rigidly deterministic role for the education system. He recognizes that education has a potential for transforming society through increasing mass conciousness of social inequality; he also sees the potential for a reformist approach to education. In effect, if educational opportunity could be re-distributed, and the cognitive/behavioural content of education democratized, the education system could contribute to a gradual restructuring of society (ibid., pp. 58, 361-369).
In view of Carnoy's analysis, there is an evident need for a class perspective on regionalism. In the Canadian context, Cuneo provides an outline of this approach (Cuneo, 1978), as follows:

1. The Canadian economy is dominated by large monopolistic corporations that are concentrated in the industrial core (Ontario and Quebec) and the semi-periphery (British Columbia, Alberta).

2. These large corporations are controlled by an economic elite of owners and managers. An important segment of this elite consists of managers of multinational corporations based in foreign metropoles.

3. The industrial working class, although spatially concentrated in the main industrial core cities, is significantly represented in resource industries of semi-peripheral areas. In the largest metropolitan cities, there is a concentration of middle class professional, managerial, and service workers.

4. The economic elite invests most heavily in core and semi-periphery areas. Given the market power of the largest corporations, they establish high wage levels in these areas that attract the most highly educated and skilled elements of the workforce into core and semi-periphery areas. This maintains high interregional wage differences between peripheral (Atlantic region, Manitoba, Saskatchewan) and non-peripheral regions, which induces more-or-less continuous out-migration of highly educated and trained labour from periphery to semi-periphery and core areas.
5. A disproportionate number of high-income, prestigious professional and managerial jobs in periphery and semiperiphery regions are held by personnel from core areas. This reinforces the dominance of the managerial elite based in major core cities.

6. Economic traits of core and semi-periphery regions are more similar than those of semi-periphery and periphery regions, respectively. In general incomes are substantially higher, and unemployment lower, in the core and semiperiphery than in the periphery.

In general, the dynamics of this regionalized class structure, are self-reproducing over time in the Cuneo model.

Clement provides theoretical and empirical support for a class perspective on regionalism in the context of Canadian political economy (Clement, 1978). Borrowing and expanding upon theoretical insights from dependency theorists such as Frank, Galtung, and Sunkel, as well as the work of Canadian sociologists and economists (e.g. Davis, Watkins, Innis, Porter, and Mathias), Clement establishes that the Canadian economic elite is spatially concentrated in the industrial heartland of Central Canada (ibid., pp. 94 - 98). He further suggests that this spatial concentration of dominant social groups is replicated within provinces. The result of regional variations in social class composition is described by Clement as follows (ibid., p. 100): "Those regions which have surplus extracted from them will have less access to goods, services, and
opportunities — including such basics as health care and education — while those in the surplus — extracting areas will have a greater advantage. The overdevelopment of one region depends on the underdevelopment of another; the overdevelopment of the dominant class depends on the underdevelopment of the subordinate ones." The role of metropolitan-based corporations in reinforcing Canadian regional class differences and in limiting the upward social mobility of local resource hinterland populations is described in the research findings of Lucas (ibid., pp. 105 - 110).

The implications of such a social class system for social conflict have been explored by Marchak in the context of British Columbia (Marchak, 1975), who postulates that social structure has three relevant dimensions: class structure, regional structure, and institutional structure. The class structure consists of four components (ibid., pp. 32-33):

* The policy-directing class consists of owners and directors of large industrial and financial corporations, top government administrators, and executives of social institutions (e.g. churches, universities).

* The managerial and professional middle class has no substantial ownership rights over industrial wealth but exerts considerable influence over the management of public and private resources through its educational credentials and technical expertise.

* The employed working class has no significant ownership or
control over the economic infrastructure and is highly segmented by occupational groups, collective bargaining power, sex, and to some extent ethnicity (e.g. Indians, Asians).

* The permanently unemployed and underemployed constitute a sub-proletariat of people whose labour power is not in high demand by employers.

Each of these classes has its own set of distinctive economic power, needs, and priorities (i.e. class interests), which at a given point in time may or may not harmonize with the interests of other classes. The potential for class conflict is greatest between the policy-directing class and the working class, as the economic strength of the former (i.e. profit level) depends to a great extent on the economic weakness (i.e. wage level) of the latter.

Alliances, conflicts, and interaction between these classes are mediated by a number of institutional vehicles, including (ibid., pp. 36, 37): large oligopolistic corporations and banks, government and its various public service agencies (including universities and colleges), unions, small businesses, non-governmental/non-commercial institutions, and the family. As institutional divisions cut across class divisions to some extent, conflicts between the interests of different classes may be operationalized either within or between these institutions, depending on the issues and the level of conflict in a given situation.
The distribution of political and economic power among classes and institutions is superimposed on another dimension of social power: regionalism. British Columbia is spatially divided into a heavily urbanized industrial/commercial heartland, focused on the Greater Vancouver and Greater Victoria metropolitan areas, and hinterland of resource towns, agricultural communities and rural areas. Economic and political power is spatial centralized in the heartland and the social class composition of heartland and hinterland differ substantially (ibid., pp. 40-41, 44-47). Differences in the economic power and occupational structure of metropolis and hinterland reflect geographic differences in the distribution of class interests, and the potential for regional conflict based on class interests.

A sizeable proportion of the large corporate organizations based in the metropolitan southwest corner of British Columbia are regional head offices for large industrial or financial oligopolies with their headquarters in Central Canada, the U.S. and other major heartland areas outside British Columbia. The prosperity of these organizations depends on wealth derived from the resource extracting industries of the British Columbia hinterland. It is this wealth that provides for the services and facilities available to the urban population. The creation of this wealth depends in part on limiting wage levels in resource extraction; policy decisions on the creation and distribution of wealth are strongly influenced by international corporate
headquarters; and the middle and working classes of the metropolitan southwest depend on the wealth created by hinterland resource extraction. There is therefore an incipient disharmony of economic interest between metropolitan and hinterland regions of the province; the higher the wage level in the hinterland, the less wealth is available to the workforce of the British Columbia metropolis, and to the large central Canadian and U.S. corporations based in the Vancouver -Victoria area. The resemblance of this situation to Galtung's structural theory of imperialism is striking.

A parallel situation prevails with respect to the provision of public services, such as higher education. The more heavily concentrated investment is in the provision of higher education facilities within the metropolitan southwest, the less wealth is likely to be available for provision of such services in the hinterland regions of the province. However, as the economic elite and professional-managerial classes of the Vancouver-Victoria region possess a high level of effective control over political and economic policy making and administration, and as it is in their interest to reproduce the existing order of social classes and relationships of regional dominance/subordination inherent in that order, it is to be expected that the provision of higher educational opportunities will be emphasized within the territory occupied by the dominant social classes, i.e. the Greater Vancouver-Victoria region. As the social class composition of non-metropolitan regions is more
predominantly made up of working class elements, it is to be expected that those in charge of the metropolitan policy-making apparatus will not place as much emphasis on the provision of post-secondary academic education in hinterland areas, as compared to vocational and technical education directly linked to the role assigned to resource towns within the inter-regional division of labour.

This raises the possibility of a conflict of interest between metropolitan and non-metropolitan middle classes to the extent that the latter have relatively less access to higher educational opportunity, due to the absence of degree programs in hinterland areas and the extra distance costs of attending metropolitan post-secondary institutions. Political pressure emanates from hinterland cities for the establishment of expanded post-secondary extension programs or regional degree-granting institutions. The creation of a distance education system can be interpreted as a response to this pressure that allows the dominant elements of metropolitan society to maintain technical control of the education system, while providing an acceptable (if not ideal) option for higher education to middle class hinterland residents. The effective accessibility of distance education to working class residents of the hinterland may be questionable, however, due to the relatively high level of literacy skills often required for participating in this mode of learning.
This approach to examining relationships between social classes, institutions, and regionalism is consistent with that recommended by Urry, who stresses the need for juxtaposing social and spatial analyses. Urry's framework is based on four assumptions (Urry, 1981, p. 462):

1. Understanding spatial relationships between social objects is required to explain empirical events.
2. Spatial patterns are to be viewed as complex effects of relations between social objects.
3. Spatial relations never have general effects that are entirely separate from the properties of related social objects.
4. Spatial variations are an important ingredient for balanced social analysis.

To paraphrase Giddens, both social and spatial structures are intertwined aspects of the process through which the social order is either reproduced or transformed.

2.8 Summary

This chapter has addressed a number of epistemological issues relevant to the geography of education. The aspects of the geography of education being studied here were identified as spatial efficiency, regional disparity, and social equity. The main thrust of this dissertation is toward applied (i.e. inductive, empirical) research rather than theoretical analysis. Empirical methods are used not for their own sake, but in view
of humanitarian concerns and relevant social theory. The aim is to clarify social equity issues arising out of unequal educational opportunity, and to explore the potential impact of one policy option, distance education, on geographic and social equity. Since the 1960's, quantitative analysis in human geography has come under fire from rival approaches, each seeking to achieve recognition as the leading paradigm. The main contenders in this struggle are: positivists, behaviouralists, humanists, and Marxists (sometimes referred to as structuralists). Epistemological debate has been warlike, making human geography a fragmented and fractious field of inquiry.

These disputes over epistemology underscore the unrealism of the notion that social science is value free. It is better, therefore, to recognize openly the value basis of geographic inquiry than hide it behind neutered terminology. Objectivity lies in the accurate application of methods of inquiry, not in a supposed value-free terminology unique to social scientists.

In the 1980's human geographers are in need of more eclectic, tolerant, and flexible approaches to explanation. A number of authors suggest a feasible combination of two or more approaches to knowledge, provided each is assigned a research function germane to its methods.

There is no well-established methodology for convergent, pluralistic explanation. Chamberlin's method of multiple working hypotheses and Platt's notion of strong inference, however,
provide some guidance. In these approaches the researcher formulates families of mutually complementary hypotheses, each of which is examined in the light of the most relevant forms of theoretical and/or empirical explanation. This approach is adopted in the present work as the one best suited to the complex problem of unequal educational opportunity.

Human geographers in the 1980's have expressed interest in combining social and spatial analysis. In this context spatial relations are viewed as manifestations of social process and structure. Definition of spatial relationships often requires the use of descriptive and empirical methodology. This should not, however, be misconstrued as imbuing space with its own separate existence. Nor should empirical methods be treated as more than partial explanation at a given point in time.

In view of the clash of dogmas that often characterizes epistemological debate in human geography, the premises and constraints that limit this dissertation need to be defined. The term "social justice", for example, is used in the Rawlsian sense, emphasizing that priority should be given to the needs of the most disadvantaged elements of society. This research is not intended to produce an all-encompassing causal explanation of the human condition, but rather to provide a practical empirical account of the extent of unequal educational opportunity in British Columbia, the socio-economic conditions related to this problem and the possible effects of distance education as a remedial policy. A welfare geography approach is adopted, not as
a commitment to social engineering and/or neoclassical
economics, but as a pragmatic way of generating information
pertinent to social theory and education policy-making.

It is recognized that this approach has limitations with
respect to theoretical, cultural, and historical detail. Also,
the treatment of education as both a dependent and an
independent variable needs clarification. In this research,
educational achievement is seen an outcome of the
inter-generational transmission of cultural and socio-economic
traits; in effect, the educational level of parents is treated
as one of the background conditions influencing the academic
promotion of students.

The relationship between education and social stratification
is central to the issue of unequal educational opportunity.
Functionalism postulates that an uneven distribution of
educational and material rewards is necessary to assign
competent individuals to roles needed for the collective
survival of society. Conflict theories stress that education
serves as a screening device to maintain existing social class
boundaries, regardless of the potential occupational competence
of individuals.

Typologies of social class vary. Marxists define classes
mainly with reference to ownership of the means of production.
Weber and his successors (e.g. Giddens) assign greater relative
importance to propertyless middle classes who, because of their
educational credentials and technical skills, play a significant role in the management of large economic and social organizations. Some sociologists in the Weberian genre also stress ethnicity, lifestyle and regional culture as components of social class. Given the vast array of possible class typologies, and the potential for ideological conflict in their interpretation, this dissertation uses broad, generic socio-economic traits (income, occupation, education, ethnicity) to define social class. This approach is more Weberian than Marxist.

Numerous studies on the relationship between educational opportunity and social class traits cite socio-economic status, place of residence (e.g. rural-urban), gender, ethnicity and individual ability/attitudes as significant variables. There is abundant empirical evidence and theoretical argument to justify the use of terminology such as "privileged", "underprivileged", and "social elite" in describing social stratification in Canada. The fact that the university system is controlled by representatives of a metropolitan corporate elite has been clearly documented.

The spatial aspects of a polarized human landscape have been catalogued by a vast array of terminology, within a theoretical framework generally known as dependency theory. The various forms of dependency theory have been criticized as being too narrowly focused on description of the technical and spatial aspects of economically dominant and subordinate regions. In
this sense, it can be viewed as a form of description masquerading as explanation, because it ignores the importance of class interests.

No well-defined alternatives to the dependency concept have captured widespread support. In view of these debates, it is clear that dependency theory does not have the status of a comprehensive explanatory model. If complemented, however, by theoretical insights into class conflict and social institutions, dependency terminology may provide a useful heuristic perspective for discussing regional disparities.

Critics of dependency theory in geography have overlooked Carnoy's interpretation of dependency as a form of cultural hegemony. Carnoy infuses aspects of class conflict and social reproduction under capitalism into the dependency perspective. In this approach, the emphasis is on the role of the social superstructure, rather than the economic infrastructure, as a medium through which dominant and subordinate classes interact in an interregional and intraregional (but, nevertheless, spatial) context. There is a substantial body of theoretical, historical, and contemporary empirical evidence in support of Carnoy's approach, including the work of Canadian sociologists Cuneo, Clement, and Marchak.

Like Carnoy, these authors take into account class conflict and the role of social institutions in regionalism. Their work demonstrates a fruitful combination of structuralist and/or
Marxian insights with elements of dependency theory. The main thrust of their argument is that social institutions and inter-regional economic priorities are dominated by metropolitan social classes, and that there is, therefore, an incipient conflict between metropolitan and non-metropolitan areas based on their different respective social class composition. This places the metropolitan centres in a position of control over conditions affecting access to higher education, both within and outside urban heartland areas. In essence, this partial reinterpretation of the dependency perspective yields a regionalized version of the social reproduction concept.
3.1 Guiding Questions and Working Hypotheses

In chapter 1 the problem of the polarization of educational opportunity between different social classes and regions in British Columbia was defined in terms of three propositions (p. 20). Simply stated, these three assertions imply that educational opportunity is substantially higher in metropolitan British Columbia than elsewhere; that spatial variations in educational opportunity in British Columbia are associated with social class differences; and that distance education is at least a partial remedy to this problem of unequal educational opportunity.

In order to assess the accuracy of the above propositions it will be necessary to address the following questions:

1. Which areas of British Columbia correspond to metropolis and hinterland, respectively, and what socio-economic parameters (social class characteristics) most clearly define them?

2. How wide is the educational and socio-economic gap between metropolitan and hinterland residents, respectively, and is there a systematic association between the spatial distribution of educational credentials and the distribution of indicators of social well-being?

3. What evidence exists to indicate whether distance education can correct social and spatial inequalities in the
distribution of educational credentials?

If it can be shown that participation in higher education in British Columbia is, in practice, contingent on social class characteristics and that this relationship follows a consistent spatial pattern, then the credibility of propositions 1 and 2 above (p. 20) is strengthened. If it can be shown that those most likely to benefit from distance education are not, in fact, of the disadvantaged social classes and spatial areas, then proposition 3 (p. 20) is weakened. Given the multi-faceted complexity of the problem being addressed and type of information available it is not expected that any of the postulates referred to above can be definitively validated or refuted. Few, if any, social issues of this kind can be subjected to the type of exact generalized interpretation and verification practiced in the physical sciences.

Nevertheless, a number of hypotheses regarding the relationship between participation in higher education and the distribution of socio-economic conditions in British Columbia that encourage educational opportunity can be used to guide an inquiry into regional and social class differences in access to higher education. The question of polarization of the human resource landscape in British Columbia will be examined in this thesis in the light of the following 15 working hypotheses:

1. Regarding the spatial polarization of educational opportunity:
   a. Socio-economic conditions favourable to participation in
higher education are most prevalent in the metropolitan region of Greater Vancouver - Victoria.

b. Regions of the province outside the metropolitan southwest corner constitute a human resource hinterland where, in general, socio-economic conditions are not favourable for participation in higher education.

c. When settled areas of the province are classified according to rural - urban categories, the more urban an area is the more favourable social conditions are for participation and achievement in the education system.

d. Within the major urban centers of the province including the metropolitan southwest, the human resource landscape is polarized into residential zones of high and low educational opportunity, reflected in the spatial distribution of educational credentials and the socio-economic conditions that favour or impede educational achievement.

e. In view of the above statements it is to be expected that metropolitan British Columbia, while concentrated in the Lower Mainland - Greater Victoria region, is a spatially discontinuous area occupying zones within the largest cities of the province; conversely, the human resource hinterland of the province extends from rural areas into suburbs and core areas of the major cities.

2. Regarding social class differences in educational opportunity:

a. In British Columbia high educational credentials of
adults are associated with privileged social class characteristics such as high income, secure employment, and professional, managerial, or skilled occupational status; conversely, low educational achievement is linked to low income, unemployment, and manual, low skilled, and/or non-managerial occupational status.

b. In British Columbia participation in higher education is more frequent in households where one or more adults possess high income, occupational status and educational credentials; conversely participation in higher education is low in households where the household head(s) possesses low social class status traits.

c. Unequal educational opportunity among social classes in British Columbia is compounded by sexual stereotyping that favours males over females in terms of participation in forms of higher education that lead to high income, and professional status.

d. Uneven distribution of educational credentials among social classes in British Columbia is associated with a spatial pattern of residential segregation among social classes.

e. Uneven distribution of educational opportunity in British Columbia is compounded by ethnic/racial traits; in particular, English-speaking residents are highly represented in the most favoured social classes whereas a relatively large proportion of low opportunity social classes is made up of non-anglophones and Native
3. Regarding the potential of distance education in British Columbia as a means of overcoming barriers to equal educational opportunity:

a. Distance education reduces geographic inequality of educational opportunity by expanding the participation of hinterland residents in higher education.

b. Distance education increases inequality of educational opportunity among social classes because its main beneficiaries are individuals whose privileged socio-economic status predisposes them toward upward social mobility.

c. Distance education reduces sexual inequality by providing greater relative access to education for women.

d. The impact of distance education on sexual inequality of educational opportunity varies by social class, the main beneficiaries being upwardly mobile women of middle class origin and upwardly mobile men of working class background.

e. Rural residents and underprivileged social groups (e.g. working class women, cultural/racial minorities) are unlikely to benefit from distance education.

There is no single method of collecting and presenting empirical evidence in support or in contradiction of the 15 working hypotheses listed above; nor is it possible to achieve a
sufficiently rigorous analysis to permit their validation or refutation in any absolute sense, given the interpretive difficulties inherent in such a task. Three main methodological approaches are therefore employed: theoretical discourse, examination of spatial patterns, and survey research. If these three approaches lead to similar conclusions, then it may be possible to assess the relative accuracy of the above hypotheses through mutually convergent information with confidence.

3.2 From Theory to Methodology

The above hypotheses about the polarization of educational opportunity in British Columbia and the potential of distance education have been influenced in their formulation by four of the six theoretical approaches to explaining the linkage between education and social inequality that were presented earlier (p. 38), namely:

- social reproduction;
- de-schooling;
- credentialism;
- ecology of the school.

All four approaches have similar, if not identical assumptions about the role of the education system in relation to social stratification, for example:

- the existence of a hierarchy of social classes identifiable on the basis of differences in wealth, power and occupational prestige;
the importance of educational credentials as a key criterion in the definition of social class boundaries;
the importance of the education system in assigning individuals to different social classes through the distribution of educational credentials;
the high degree of control over the education system that is exercised by the more powerful social classes, i.e. those who either own capital or exercise power over its use as managers and technicians.
Thus, in the way these concepts are interpreted they provide a coherent, mutually consistent set of assumptions about social structure and social processes.

The dependency perspective, reformulated by Carnoy as a theory of cultural hegemony, harmonizes with the assumptions formulated above in that it recognizes the dominant role of the wealthy social classes and the regions they occupy in organizing and controlling social institutions including education, that regulate social inequality. In addition, this approach emphasizes the fact that the social class hierarchy and social class conflicts have a spatial dimension, resulting in a social landscape that is polarized between extremes of wealth and poverty. This irregular distribution of capital facilitates the reproduction of both a social class hierarchy and a spatial hierarchy of social conditions ranging from the relative deprivation of the human resource hinterland and its urban and suburban enclaves, to the privileged conditions of affluent
metropolitan neighborhoods and their outliers in the major regional urban centres. The boundaries of this segmented socio-spatial hierarchy can be defined by reference to social and economic indicators. The distribution of educational achievement levels is especially revealing in that it shows at which positions in the hierarchy people are best equipped for social and geographic mobility on the basis of their educational credentials. Thus, through the distribution of credentials it is possible to identify those social groups and residential zones where the potential for upward social mobility via the education system or the labour market is either favourable or unfavourable.

Of course, educational achievement cannot be taken as an indicator of social well-being in isolation from other socio-economic and geographic conditions that promote or hinder access to educational opportunity and social mobility. The concept of the ecology of the school points to the need for a wholistic approach in understanding the role of the education system as one component of a community or regional environment that includes family, cultural, and socio-economic components (See Figure 3.1.). It is therefore necessary to consider simultaneously indicators of the ensemble of social conditions that may affect human well-being in an area, when assessing the relative level of educational opportunity of local residents.

In addition to theoretical discussions on the spatial and social polarization of educational opportunity, and on the
THE SOCIAL ECOLOGY OF EDUCATIONAL ACHIEVEMENT

1. CLASS BACKGROUND = INCOME, OCCUPATION, EDUCATION OF PARENTS
2. PROVISION = AMOUNT/TYPE/QUALITY/ACCESSIBILITY OF EDUCATION SYSTEM INPUTS
3. COMMUNITY = INDUSTRY, HOUSING, POPULATION, ENVIRONMENT INFORMATION, URBAN/RURAL, EMPLOYMENT
4. INDIVIDUAL = PERSONAL, PERCEPTUAL, OR UNKNOWN FACTORS
5. ACHIEVEMENT = EDUCATIONAL CREDENTIALS ATTAINED
potential of distance education, three empirical methods will be used to analyze these issues. These methods are:

1. identification and comparison of the distributions of key social indicators related to participation in higher education;

2. surveys of selected student populations with a view to determining how the goals and plans of students are related to their social and personal characteristics;

3. comparison of the survey results produced by this study with the results of other research in British Columbia on educational and social traits of the population.

The general purpose of these methods is threefold:
- to delineate a spatial and social class hierarchy of social well-being in British Columbia as it relates to participation and achievement in higher education;
- to identify those socio-economic and personal variables that are associated with educational opportunity and upward social mobility in British Columbia;
- to distinguish those social and personal traits that most characterize distance education students in British Columbia.

Wherever possible the information generated by these methods will be used to assess the credibility of the 15 hypotheses formulated earlier (See section 3.1).

The methods to be used in this thesis are not the only ones that could be employed in addressing the issues that have been
selected for study. The limitations of these methods include the following:

Exact measurement of empirical variables is elusive. Absolute acceptance or rejection of research hypotheses is neither possible nor desirable, given the nature of the data being used.

These methods are ahistorical, i.e. they focus on recent social conditions in British Columbia over a very limited time period.

Epistemological purity has not been sought or achieved, i.e. a hybrid of theoretical concepts and methods has been used to address complex issues from several different angles, an approach to explanation that is not "neat and tidy".

Existentialist and phenomenological interpretations of social reality have been largely ignored as being beyond the scope of this inquiry.

These limitations, while important, are not fatal to the research task to be accomplished. They reflect, rather, the complexity of the problem being addressed and the pragmatic considerations that affect the feasibility of social science research in general. The empirical methods selected are practical and generate results that are readily understandable. Moreover, the data used lend themselves well to applied social and educational planning and are consistent with data bases that are commonly used by institutional analysis and policy development in the education sector. As for epistemological
purity, there is always the danger of imposing an oversimplified methodology on a complicated research problem in the name of scientific rigor, ideological consistency, etc. The single-track approach to research and explanation has been avoided in favour of pragmatism for that reason.

3.3 Social Indicators and Educational Opportunity

3.3.1 Methodological background

The rationale and methods in human geography for using social indicators in describing and analyzing the spatial manifestations of social inequality were developed by Coates, Johnston and Knox (1977), Knox (1975), and Smith (1973, 1975, 1977) as part of a trend toward what has become known as welfare geography. The emphasis in this methodological approach is to examine the social and spatial distribution of what are thought to be key indicators of human well-being. The objective is to develop a clear descriptive definition of the geographical dimensions of social inequity that will provide useful information to theorists and planners concerned with human welfare (Smith, 1975, p.11).

A conceptual framework for the use of social indicators in educational research was provided by Greenburg (1974). He pointed out that in evaluating equal opportunity in education a distinction must be made between equality of opportunity (i.e. the formal right to use the education system), and the equality
of outcomes (i.e. the actual use made of the system by various individuals or social groups). The former is enshrined in egalitarian social values while the latter may depend on personal or socio-economic factors outside the education system (e.g. family background, personal traits, social class). Equality of outcomes implies that the education system must compensate socially or geographically disadvantaged students by distributing inputs unequally in their favour; this is referred to as positive discrimination. An equal distribution of inputs between all users of the education system would result in the maintenance of existing cultural/socio-economic differences.

One of the research methods suggested by Greenburg for defining levels of educational opportunity is that of standardized group comparisons; data that are stratified by social and/or geographic sub-groups are compared in their distribution through mapping or statistical measures of association. Simple social and educational indicators can be derived from tabulations of descriptive statistics. These indicators may take the form of inter-regional rankings against specific demographic criteria of human resource endowment and educational achievement.

Spatial variations in such indicators provide the basis for a geography of education useful in human resource inventories and educational planning. Research procedures and content for this approach are quite well established for primary, elementary and secondary education. Methods, data and indicators are less
widely standardized for tertiary education.

One of the few attempts to lay the foundations for a geography of education is that of Coates and Rawstron (1971). They attempted to systematically regionalize and compare the spatial distribution of descriptive indicators related to both the home and institutional environments in the United Kingdom. Participation rates for private schools were found to be spatially correlated to the distributions of both family income and religion. School retention rates were mapped by region, school district, sex, time period, etc. and interpreted with respect to known social, economic, and cultural/historical traits of various spatial units. Other spatial distributions examined included: financial aid granted per 1,000 students, participation rates for teacher training, and teacher trainees as a proportion of post-secondary students. Two-way comparisons of various indicators using matrix data were suggested, especially where the creation of a systematic, comprehensive data base is possible.

Perhaps the most useful way of relating the geography of educational opportunity to policy priorities is by interregional deprivation analysis. Little and Mabey (1972) conducted such an analysis for Great Britain, using a composite index of educational deprivation. The index was a device for providing objective criteria to select those schools/areas most in need of special assistance. Seven deprivation criteria were incorporated into the index, including the following:

1. Financial aid granted per 1,000 students
2. Participation rates for teacher training
3. Teacher trainees as a proportion of post-secondary students
4. School retention rates
5. Participation rates for private schools
6. Family income distribution
7. Religion distribution
1. % of manual workers;
2. % of large families (6 or more members);
3. % of crowded dwellings (over 1.5 persons per room);
4. % of houses lacking basic amenities.
5. % of students with special learning disabilities;
6. % of immigrant children;
7. % of student drop-outs and high teacher turnover.

Each district's score was expressed as a percentage of the national average and scores were summed after scaling to eliminate extreme values.

An early application in British Columbia of the use of social indicators in educational research was a comparative study of selected characteristics of school districts by Adams (1964). Districts were classified into four groups according to their degree of urbanization. The study had two objectives:

1. To test for distinctive distributions of the chosen geographic, economic and educational variables among the different classes;
2. To see whether the distributional pattern of indicators could be used to predict inter-district educational achievement rankings.

In general, it was found that no particular type of school district had a distinctive pattern of indicators. Excellent educational achievement, however, was associated mostly with urban districts. Great inter-district variations in educational variables strongly suggested an overall pattern of unequal
educational opportunity for the province.

Another example of the regionalization of descriptive indicators is provided by the work of Brown (1967), who ranked the provinces of Canada with respect to the following seven criteria:

1. population growth;
2. growth in enrollment;
3. educational output, measured in participation rates and the production of graduates;
4. teaching force;
5. economic status of teachers;
6. financial ability and debt;
7. educational expenditures per student.

The purpose of this study was to provide a descriptive framework for comparing the performance of the education systems of the respective provinces.

More sophisticated methods of regionalizing social and educational indicators are possible. Stone (1972), proposed an input-output model of the education system with states of origin and destination organized into three matrices:

1. raw data for gross flows of students between educational sectors (states);
2. transition probabilities based on gross flows;
3. average times spent in respective states and expected times based on transition probabilities.

In theory it should be possible to compare transition
probabilities for different income levels, social classes, or regions. A model of this type has been used in British Columbia for enrollment forecasting in higher education (Peucker, 1970).

The use of social indicators for describing and analyzing the effects of educational policies, including regional disparities, has become a standard practice in British Columbia for government planners. Since 1975 the Ministry of Education has conducted mandatory learning assessment tests in all public school districts and in many publicly supported private schools. Since 1981, adult education programmers in the province have been supplied with a set of thirty social and educational indicators selected by the Ministry of Education on the basis of their perceived importance to the assessment of community educational needs. (Dickinson, G., et. al., 1981). These indicators are tabulated by school district and college region. In 1986, the Ministry expressed the intention to establish a reference manual for all schools in the province on indicators of quality in education (Mussio, et. al., 1986).

Professional educators in British Columbia have also come to rely on the use of social and educational indicators to gauge the performance of the educational system, to identify educational needs, and to compare levels of educational opportunity among social classes and regions. The British Columbia Teachers' Federation, for example, publishes a comprehensive annual Statistics Handbook that includes the following types of indicators of quality/equality in education:
1. financial variables
2. class size in relation to staffing
3. special education needs
4. socio-economic variables
5. salaries and benefits paid to teachers
6. specialized school services
7. professional status of women teachers compared to male teachers.

The indicators are tabulated by school district, and for those indicators perceived as crucial to educational quality (e.g., pupil/teacher ratios), professionally acceptable standards are cited. The B.C. Ministry of Education publishes annually a somewhat similar set of indicators for the post-secondary sector, known as the "blue books". These indicators are, however, limited to conditions within the post-secondary education system and do not include socio-economic or demographic data per se; the indicators are tabulated by college region.

Another source of regionalized social indicators for B.C. is found in research that has been done on adult literacy levels by Dickinson (1975, 1978). This work focused on the distribution of illiterate and undereducated adults and on the social conditions associated with educational deprivation in adults.

The indicators cited permitted comparison of B.C. school districts and also provinces of Canada, based on 1981 census data. A similar approach to that of Dickinson in regional
comparisons of social indicators is followed in chapters 4 - 6.

3.3.2 Selection and use of indicators for B.C.

The role of social and educational indicators in this dissertation is to demonstrate to what extent participation and achievement in post-compulsory education in British Columbia vary systematically by geographic location and by social class characteristics. If a systematic distribution of educational credentials and adult participation exists, then the geographic and social pattern of the indicators employed should also reveal spatial areas and social class traits that can be considered as either favourable or unfavourable for educational opportunity. In this way inter-regional and social disparities in effective access to higher education will be revealed.

Most of the information used in this exercise was based on the year 1981, the last census year for which a comprehensive body of data was available. The term "social class" as used in the context of the social indicators employed was broadly interpreted to include personal, socio-economic, or ethnic variables. The two main sources of social and educational indicators were Statistics Canada and the B.C. Ministry of Education. Statistics Canada data were in the form of 1981 census data tabulated by school districts, college regions, and census tracts. Ministry of Education data were drawn either directly from Ministry reports or from other publications based on Ministry information (e.g. B.C. Teachers' Federation
Due to the extremely large statistical pool from which indicators were to be drawn, four selection procedures were used to identify those variables most likely to influence effective educational opportunity:

1. reference to opinions of professional educators and educational planners about variables perceived as important (e.g. B.C.T.F. Statistical Handbook, 1981; also Dickinson, et. al., pp. 1 - 16);

2. division of 1981 census variables into six categories: educational, demographic, ethnic, labor force, income, and household data, as suggested by classification systems used by the B.C.T.F. and the B.C. Ministry of Education;

3. screening out of statistically insignificant census variables through factor analysis (See Rummel, 1967, pp. 148 - 150.);

4. selection of those variables most closely related to educational achievement through canonical correlation analysis (See Warwick, P.V., in Nie, et. al., 1975, pp. 515 - 527).

Statistical procedures for screening data were not slavishly adhered to where reference to professional opinion (item 1 above), intuition or common sense indicated that a given variable should be discarded or retained.
The original potential data base from which indicators for B.C. were to be selected consisted of a total of 747 variables (224,170 data values). The main focus of attention was initially on 1981 census data formatted by school district, data that were obtained from the B.C. Ministry of Industry and Small Business. This data pool was reduced using factor analysis. Thirty variables survived factor analysis on the basis of the percentage of the total variance in the data that they accounted for.

These variables were grouped into the following categories: educational, demographic, ethnic, labour force, income and household information. They were then subjected to canonical correlation analysis in order to discover which variables in each group were most closely correlated to educational variables.

Using the results of the canonical correlation analysis as a guide to which indicators might be useful, factor analysis was then applied to a set of 532 census variables, formatted by census tract, obtained from a Statistics Canada Cansim User Summary Tape. This resulted in the selection of 15 key variables as significant indicators both in terms of their relationship to the overall data base and in terms of their relationship to educational variables.

The final step in defining the indicators to be examined for their relevance to educational opportunity was to select, in
consultation with officials of the B.C. Teachers Federation, 15 financial and educational variables commonly used in planning, program evaluation, and policy formulation. The final data base identified by these procedures is summarized in Table 3.1. Several additional variables were calculated from variables contained in the data base defined in Table 3.1. Once a set of social indicators for British Columbia had been identified their respective geographic distributions were portrayed in a series of computer-generated maps based on three spatial units: college regions (aggregations of school districts), school districts, and census tracts.

Mapping began with single-variable, shaded choropleth maps. One map was generated for each variable in the data base, and for all calculated variables. There were 50 such maps for school districts, 55 for college regions and 75 for the five major urban centres (Census Metropolitan Areas) for which data were available formatted by census tract.

One of the objectives in analyzing the data base was to assess the strength of the relationships between variables. Because of the availability of a customized, multidimensional mapping program called Unimap (Roubal, J., 1984) it was possible to map two or three variables simultaneously. Coloured graduated circles, coloured ellipses, and isometric block diagrams were part of this mapping repertoire.
In order to select efficiently for mapping those combinations of variables in which interesting statistical associations occurred, a matrix of Pearson product-moment correlation coefficients was established for each of the three spatial units to be mapped (e.g. Tables 4.1 and 5.1; also Tables 5 and 6, Appendix 1). These matrices indicated the direction and strength of linear correlation between the different indicators to be considered as candidates for multi-dimensional mapping.

In addition to the mapping of the data, an effort was also made to determine if the indicators varied systematically according to whether an area is urban or rural. The object of this was to see if social conditions favourable to effective educational opportunity were more prevalent in large urban centres than in small towns and rural areas. School districts were therefore classified into 4 urban-rural categories and the indicators in the data base were tabulated by these categories, for the purpose of inter-category comparison.
3.4 Surveys of Selected Student Populations

3.4.1 Methodological approach

Having identified and mapped a number of objective socio-economic conditions that are related to the social and geographic distribution of educational opportunity it was also useful to consider variations in the personal characteristics, social background and the perceptions of actual and potential post-secondary students. Such information can serve three purposes:

1. Spatial variation in the perceptions and goals of students, on the one hand, versus the spatial distribution of objective socio-economic conditions related to effective educational opportunity can be compared to see if social disparities in effective access to higher education coincide with geographic disparities in social well-being.

2. Socio-economic and personal traits that are closely related to social mobility in general, and to participation in higher education in particular, can be identified.

3. Distance education students can be identified as a distinctive group in terms of their socio-economic background, their geographic distribution, and their socioeconomic aspirations in comparison both to other students and to the population in general.

Cross-tabulation of student educational choices against socio-economic and geographic variables and the use of Chi-square tests, are helpful in identifying consistent
associations between participation in higher education and various possible constraints on access to education.

Empirical research on student characteristics for this dissertation was based on five surveys of selected student populations as outlined in Table 3.2. The first of these studies (Wilson, 1979) was useful in defining the perceptions, social conditions, and geographic constraints that characterize a regional population in a semi-rural area that is geographically cut off from direct access to post-secondary institutions by coastal geography. While part of the service region of a metropolitan community college, these people are atypical of that region in both their small community origins and in their inability to commute to the nearest post-secondary institution. This population can be considered as typical of the type of people that distance education is intended to serve, i.e. those whose social or geographic background limits their access to higher education. The second study identified in Table 3.2 (Brown and Poiker, 1981) was a major province-wide survey of Grade 12 students aimed at identifying students' aspirations and plans regarding their educational/occupational future, and the factors that may influence the decisions and goals of students.

The first two studies cited in Table 3.2 provided reference populations for examining regional educational disparities, and for comparing actual distance education students with two control groups:

1. Those who in theory are prime candidates for distance
Table 3.2: Five Case Studies On Access To Higher Education in British Columbia

<table>
<thead>
<tr>
<th>Name of Study</th>
<th>Target Population</th>
<th># of Respondents</th>
<th>Response Rate</th>
<th># of Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capilano College Educational Assessment: Sunshine Coast and Bowen Is. 1979</td>
<td>3,500 households 80 employers 544 senior secondary students</td>
<td>462 67 277</td>
<td>13.2% 86.2% 51.0%</td>
<td>18 15 25</td>
</tr>
<tr>
<td>Plans &amp; Profile of Grade 12 students in B.C., 1981</td>
<td>15,531 Gr. students = 71</td>
<td>12 12,114</td>
<td>78% = 35% of all B.C. Grade 12 students</td>
<td>32</td>
</tr>
<tr>
<td>Survey of B.C. Correspondence Branch Students 1982-83</td>
<td>2,500</td>
<td>380</td>
<td>15.2%</td>
<td>38</td>
</tr>
<tr>
<td>Survey of Open Learning Inst. Students, 1982-83</td>
<td>1,776 O.L.I. students = fall '82 enrollment</td>
<td>339</td>
<td>19.1%</td>
<td>38</td>
</tr>
<tr>
<td>Survey of Knowledge Network Students, 1984-85</td>
<td>5,900 KNOW students</td>
<td>714</td>
<td>12.1%</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>29,831</td>
<td>14,353</td>
<td>48.1%</td>
<td></td>
</tr>
</tbody>
</table>

1. A cross-section of those eligible for post-secondary education (studies 1);
education (study 2).

The term "control group" in this context does not imply the use of a fully-integrated experimental research design, but merely that it is possible to make general comparisons between distance education students and the other two survey populations.

To provide a systematic framework for description and analysis of student characteristics, responses to the survey questionnaires for Grade 12 students and distance education students were grouped into the following six categories:
1. student goals and expectations (aspirations)
2. personal traits
3. educational traits
4. perceptual traits
5. socio-economic traits
6. geographic traits

In tabulating responses to the surveys some answers were recoded and combined to simplify response patterns.

The advantage of classification of student survey responses in the above manner is that it allows for comparisons in statistical associations between variables that represent student aspirations and those that represent various distinctive components of the students' background. Such comparisons were facilitated in two ways:
1. Simple cross-tabulations of grouped variables, combined with Chi-square tests, helped to identify those variables and variable groupings associated with student aspirations.
2. The strength of association between student aspirations, on the one hand, versus various student background traits, on the other, was assessed using analysis of variance. By treating student aspiration variables as dependent variables and student background traits as independent variables it was possible to identify those components of the students' background traits having the greatest potential impact on student decisions. Such key background traits can be considered prime influences on effective access to higher education. Justification for use of the above methods for identifying and analyzing relationships between variables rests on the scale of measurement employed and scope of the data base, as outlined in Andrews, et.al., 1980, pp.14-16.

Wherever possible, student survey respondents were classified into urban-rural groups. The purpose of this was to see if there were any systematic patterns of effective educational opportunity, based on whether the students were from rural, urban, or metropolitan backgrounds. In practice this urban-rural classification of students only proved feasible in the case of the Grade 12 survey, where data were clearly identifiable by school district rather than by college region only.
The Capilano College study was essentially a market survey designed to identify the socio-demographic characteristics, geographic location, attitudes and educational needs of potential students. The survey was comprised of three separate questionnaires for three respondent groups: Grade 12 students, the general public, and local employers. The Grade 12 survey was conducted in classrooms within the study area. The questionnaires for the general public were postage-paid, mail-in segments of a special supplement on the college inserted into a free weekly newspaper received by all residents of the study area. The employers' questionnaires were distributed directly to local establishments. Questionnaires were supplemented by interviews with community informants. Results of the survey were sorted by computer into frequency tabulations and cross-tabulations.

In 1976 the B.C. Post-Secondary Education Enrollment Forecasting Committee (B.C.F.C.) carried out a survey of the socio-economic, personal and educational characteristics and aspirations of the Grade 12 population of British Columbia (Wennevold, 1976). The purpose was to identify factors likely to influence post-secondary enrollments in the 15 college regions of the province. This survey was based on a 20% sample using a stratified cluster sampling approach. The strata were the college regions of British Columbia and the clusters were groups of schools selected on the basis of their 1976 post-secondary
participation rates for Grade 12 students from the previous year.

During 1980-81, a similar study was conducted for the B.C. Post-Secondary Education Enrollment Forecasting Committee by Brown and Poiker (Brown and Poiker, 1981). While the basic sampling approach was the same the sample size was increased to 64%. Procedural changes were made in sample selection to account for geographic re-distribution of Grade 12 students since 1976, and to capture the impact of larger schools on post-secondary enrollments. This involved the ranking of schools within clusters by their Grade 12 enrollments. A selection was then made from those rankings based on Grade 12 population growth since 1976, socio-economic/ethnic composition and geographic representativeness. The resulting survey amounts to a quasi-census rather than a limited sample per se.

The 1976 questionnaire was re-designed and approximately doubled in length; the result was a 33-item questionnaire. This instrument was pilot-tested on three different groups of Grade 12 students, revised, and distributed to some 68 secondary schools around British Columbia. The new content of the questionnaire was designed to allow for comparability with previous studies, while capturing additional information on such things as:

1. the potential impact of part-time study and/or delayed entrance into the post-secondary system;
2. knowledge and relative importance of financial aid programs
and educational costs as an influence on student decisions regarding further education;
3. inter-provincial/international movements of students;
4. motivational factors stemming from socio-economic conditions, geographic parameters, access to information and/or personal traits of students.

Results of the survey were tabulated and analyzed through use of SPSS.

During 1982, a 38-item questionnaire was distributed to students of the Open Learning Institute (O.L.I.) (See Appendix 2). This instrument was designed to generate results comparable to the Capilano College and B.C.F.C. surveys, but placed special emphasis on the possible relationship between student characteristics and the decision to participate in distance education. A number of questions focused specifically on geographic conditions that may be related to the students' involvement in distance education; for example:
- maximum acceptable commuting distance to attend courses;
- relative mobility of students;
- type of community lived in;
- urban/rural lifestyle differences;
- attitudes toward facility-based education;
- expectations of social and geographical mobility.

The purpose of this questionnaire was to generate a profile of distance education students that could be compared to students entering the conventional campus-based post-secondary
institutions, and to the characteristics of the general population.

In 1982-83 a survey was conducted of students of the B.C. Correspondence Branch (See Table 3.2, p. 170.). This survey was designed to permit comparison of correspondence students with Grade 12 students attending secondary schools. The questionnaire used was based on that of the B.C.F.C. study of Grade 12 students, but supplemented by questions focusing on the life conditions and personal attitudes of distance education students.

During the 1984-85 academic year a survey of a limited sample of students of the Knowledge Network was conducted (See Table 3.2, p. 179). The questionnaire used was identical to that employed for other distance education students (See Appendix 2). Although not all institutions affiliated with the Knowledge Network participated in this survey, the ones that did represent the vast majority of enrollments in the Knowledge Network system. This survey can therefore be considered representative of Knowledge Network students, subject to the normal limitations of a self-administered questionnaire.

3.5 **Summary**

In this chapter 15 working hypotheses were formulated regarding unequal educational opportunity in British Columbia. These hypotheses address 3 aspects of the problem under study:
* the spatial polarization of educational opportunity;
* social class differences in access to higher education;
* the potential of distance education as a remedy for unequal access to higher education.

These 15 working hypotheses can be summarized by three general research postulates:

1. Educational opportunity is greatest in the more heavily urbanized areas, but even within major urban centres, it is spatially polarized into zones of high and low opportunity.
2. Educational opportunity is polarized along social class lines and unequal educational opportunity is relatively worse for females, ethnic minorities, and residents of low socio-economic status neighborhoods.
3. Although distance education reduces geographic and sexual disparities in access to higher education in general, it does not reduce socio-economic inequality because some individuals, social classes, and locations are better positioned than others to take advantage of distance education.

Given that unequal educational opportunity is assumed to be deeply rooted in both the socio-economic and urban hierarchies, it is unlikely that distance education can radically alter this form of inequality through reorganization of the mode of delivery of higher education.

The working hypotheses referred to above are logically consistent with four theoretical approaches described in Chapter
1, namely:
* social reproduction;
* de-schooling;
* credentialism;
* ecology of the school.

These four approaches are mutually compatible in their assumptions and also harmonize with the metropolis-hinterland concept.

In order to establish the credibility of the postulates that guide this research it is necessary to:
1. identify theoretical support;
2. establish a body of empirical evidence that corroborates the existence of a polarized human resource landscape; in British Columbia.
3. define the socio-economic and geographic profile traits of distance education students in British Columbia, as compared to other students and to the population-at-large.

If it can be shown that the 15 working hypotheses are compatible with accepted theory, with observable conditions in society and with the objective characteristics of distance education students, then these hypotheses can be considered credible. If theoretical or empirical evidence is found that is incompatible with the working hypotheses, the latter must be either rejected or qualified.

There is a considerable body of research that demonstrates the usefulness of social indicators as a means of exploring the
concept of a polarized human resource landscape in the context of unequal educational opportunity. Given the relative abundance of socio-economic data germane to this concept, and the possibility of delineating the spatial distribution of this data, mapping and tabulation of social indicators was chosen as the appropriate method of defining what is meant by a polarized human resource landscape.

The question of whether distance education produces a more equitable distribution of educational opportunity can be addressed by examining survey data on distance education students to see in what respects, if any, they differ from others adult students and from the general population. If distance education students are found to be as privileged as, or more privileged than, other students and/or the adult population in terms of socio-economic and geographic origins then it can be inferred that distance education does not significantly reduce inequity in access to higher education. Evidence on this issue as it applies to distance education was derived mainly from survey of three distance education student populations, a survey of Grade 12 students, and an education needs assessment of a rural regional population.
PART B

THE HUMAN RESOURCE LANDSCAPE OF BRITISH COLUMBIA
CHAPTER 4

URBAN ASPECTS OF THE HUMAN LANDSCAPE

4.1 The Urban Information Base

As various studies have indicated that the presence of favourable socio-economic conditions and advanced educational credentials in the adult population is positively associated with participation in higher education (e.g. Brown and Poiker, 1981) the mapping of social and educational indicators is a useful method for identifying zones of educational opportunity or relative deprivation. With this end in mind, 1981 census data for British Columbia were selected, collated and mapped using computer-aided methods. Procedures for achieving this are described in Appendix 1. The maps thus produced reflected variations in the human resource landscape for 3 distinct spatial units: major urban centres (based on census tract boundaries), school districts, and college regions. School district data were also re-classified into 4 rural/urban categories to reflect differing degrees of urbanization in different districts. An exhaustive and detailed description of all the findings generated by these procedures is found in Brown, D. and Wells, B.K. (1985).

There were five major urban centres in British Columbia for which 1981 census data were available by census tract. These were:
1. Greater Vancouver (256 tracts);
2. Greater Victoria (48 tracts);
3. Kamloops (22 tracts);
4. Kelowna (21 tracts);
5. Prince George (23 tracts).

Census tracts are considered by Statistics Canada to be roughly equivalent to neighborhoods and have an average population of 4,000. By using census tracts as a basic spatial unit for mapping socio-economic variables it was possible to compare the level of social well-being for different areas within an urban agglomeration. Such a geographic profile of living conditions in an urban agglomeration suggested which neighborhoods had socio-economic environments unfavourable to educational achievement.

The selection of variables for mapping was based on the following methods:
1. Division of 1981 census variables into six categories - educational, demographic, ethnic, labour force, income and household data;
2. Reduction of the census data base through the use of factor analysis;
3. Identification of those variables most closely related to educational achievement, as indicated by correlation coefficients;
4. Identification of those variables cited in other studies as being related to either participation or achievement in education.
Data were obtained both from Statistics Canada and from the B.C. Ministry of Education. The above methods for selecting variables are reviewed in Appendix 1.

4.2 Human Well-Being and Urban Structure

Although the major urban centres of British Columbia were dissimilar in many respects, broad similarities were found in the way some population characteristics were incorporated into their respective patterns of urban structure. There were striking similarities in the distinctive segregation of the human landscape into neighborhoods of varying socio-economic status. In each major city, residents were to a large extent spatially segregated into five different types of neighborhoods, according to cultural and socio-economic traits of the population. This common pattern of spatial segregation amounted to a geographic polarization of the human landscape according to the demographic, cultural and socio-economic status of residents. There was also a remarkable spatial congruence between educational achievement, cultural traits and indicators of socio-economic well-being.

The five distinct neighborhood types identified by this research were as follows:
1. Inner City Slum Neighborhood;
2. Central Low Status Neighborhood;
3. Central High Status Neighborhood;
4. Suburban High Status Neighborhood;
5. Suburban Low to Middle Status Neighborhood.

To a large extent, neighborhoods of high and low respective status occupied polarized positions in terms of their cultural, economic and locational traits. Areas of respectively very high and low socio-economic status occupied opposite sides of the city along a north-south or east-west axis, and were separated by buffer zones of intermediate educational and socio-economic status. Polarized zones were sometimes separated by non-residential areas or natural barriers, such as lakes, rivers, ocean inlets or rough terrain.

There was a very noticeable association in census tract data between low educational credentials in the adult population and indicators of cultural minority status and socio-economic deprivation. These relationships are illustrated in Table 4.1. In this context, educational deprivation proved a reliable indicator of cultural and/or socio-economic marginality. The most socio-economically depressed neighborhoods were those with a relatively large number of under-educated adults (i.e. adults with Grade 8 or less).

In Vancouver, for example (Table 4.1) neighborhoods where adult educational credentials were low tended to have a high percentage of Non-English speakers, high housing densities, a high percentage of housing in disrepair and higher-than-average unemployment. In those same neighborhoods, per capita income was comparatively low. This same pattern was repeated to a greater
Table 4.1: Pearson Correlation Coefficients for 6 Socio-Economic Variables in Vancouver

<table>
<thead>
<tr>
<th>% Non-English Speaking</th>
<th>High Housing Density</th>
<th>Unemployment Rate</th>
<th>Per Capita Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Density Housing</td>
<td>0.61</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Housing in Disrepair</td>
<td>0.35</td>
<td>0.20</td>
<td>*</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>0.49</td>
<td>0.30</td>
<td>0.35</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>-0.03</td>
<td>-0.19</td>
<td>-0.15</td>
</tr>
<tr>
<td>Under Ed. Adults</td>
<td>0.80</td>
<td>0.54</td>
<td>0.41</td>
</tr>
</tbody>
</table>

NOTE: A score of +1.0 indicates a perfect positive correlation. A score of -1.0 indicates a perfect negative correlation.

or lesser degree in the other major cities of British Columbia.

All cities had Inner City Slum neighborhoods. These neighborhoods were located in or on the edge of the central commercial core and its adjacent industrial area. Educational achievement levels in this zone were extremely low, as was the percentage of persons with English as their mother tongue. There were also relatively few people in the 0-19 years age range in this zone. Native Indians were highly concentrated in the Inner City Slum, compared to other parts of the city. Victoria, Kamloops, Kelowna and Prince George had Indian Reserve census tracts at the edge of their urban cores. The Inner City Slum had relatively high percentages of crowded housing (over 1 person/room), and of housing in need of major repairs. High unemployment and low per capita income were also characteristic
of the Inner City Slum neighborhood.

In all major cities there were Central Low Status neighborhoods located closer to the urban commercial core but outside the Inner City Slum. In Vancouver, the Central Low Status neighborhoods were culturally more diverse than the Suburban Low to Middle Status neighborhoods that appeared further out from the city centre. All five major cities had Central Low Status neighborhoods, but Interior cities had fewer and more mixed ethnic communities than either Vancouver or Victoria.

Educational achievement of adults in the Central Low Status neighborhood was typically low, as was average income; unemployment was relatively high. Housing density in this neighborhood was above average, as was the proportion of housing in need of major repairs. The proportion of people aged 0-19 years was relatively high, and thus, per capita income in the area was normally quite low.

The Central Low Status neighborhood occupied a large area within easy commuting distance of both the Central Business District and centrally located industrial zones. Public transportation routes and major roadways accessing the city centre were prominent. Conditions in the Central Low Status neighborhood did not constitute what would be considered slum poverty, but rather modest working class living conditions. The Central Low Status neighborhood serves as a reservoir of labour
and consumer buying power that sustains the commercial and industrial activities in the heart of the city.

In all of the major cities the Central High Status neighborhood was an enclave of affluence and high quality living conditions in the midst of lower status neighborhoods and close to the city centre. Adult educational achievement and income levels were typically very high in this zone. The economic status of women, expressed by the average female income, was much higher than in most other areas of the city. Unemployment was uniformly low throughout the Central High Status neighborhood.

This zone was comprised of older homes of high value, sporadically interspersed with newer, high value homes. Other characteristics included low residential density and below average proportions of persons in the 0-19 age group, indicating the presence of small families, old families, and/or single persons. The vast majority of residents of the Central High Status neighborhood were of English-speaking origin.

In all five major cities Suburban High Status neighborhoods were affluent suburban residential zones located around the outer edge of the city. They appeared in two forms: either as broad residential zones or as sporadic, isolated pockets. Adult educational credentials and indicators of socio-economic well-being ranked very high in these areas, and residents were overwhelmingly anglophone. Usually the occupants of such
neighborhoods benefitted from the close proximity of unique natural amenities in the form of elevated views, seashore or lake frontage, parks and/or natural open spaces. High percentages of persons 0-19 years of age indicated the predominance of family dwellings.

The Suburban Low to Middle Status neighborhoods were found on the outer perimeter of the major cities of British Columbia. They were located near suburban industrial or commercial zones and major industrial transportation routes. Educational, social and economic conditions in these neighborhoods resembled closely those found in the central residential district, except that ethnic minorities accounted for a much smaller proportion of the population. There was often a very large percentage of persons in the 0-19 years age group, indicating the presence of many young families.

There was some variation in socio-economic conditions within the Suburban Low to Middle Status neighborhoods, notably in per capita income and in the quality of the housing stock. Per capita income varied with average income and with the number of children in the dependent age range. Low status neighborhoods appeared as small zones of poverty within large middle status residential suburbs. Usually, the poorest socio-economic conditions were found in direct proximity to industrial areas and main transportation arteries.
The urban morphology described above reflected a systematic variation in living conditions related to the effective capacity of individuals to participate in higher education. Not only was the quality of the human resource base itself spatially polarized within the major cities of British Columbia, but the distribution of factors that may hinder or stimulate involvement in the education system was similarly polarized. Thus, the effective accessibility of higher education (See p. 35) was seen to vary among the different residential neighborhoods described above.

This is another way of saying that the distribution of social classes within major urban centres was spatially segregated to a large degree. The territories occupied by different social classes were part of an uneven educational opportunity surface that varied according to social class characteristics. Residents of Low and Middle Status neighborhoods did not enjoy conditions of life as favourable to participation in higher education as those found in High Status neighborhoods, nor did they possess educational credentials of equally high status. Social class disparities in material capital (wealth) were associated with disparities in cultural capital (credentials).
4.3 Vancouver and Victoria

The two largest cities in British Columbia strongly displayed the spatially polarized pattern of high-opportunity and low-opportunity neighborhoods just described. In general, both coastal cities were polarized, such that the city was divided along both a north-south and an east-west axis. In Greater Vancouver, high educational credentials and favourable socio-economic conditions were concentrated in the northern and western extremities of the city. In Victoria, wealth and high educational achievement were spatially concentrated in the northern and eastern portions of the cities. However, both cities possessed central high status neighborhoods that were independent of the general pattern of polarization that existed throughout the urban region.

The distribution of educational credentials in the major cities of British Columbia was delineated by 3 indicators:
1. the percentage of under-educated adults, i.e. those with Grade 8 or less;
2. the percentage of highly educated adults, i.e. those with a university degree;
3. an educational achievement index derived by subtracting the percentage of adults with Grade 8 or less from the percentage of adults with a university degree.

The distribution of educational credentials in Greater Vancouver and Greater Victoria is shown in Figures 4.1, 4.2, and 4.3.
Figure 4.1

Educational Achievement Index for Adults

Figure 4.2

Adults with Grade 8 or Less
Figure 4.3

EDUCATIONAL ACHIEVEMENT INDEX
FOR ADULTS

MIN MAX
5.000 6.000
4.000 5.000
3.000 4.000
2.000 3.000
1.000 2.000
High positive values of the educational achievement index used to portray the spatial distribution of educational credentials indicate a high level of educational achievement among adults, while large negative values indicate low extremes of adult educational achievement. Where the index approaches zero, adult educational achievement may be interpreted as moderate.

In general, adult educational credentials were high in the northern and western portions of Greater Vancouver, and moderate to low in the southern and eastern portions (See Figure 4.1). Extremely high achievement levels occurred west of Granville Street in Vancouver and in North and West Vancouver. Small enclaves of high educational achievement were located in Burnaby, Coquitlam, Richmond, Tswassen and White Rock. The overall spatial pattern of high educational credentials conformed to the model described earlier of Central and Suburban High Status neighborhoods, respectively. Areas of low educational achievement corresponded to the Central and Suburban Low Status neighborhoods, and to the Inner City Slum neighborhoods, described earlier. (See Figure 4.2). These latter areas were spatially associated with commercial and industrial zones, and with major transportation arteries.

In Greater Victoria there was also a distinct spatial polarization of educational credentials, as shown in Figure 4.3. Adult educational achievement was highest in a crescent-shaped zone enclosing areas in the northeast, eastern and southeast
extremities of the city (Royal Oak, Gordon Head, Ten Mile Point, Oak Bay). Most of this zone corresponded to the Suburban High Status neighborhoods described earlier. One of these areas (Fairfield) corresponded to the Central High Status neighborhood. Immediately adjacent to the zone of high educational credentials was a zone of moderate achievement. The area with the highest percentage of under-educated adults surrounded the central commercial core of the city in an area corresponding to the Inner City Slum neighborhood. A large zone of low achievement extended throughout the central and western sectors of the city.

Most of the coastline of Greater Victoria was found to be occupied by people with high educational credentials. Adults with low credentials were prominent in residential areas that do not have coastline or other natural scenic amenities. It appeared that educational credentials play a role in the allocation of desirable living space, i.e. adults with low credentials occupied areas that lacked open space and access to the natural environment.

Demographic pressure on the education system is likely to occur in areas with a high percentage of the population in the 0-19 yrs. age group. Figures 4.4 and 4.5 show that there were high concentrations of such demographic conditions around the periphery of Greater Vancouver and Greater Victoria. In both cities the lowest percentage of persons aged 0-19 years was found in the central commercial core and adjacent Inner City
Slum neighborhood. In both cities the population's age structure was reflected in a concentric ring pattern such that with increasing distance from the central business district the proportion of school-aged persons rose. This confirms earlier findings by Peucker (1970).

The proportion of young people was high in the immediate vicinity of universities in the two cities, an expected finding. However, there were also high percentages of persons aged 0-19 years in close proximity to industrial land use zones. In the first instance (closeness to universities) the concentration of youth is explained partly by the presence of a transient student population, and partly by the tendency of Suburban High Status neighborhoods to be located close to universities and to contain a prominent contingent of young families. In the second case, proximity to industrial sites corresponds to the presence of Suburban Low-to-Middle Status neighborhoods that harbour many young working class and middle class families.

In neighborhoods with a high proportion of people of non-anglophone background, the education system may be relatively inaccessible due to linguistic and cultural barriers that separate ethnic minorities from mainstream society. Figures 4.6 and 4.7 show that the incidence of Non-English speaking people was high in certain sectors of Vancouver and Victoria. In general, heavily non-anglophone areas tended to coincide spatially with the Inner City Slum or with the Central Low Status neighborhoods described earlier. In Vancouver these
Figure 4.4

PERCENTAGE OF TOTAL POPULATION IN THE 0-19 AGE GROUP

VANCOUVER, B.C.

Figure 4.5

% OF Total Population In
The 0-19 Age Group

VICTORIA, B.C.
neighborhoods were located east of False Creek in close proximity to industrial and commercial land use zones, and to major transportation arteries. In Victoria, such neighborhoods were found adjacent to the commercial core and to industrial and public service land use.

In both cities these working class ethnic neighborhoods were distinguished by relatively old housing stock. Most of the zones within which non-anglophones were concentrated were essentially labour reservoirs serving the central commercial and industrial functions of the city. The exception in Victoria was Gordon Head, a neighborhood close to the University of Victoria.

High density housing is often associated with socio-economic and cultural conditions that limit both incentive and support for involvement in the education system. Lack of space and privacy may distract students from academic activity. Residents of crowded housing often lack the income required to sustain an interest in higher education.

As shown in Figure 4.6 and 4.7 housing densities varied noticeably among the different residential neighborhoods of Greater Vancouver and Greater Victoria. It was evident that densely occupied housing was most prevalent close to zones of industrial, commercial, or institutional land use. Within Vancouver high density housing areas included the Inner City Slum south of Hastings St. and east of False Creek, and the Central Low Status neighborhoods of East Vancouver. There was a
Figure 4.6
AVERAGE NUMBER OF PERSONS PER ROOM
VANCOUVER, B.C.

Figure 4.7
AVERAGE NUMBER OF PERSONS PER ROOM
Victoria, B.C.
clear division in Greater Victoria between the uncrowded affluent eastern and southern suburbs and the denser housing occupancy in the central and western sectors of the city. In general, high density housing in both cities coincided with Central or Suburban Low Status neighborhoods. Low housing densities were most typical of High Status neighborhoods.

The spatial distribution of housing densities was paralleled by variations in housing quality in both metropolitan cities. In general, areas of low density housing occupancy had few houses in need of major repair, while in high density areas the incidence of housing in disrepair was greater. Moreover, there was a spatial association between educational credentials and housing quality: housing quality was lowest in areas where adult educational credentials were low, as shown in Figures 4.8 and 4.9.

The spatial distribution of educational credentials was also related to that of ethnic background. In both Vancouver and Victoria education achievement of adults was lowest in neighborhoods with a large proportion of non-anglophones, as illustrated in Figures 4.10 and 4.11. This gives substance to the contention, expressed earlier that ethnic minorities have relatively less access to higher education, i.e., they tend to lack credentials that would facilitate their participation in the education system.
Residential neighborhoods with low socio-economic status were identifiable on the basis of their high unemployment rates. Where unemployment is high many people lack the cultural and financial resources to take full advantage of the education system. This is especially a problem for certain ethnic minorities, of which the most striking example in this research was the native Indian group. Figure 4.12 and 4.13 show that the percentage of native Indians, in both Vancouver and Victoria, was highest in those neighborhoods that had the highest unemployment rates. In both cases, these areas coincided with the Inner City Slum neighborhood described earlier, located on the edge of the central commercial core of the city.

Per capita income is a measure of wealth in an area in relation to the size of the area's population. It indicated the potential effective availability of education, as more affluent families possess more of the material resources that stimulate and support an interest in education. In this sense, education is effectively more accessible to the residents of neighborhoods that have a high level of per capita income. Conversely, people who have high educational credentials are more able than others to obtain high income employment, and the resulting high potential access to further education for themselves and their families.

Figures 4.14, 4.15, 4.16, and 4.17 illustrate the close spatial association between the distribution of educational credentials in Greater Vancouver and Victoria, on the one hand,
Figure 4.12

Native Indians And Unemployment

Figure 4.13

Native Indians And Unemployment
and the distribution of indicators of socio-economic well-being, on the other. For example, Figure 4.14 shows that in Vancouver areas of high educational achievement generally coincided with census tracts where per capita income was high and unemployment is low, as represented by tall, narrow ellipses. These areas were part of the Central and Suburban High Status neighborhoods described earlier. Census tracts with low per capita income and high unemployment (i.e. short, wide ellipses) also had low adult educational achievement. They belonged to the Inner City Slum and Low Status neighborhoods.

At the regional level, it was apparent that the highest education credentials and per capita income, and the lowest unemployment were found in the northern and western corners of the Greater Vancouver region, while the least favourable conditions were concentrated in East Vancouver. There was, in general a north-south, west-east polarization of socio-economic conditions that provided the north and west with distinct advantages over the east and south, except for certain locations where Suburban High Status neighborhoods were found (e.g. North Burnaby, Tsawassen).

Figures 4.15 - 4.17 show that education achievement in Greater Victoria was highest in a crescent-shaped zone enclosing the northeast, eastern, and southeast portions of the region. Within this zone 1981 unemployment levels were relatively low and per capita income was high. On the other hand, low educational credentials, low per capita income and high
unemployment were found in the central and western parts of the city. The affluent eastern arc described above corresponded to the Central and Suburban High Status neighborhoods, while the disadvantaged areas coincided with the Inner City Slum, Central Low Status and Suburban Low/Middle Status neighborhoods.

It was also discovered that there was a spatial association between the distribution of educational credentials and sexual differences in income. In general, male-female income disparities were greatest and favoured males in Central and Suburban High Status neighborhoods of Greater Vancouver and Victoria. Female income exceeded male income in the Inner City Slum and in Central Low Status neighborhoods. This overall pattern can be attributed to the presence in affluent neighborhoods of families in which there are high income professional and/or managerial males, and in which the principal female role in the family is that of homemaker. In poor neighborhoods, by contrast, there is more economic pressure on women to work to supplement family incomes and there is higher unemployment among males.

There was a striking correspondence in the Greater Vancouver region between the spatial distribution of educational credentials and the distribution of wealth. This relationship is best illustrated in Figure 4.18, which clearly shows the polarization in favour of the northwest sector of the region, with the exception of a few Suburban High Status neighborhoods, including Tswassen, South Surrey, and North Burnaby.
Figure 4.18
4.4 The Interior Cities

The spatially segregated pattern of neighborhoods according to socio-economic status that occurred in the coastal metropolitan centres of British Columbia was repeated in the major cities in the province's Interior. In general, a similar polarization of affluence and poverty occurred, although in a somewhat less varied form and with Middle Status neighborhoods being rather more prominent than neighborhoods on the extremities of the socio-economic spectrum. As in the metropolitan centres, the spatial distribution of educational credentials was systematically associated with other indicators of well-being in that neighborhoods with the highest socio-economic status had the most educated adult population, while the reverse was true for neighborhoods of low socio-economic status.

Figure 4.19 shows that in Prince George, the distribution of education was spatially polarized in an east-west direction. The highest percentages of university-educated adults were found along the western extremity of the city, (Cranbrook Hill) and in one neighborhood in the west-central sector of the city, (Pinewood) near the College of New Caledonia. The least educated adult population was found adjacent to the Central Business District, and in nearby areas of the eastern portion of the city that were close to industrial zones and/or major transportation routes.
Figure 4.19

% HIGHLY EDUCATED POP. MINUS % UNDER-EDUCATED POP.

PRINCE GEORGE, B.C.

*LEGEND*

% DISPARITY
-10.00
-5.00
-2.50
-1.00
0.00
2.50
5.00
10.00

CENSUS TRACT DATA FROM THE 1981 CENSUS OF CANADA

Figure 4.20

PERCENT OF TOTAL POPULATION IN THE 0-19 YEARS AGE GROUP

PRINCE GEORGE, B.C.

*LEGEND*

% OF TOTAL POP
44.50
38.00
31.50
25.00
18.50
12.00

CENSUS TRACT DATA FROM THE 1981 CENSUS OF CANADA
The distribution of socio-economic neighborhoods in Prince George, appeared to be a simplified version of the metropolitan urban structure in the sense that there was spatial continuity between the Inner City Slum and the Major Low Status neighborhoods of the city; likewise, the High Status neighborhoods occurred as one spatially continuous zone. Thus, high status and low status neighborhoods could be interpreted, respectively, as single residential zones with their physically and demographically older sectors being located nearest to the city centre. Outside these two zones, the rest of the city appeared to be entirely composed of Middle Status neighborhoods.

The spatial distribution of youth in Prince George is depicted in Figure 4.20. In general, school aged persons are less numerous in the Central and Eastern portions of the city than elsewhere. The lowest concentrations of youth were found in the oldest most central portions of the High Status and Low Status neighborhoods, respectively, areas corresponding to the Central High Status and Inner City Slum neighborhoods in the metropolitan cities of Vancouver and Victoria. Those parts of Prince George that corresponded to Middle Status and Suburban High Status neighborhoods had high percentages of school-aged persons.

The distribution of ethnic minorities in Prince George as indicated by affiliation to a Non-English or native Indian mother tongue is shown in Figures 4.21 and 4.22. It was apparent that, as in the case of metropolitan centres, the concentrations
of Non-anglophones and native Indians were highest in those parts of the city where adult education credentials had been found to be low. The highest percentages of Non-anglophones were in the Inner City Slum and Central Low Status neighborhoods, in the central and eastern commercial and industrial areas of the city, respectively. The anglophone/Non-anglophone spatial dichotomy followed the same west-east pattern of polarization as the distribution of educational credentials.

Housing density and quality in Prince George followed a similar pattern of east-west polarization, i.e. more crowded, poorer quality housing in the east and less crowded, better quality housing in the west. Some of the worst housing conditions occurred in those parts of the city where adult educational credentials were low as shown in Figures 4.23 and 4.24. As expected poor housing conditions were found close to high intensity commercial and industrial land uses in the central part of the city. There was a noticeable overlap between areas of poor housing and areas where the percentage of native Indian residents was high. Not unexpectedly, in these same Low Status neighborhoods income was low and unemployment high, as shown in Figures 4.25 and 4.26.

The general pattern in the distribution of social well-being in Prince George was such that the most favourable socio-economic conditions, along with the highest educational credentials, were located in the largely anglophone western part of the city. This area contained relatively high quality housing
Figure 4.21

PERCENT OF TOTAL POPULATION WITH NON-ENGLISH MOTHER TONGUE

PRINCE GEORGE, B.C.

*LEGEND*

% OF TOTAL POP.
42.00
32.00
22.00
12.00
12.00
8.00

Figure 4.22

PERCENT OF TOTAL POPULATION WITH A NATIVE INDIAN MOTHER TONGUE

PRINCE GEORGE, B.C.

*LEGEND*

% OF TOTAL POP.
5.00
2.50
1.50
1.00
0.50
0.00

CENSUS TRACT DATA FROM THE 1981 CENSUS OF CANADA
Figure 4.23
HOUSEHOLDS WITH MORE THAN 1 PERSON PER ROOM

Figure 4.24
PERCENT OF TOTAL DWELLINGS IN NEED OF MAJOR REPAIRS
Figure 4.25
AVERAGE MALE INCOME

Figure 4.26
PERCENT OF TOTAL LABOUR FORCE UNEMPLOYED
and encompassed some of the more desirable residential amenities, such as parks, green belts, and view lots. The largest, most modern, and only enclosed shopping mall is also located in this part of the city, along with the College of New Caledonia, the region's main post-secondary education facility. The poorest and least well-educated segments of the population, however, were found in the central and eastern portions of the city, in close proximity to central commercial and industrial zones. These underprivileged areas coincide with the Inner City Slum and Central Low Status neighborhoods described earlier in this chapter.

The spatial distribution of socio-economic conditions and educational credentials in Kelowna, although polarized as in other major cities of the province, was distinctive in its form. The general pattern of this polarization was along a north-south axis, with the highest educational credentials and most favourable socio-economic conditions in the extreme southern portion of the city. The least favourable conditions occurred in the central and eastern sectors of the city, while areas of middle socio-economic status occupied the northern and western suburbs.

Figures 4.27 and 4.28 show that, as in other cities, ethnic minorities (i.e. Non-anglophones) occupied parts of the city where adult educational credentials were low. The neighborhood with the lowest percentage of anglophones was found in the immediate vicinity of the central commercial core, an area
corresponding to the Inner City Slum. Central Kelowna and Rutland comprised an area that represents the Central and Suburban Low Status neighborhoods of the city, respectively.

The corridor of the Low Status neighborhoods in the central and eastern portions of Kelowna was located within a broad zone of relatively high density housing (Figure 4.29) and comprised those areas of the city where housing quality was lowest (Figure 4.30). As in other major British Columbia cities the percentage of the population in the 0-19 years age range was lowest in the centre of the city, in the Inner City Slum neighborhood, while relatively high percentages of youth were found in the Central Low Status neighborhoods to the east of the downtown area, and the Suburban Middle and High Status neighborhoods.

The spatial segregation of social classes alluded to above was very evident in the distribution of income and unemployment in Kelowna, as illustrated in Figures 4.31 and 4.32. Per capita income was highest in the Suburban High Status neighborhoods in the south of the city, especially south of Bellevue Creek. The lowest per capita incomes were found in the Inner City Slum next to the Central Business District, and the Central Low Status neighborhoods stretching from Central Kelowna eastward to Rutland. As expected, unemployment was highest in the Inner City Slum and Central Low Status neighborhoods, and low in southern suburbs. Suburban High Status neighborhoods in Kelowna occupied attractive lakeshore location, while Low Status neighborhoods had comparatively few natural amenities.
Figure 4.27
% OF HIGHLY EDUCATED ADULTS MINUS % OF UNDER-EDUCATED ADULTS

*LEGEND*

% DISPARITY
10.00
2.00
-5.00
-13.00
-21.00
-22.00

THE AVERAGE IS: -9.86
CENSUS TRACT DATA FROM THE 1991 CENSUS OF CANADA

Figure 4.28
% OF THE POPULATION WITH A NON-ENGLISH MOTHER TONGUE

*LEGEND*

% OF TOTAL POP.
35.00
30.00
25.00
20.00
15.00
10.00

THE AVERAGE IS: 19.66%
CENSUS TRACT DATA FROM THE 1991 CENSUS OF CANADA

227
Figure 4.29

AVERAGE NUMBER OF PERSONS PER ROOM

KELOWNA, B.C.

THE AVERAGE IS: 0.49

CENSUS TRACT DATA FROM THE 1991 CENSUS OF CANADA

LEGEND*

PERSONS PER ROOM
0.60
0.56
0.52
0.48
0.44
0.40

Figure 4.30

PERCENTAGE OF TOTAL DWELLINGS IN NEED OF MAJOR REPAIR

KELOWNA, B.C.

THE AVERAGE IS: 3.19

CENSUS TRACT DATA FROM THE 1991 CENSUS OF CANADA

LEGEND*

% OF DWELLINGS
8.00
6.00
4.00
2.00
0.00
Figure 4.31

PER CAPITA INCOME

KELOWNA, B.C.

THE AVERAGE IS: $8702.16

CENSUS TRACT DATA FROM THE 1991 CENSUS OF CANADA

*LEGEND*

$ PER PERSON
14000.00
12000.00
11000.00
9500.00
8000.00
7500.00

Figure 4.32

UNEMPLOYMENT RATE

KELOWNA, B.C.

THE AVERAGE IS: 5.05%

CENSUS TRACT DATA FROM THE 1991 CENSUS OF CANADA

*LEGEND*

% OF LABOUR FORCE
15.00
10.00
8.00
6.00
4.00
2.00
The spatial segregation of residential neighborhoods in Kamloops by socio-economic status was similar to that of other major cities in British Columbia. As shown in Figure 4.33, the polarization of educational credentials occurred along a north-south axis, with the highest adult achievement levels being found in High Status neighborhoods on the south side of the city. In Kamloops as Prince George, the Central High Status and Suburban High Status neighborhoods were compressed into a single high status neighborhood immediately south of the city centre, including the Dufferin, College Heights and Sahali neighborhoods. However, there was in Kamloops one Suburban High Status outlier in the extreme southeast part of the city (Barnhartvale).

As in other major British Columbia cities there was in Kamloops an Inner City Slum neighborhood, bordering on the central commercial core of the city, in which adult educational credentials were very low. To the north, west and east of the city centre were the equivalents of Central and Suburban Low and Middle Status neighborhoods. Predictably, low credentials were spatially associated with the locations of industrial and/or commercial land use zones, and with major transportation arteries. High Status neighborhoods were well endowed with view lots and green spaces, and were mostly close to Cariboo College, the region's only postsecondary education facility. Most of the Low Status neighborhoods, by contrast did not have ready access to such amenities. It was also noticeable that the highest
concentrations of persons aged 0-19 years in Kamloops was in Central Low Status and Suburban Middle Status neighborhoods, as shown in Figure 4.34.

Similarly to other major British Columbia cities, the highest concentrations of Non-anglophones in Kamloops were found in neighborhoods in which educational credentials were low (See Figures 4.35 and 4.36). These neighborhoods coincided with the Inner City Slum, the Central Low Status neighborhood, and the Suburban Low Status neighborhood. The only Suburban Low Status neighborhood identified was one in which there was an Indian reserve. The Inner City Slum was found immediately adjacent to the Central Business District, while Central Low Status neighborhoods were located just to the north of the city centre (e.g. Brocklehurst).

The highest incidence of overcrowded housing (Figure 4.37) was not found in the Inner City Slum as expected, but rather in the Central Low Status neighborhood of Brocklehurst. Exceptionally high percentages of housing in disrepair (Figure 4.38) were found in the Inner City Slum, and in the Central Low Status neighborhoods immediately north of the city centre. The highest incidence of such housing, however, occurred in the extreme southeast suburb of Barnhartvale, previously described as High Status neighborhood. This indicates that this neighborhood is, in fact, a hybrid of High Status and Low Status socio-economic traits.
Figure 4.33

% OF HIGHLY EDUCATED ADULTS MINUS % OF UNDER-EDUCATED ADULTS

KAMLOOPS, B.C.

Figure 4.34

PERCENTAGE OF TOTAL POPULATION IN THE 0–19 YEARS AGE GROUP

KAMLOOPS, B.C.
Figure 4.35

% OF TOTAL POPULATION WITH MOTHER TONGUE OTHER THAN ENGLISH

*LEGEND*

% OF TOTAL POP.
22.00
19.00
16.00
13.00
10.00
7.00

THE AVERAGE IS:
12.00%

CENSUS TRACT DATA FROM THE 1991 CENSUS OF CANADA

KAMLOOPS, B.C.

Figure 4.36

% OF TOTAL POPULATION WITH NATIVE INDIAN AS MOTHER TONGUE

*LEGEND*

% OF TOTAL POP.
0.60
0.48
0.36
0.24
0.12
0.00

THE AVERAGE IS:
0.11%

CENSUS TRACT DATA FROM THE 1991 CENSUS OF CANADA

KAMLOOPS, B.C.
Figure 4.37
PERCENTAGE OF TOTAL DWELLINGS WITH 1 PERSON OR MORE
PER ROOM

Figure 4.38
PERCENTAGE OF TOTAL DWELLINGS IN NEED OF MAJOR REPAIR
The distribution of income and unemployment in Kamloops conformed to the model of spatial segregation of social classes outlined earlier in this chapter. As shown in Figures 4.39 and 4.40, the north-south polarization pattern was reflected for both variables. Per capita income was high in the south and low in the north. The highest value of per capita income was in Dufferin, an area that corresponds to the Central High Status neighborhood. The lowest income levels were found within and immediately north of the city centre, in areas that constitute the Inner City Slum and the Central Low Status neighborhood. Conversely, unemployment was highest in downtown Kamloops and in Low Status neighborhoods just north of the city centre. Unemployment was low throughout the southern portion of the city in zones that comprise Central and Suburban High Status and Suburban Middle Status neighborhoods.

It is worth noting that while there were general similarities between all five major cities of British Columbia in the 1981 spatial pattern of educational credentials and socio-economic conditions, and that these similarities took the form of spatially segregated social class neighborhoods, there were also important differences between the coastal Metropolitan cities and the Interior cities. These differences are illustrated in Table 4.2 (p. 238). In general, 1981 incomes in Greater Vancouver and Victoria were higher than for Interior cities. However, women were slightly better off in relation to men in the Interior as their incomes were a higher percentage of
Figure 4.39
PER CAPITA INCOME

Figure 4.40
UNEMPLOYMENT RATE
male incomes. Vancouver stood out as the most prominent centre in the province for Non-anglophone minorities, while Kelowna led the other Interior cities in this respect. The adult population of the Metropolitan centres was better educated compared to the Interior cities. Interior cities were proportionally more likely to need educational services as their populations were substantially younger than those of the Metropolitan centres. The average unemployment rate for metropolitan cities was 4.66%, as compared to 6.17% for Non-metropolitan centres in the Interior. Based on averages, the metropolitan cities of British Columbia taken as a unit were better off in terms of housing quality, although Kelowna had the least poor quality housing.

The above information suggests that, with respect to most socio-economic variables likely to influence the effective access to higher education, metropolitan British Columbia was better off than the Interior cities. The younger population of the Interior cities, however, would indicate they were more subject to demographic pressure on the education system. Vancouver and Kelowna would have educational needs that are culturally distinct, based on their higher percentages of non-anglophones. In purely economic terms Prince George appeared to be the most disadvantaged major city, given its modest income level, its concentration of poor housing and its high unemployment.
Table 4.2: Average 1981 Values for Nine Variables in the Five Largest Cities of British Columbia

<table>
<thead>
<tr>
<th>Variables</th>
<th>Van.</th>
<th>Victoria</th>
<th>Kamloops</th>
<th>Kelowna</th>
<th>P.G.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Capita Income</td>
<td>$10143.64</td>
<td>10166.85</td>
<td>8909.48</td>
<td>8762.18</td>
<td>N/A</td>
</tr>
<tr>
<td>Female Income</td>
<td>$9191.74</td>
<td>9216.06</td>
<td>8218.13</td>
<td>7761.45</td>
<td>8050.26</td>
</tr>
<tr>
<td>Female Income as % of Male Income</td>
<td>51%</td>
<td>50%</td>
<td>57%</td>
<td>54%</td>
<td>55%</td>
</tr>
<tr>
<td>Housing in Disrepair</td>
<td>4.64%</td>
<td>3.72%</td>
<td>4.07%</td>
<td>3.18%</td>
<td>9.16%</td>
</tr>
<tr>
<td>Non-Anglophones</td>
<td>25.96%</td>
<td>10.99%</td>
<td>12.08%</td>
<td>19.66%</td>
<td>15.63%</td>
</tr>
<tr>
<td>Under-Educated Adults</td>
<td>8.80%</td>
<td>7.39%</td>
<td>8.67%</td>
<td>13.65%</td>
<td>11.94%</td>
</tr>
<tr>
<td>Highly Educated Adults</td>
<td>8.06%</td>
<td>9.23%</td>
<td>4.82%</td>
<td>3.79%</td>
<td>4.43%</td>
</tr>
<tr>
<td>Persons 0-19 years</td>
<td>25.18%</td>
<td>24.49%</td>
<td>34.62%</td>
<td>29.20%</td>
<td>35.37%</td>
</tr>
<tr>
<td>Unemployment</td>
<td>4.49%</td>
<td>4.83%</td>
<td>4.24%</td>
<td>5.09%</td>
<td>9.19%</td>
</tr>
</tbody>
</table>

4.5 Summary

The preceding chapter has illustrated the existence of a polarized human resource landscape within the major urban centres of British Columbia. It has been shown through the mapping of social indicators that in all the main cities of the province social classes are spatially segregated in a broadly similar pattern. Although the boundaries of social class territories within this pattern are not rigidly exclusive, there is nonetheless a striking division of the human landscape into
residential zones based on socio-economic status traits.

In general, the partitioning of socio-economic territory within the large urban centres of British Columbia is polarized along either a north south or east-west axis, with the highest and lowest socio-economic status groups being spatially concentrated, respectively, on opposite sides of the central core of the city. The division of urban space into social class territories is best described as a hierarchy of five neighborhood types, each with its own distinctive socio-economic and locational characteristics, as follows:

1. Inner City Slum Neighborhood;
2. Central Low Status Neighborhood;
3. Central High Status Neighborhood;
4. Suburban High Status Neighborhood;
5. Suburban Low to Middle Status Neighborhood.

Spatial definition of the areas occupied by these neighborhoods was achieved through the mapping of social indicators from the 1981 census.

The identification of a spatially polarized hierarchy of social class neighborhoods clarifies the distribution of educational opportunity among social classes and the respective residential zones they occupy in urban areas. Social indicators used to define this system of social class neighborhoods were selected on the basis of their systematic correlation to indicators of participation and achievement in the education system. Thus, geographic segregation of social classes is
defined both by the geographic and social distribution of educational credentials and by variations in objective living conditions that influence the socio-economic accessibility of higher education. In effect, the social class neighborhoods identified in this chapter correspond to zones of different effective educational opportunity, and each zone has its own distinctive socio-economic and locational characteristics.

Although there are general similarities in the social morphology of the five major cities in British Columbia there are nevertheless three notable differences between the two coastal metropoli (Vancouver and Victoria) and the cities of the Interior. These are:

1. spatial segregation of social classes is more sharply defined in the metropolitan cities;
2. socio-economic conditions favourable to participation in higher education are more prevalent in the metropolitan cities.
3. potential demographic pressure on the education system based on the age structure of the population is higher in the Interior cities.

There are, thus, grounds for accepting the notion of a regional urban hierarchy of educational opportunity in which metropolitan centres have clear advantages over their regional satellite cities, due to living conditions favouring access to higher education.
CHAPTER 5
SCHOOL DISTRICTS OF BRITISH COLUMBIA

5.1 Rural/Urban Differences

5.1.1 Social Well-Being and Rural/Urban Categories,

Rural/urban disparities in educational opportunity are assumed to be based on a blend of spatial, cultural and socio-economic factors such that urban residents find it easier than rural residents to pursue interests in higher education. Furthermore, it is to be expected that the more urbanized an area is, the greater the propensity of the adult population to participate in some form of higher education. This results from a convergence of various conditions, including:

1. an urban labour market in which there is a relatively high demand for educational credentials;
2. greater spatial proximity to higher education facilities, most of which are located in major cities;
3. easier access to cultural amenities and facilities that cater to a highly educated clientel (e.g. libraries, theatre, bookstores, art galleries, computer clubs, etc.)
4. urban cultural values and aspects of urban lifestyle that stress the importance of education and the information age.
5. the greater accumulation of both individual and collective wealth in urban centres in quantity sufficient to support higher education activities;
6. a more stable economic climate in urban locations that
allows for more long-range planning and saving of the type necessary to pursue higher learning.

These are just some of the conditions that provide residents of urban locations greater effective access to higher education.

In order to demonstrate that there were, in fact, systematic rural/urban variations in socio-economic conditions associated with participation in higher education, it was necessary to classify the 75 school districts of British Columbia into rural/urban categories for purposes of comparison. The classification system adopted was from a 1981 study of Grade 12 students in British Columbia (Brown and Poiker, 1981). The four rural/urban categories in this system were defined as follows:

* Rural: 27 school districts with a population of 10,000 persons or less;
* Urban 1: 22 school districts with a population between 10,000 and 30,000 persons;
* Urban 2: 16 school districts with the following features:
  a. School districts in non-metropolitan areas with more than 30,000 inhabitants;
  b. School districts in non-metropolitan areas with more than 20,000 residents and in which a community college is located;
* Metropolitan: 10 school districts in Vancouver or Victoria and their immediate suburbs.

The validity of this classification system as a means for defining rural/urban differences was confirmed using t-test and
one-way ANOVA comparisons, as explained in Appendix 1.

Social indicators drawn from the 1981 census and from the Grade 12 survey mentioned above were compared across the 4 rural/urban categories to see what variations existed. The indicators to be used in these comparisons were selected through the following procedures:

1. division of the 1981 census variables into six groups: educational, demographic, ethnic, labour force, income, household;
2. reduction of the 1981 census data base using factor analysis;
3. identification of those variables most closely related to educational variables, using canonical correlation analysis;
4. selection of variables from the 1981 Grade 12 study that were found through Chi-square analysis to be related to educational decisions or the socio-economic status of students. The relationships that were found to exist between educational variables and socio-demographic variables selected from the 1981 census are illustrated in Table 5.1. These procedures are reviewed in Appendix 1.

As can be seen in Table 5.1, high educational achievement of adults was positively correlated to indicators of favourable socio-economic conditions, while the reverse was true for low educational achievement. There was a strong positive correlation between lack of educational credentials and crowded, low quality housing, low per capita income and unemployment. School
Table 5.1: Pearson Correlation Coefficients for 1981 Census Variables - Education vs. Other Variables for B.C. School Districts

<table>
<thead>
<tr>
<th></th>
<th>Under-Ed. Adults</th>
<th>Highly Ed. Adults</th>
<th>Education Achievement Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. persons 0-19</td>
<td>0.30</td>
<td>-0.48</td>
<td>-0.42</td>
</tr>
<tr>
<td>2. adults attending school</td>
<td>-0.41</td>
<td>0.45</td>
<td>0.46</td>
</tr>
<tr>
<td>3. native Indians</td>
<td>0.43</td>
<td>-0.24</td>
<td>-0.36</td>
</tr>
<tr>
<td>4. highly density housing</td>
<td>0.50</td>
<td>-0.33</td>
<td>-0.45</td>
</tr>
<tr>
<td>5. housing in disrepair</td>
<td>0.63</td>
<td>-0.44</td>
<td>-0.58</td>
</tr>
<tr>
<td>6. per capita income</td>
<td>-0.75</td>
<td>0.77</td>
<td>0.82</td>
</tr>
<tr>
<td>7. primary industry workers</td>
<td>0.64</td>
<td>-0.64</td>
<td>-0.69</td>
</tr>
<tr>
<td>8. unemployment rate</td>
<td>0.68</td>
<td>0.68</td>
<td>-0.65</td>
</tr>
</tbody>
</table>

Note: These variables were selected as those with the strongest correlation to education variables. The selection criterion used was a correlation coefficient of 0.30 or greater.

Note: Education achievement index = highly educated adults minus undereducated adults

districts with prominent populations of under-educated adults also tended to have relatively high concentrations of youth, of ethnic minorities (e.g. native Indians), and of primary industry workers. Attendance of adults in school was generally higher in school districts with well-educated populations than in districts with less well-educated populations.

The presence of primary industry workers was associated with low educational achievement and disadvantageous social conditions. Most districts with a high percentage of primary industry workers were more rural than urban in character. It was
therefore inferred that rural areas were less privileged than urban areas in terms of social conditions associated with participation and achievement in higher education.

5.1.2 Rural/Urban Socio-Demographic Comparisons

Educational variables compared across rural/urban categories included: highly educated adults, under-educated adults, an educational achievement index (% highly educated adults - % under-educated), and adult participation in schooling. Mean figures for these variables by rural/urban category are found in Table 5.2.

It is clear from Table 5.2 that the more urban a school district was, the higher the educational credentials of adult residents and the greater the participation of the adult population in the education system. These findings supported the notion that education is effectively more accessible to urban than to rural people, and that metropolitan residents have the most privileged position in this regard.

Demographic and ethnic variables examined as part of the rural/urban comparisons included: persons aged 0-19 years, immigrants, and non-anglophones. The distribution of these variables among rural/urban categories is shown in Table 5.3.

Table 5.3 reveals some interesting variations in socio-demographic conditions. If the percentage of persons aged 0-19 years is taken as an indicator of potential demographic pressure
Table 5.2: Rural/Urban Variation in Educational Variables (1981)

<table>
<thead>
<tr>
<th>Rural/Urban Category</th>
<th>Under-Ed. Adults</th>
<th>Highly Ed. Adults</th>
<th>Achievement Index</th>
<th>Adults in School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>18.15%</td>
<td>15.11%</td>
<td>-3.04</td>
<td>14.33%</td>
</tr>
<tr>
<td>Urban 1</td>
<td>15.55%</td>
<td>16.59%</td>
<td>1.05</td>
<td>15.55%</td>
</tr>
<tr>
<td>Urban 2</td>
<td>14.00%</td>
<td>17.19%</td>
<td>3.19</td>
<td>15.69%</td>
</tr>
<tr>
<td>Metro</td>
<td>9.90%</td>
<td>24.40%</td>
<td>14.50</td>
<td>18.90%</td>
</tr>
</tbody>
</table>

Table 5.3: Rural/Urban Variations in Demographic and Ethnic Variables (1981)

<table>
<thead>
<tr>
<th>Rural/Urban Category</th>
<th>Persons aged 0-19yrs.</th>
<th>Immigrants</th>
<th>Non-anglophones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>34.79%</td>
<td>15.15%</td>
<td>14.59%</td>
</tr>
<tr>
<td>Urban 1</td>
<td>34.91%</td>
<td>16.59%</td>
<td>15.36%</td>
</tr>
<tr>
<td>Urban 2</td>
<td>33.69%</td>
<td>16.81%</td>
<td>13.38%</td>
</tr>
<tr>
<td>Metro</td>
<td>27.30%</td>
<td>27.10%</td>
<td>18.10%</td>
</tr>
</tbody>
</table>

On the education system, then it is evident that the least pressure occurred in metropolitan districts and the most occurred in rural districts and in small towns. To the extent that demographic pressure causes congestion in the school system through increased demand for materials and services, the academic progress of students and, hence, access to higher learning is more likely to be impeded in rural or semi-rural areas than in the metropolis. On the other hand, if immigrants and especially non-anglophones are seen as having relatively less access to higher education due to cultural/linguistic barriers and/or non-transferrability of academic credits, then the incidence of cultural inaccessibility of education would be highest in the metropolis, where the proportions of immigrants and non-anglophones were highest.
A number of variables pertaining to the labour force and economic conditions were also compared, including: employment in the primary sector, unemployment, and per capita income. The findings for these variables are shown in Table 5.4.

As can be seen in Table 5.4, the economic structure and conditions of economic well-being varied strikingly among the four rural/urban categories. The less urban a school district, the larger the percentage of primary sector workers in its labour force. This increase in primary sector employment from metropolitan to rural areas was accompanied by an increase in the unemployment rate and a decline in per capita income. Thus, economic security and wealth were less abundant in less urban school districts, providing a limited material support base for the pursuit of educational activities by the population.

It was also a matter of some interest to compare the qualitative aspects of family living conditions across rural/urban categories. These comparisons were based on the assumption that crowded housing, large families and/or low quality housing impairs the capacity of individual household members to pursue educational activities. In effect, overcrowded households present distractions, limitations on financial and physical resources and inadequate living space such that formal educational activities are hindered. The comparisons of 1981 household data are shown in Table 5.5.
Table 5.4: Rural/Urban Variations in Labour Force and Income Variables (1981)

<table>
<thead>
<tr>
<th>Rural/Urban Category</th>
<th>Primary Sector Workers</th>
<th>Unemployment Rate</th>
<th>Per Capita Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>14.56%</td>
<td>9.07%</td>
<td>$6,586</td>
</tr>
<tr>
<td>Urban 1</td>
<td>10.23%</td>
<td>8.41%</td>
<td>7,247</td>
</tr>
<tr>
<td>Urban 2</td>
<td>8.19%</td>
<td>7.63%</td>
<td>7,355</td>
</tr>
<tr>
<td>Metro</td>
<td>1.90%</td>
<td>5.00%</td>
<td>8,858</td>
</tr>
</tbody>
</table>

Table 5.5: Rural/Urban Variations in Household Variables (1981)

<table>
<thead>
<tr>
<th>Rural/Urban Category</th>
<th>Large Families (4-8 children)</th>
<th>High Density Housing</th>
<th>Housing in Need of Major Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>6.11%</td>
<td>5.56%</td>
<td>10.30%</td>
</tr>
<tr>
<td>Urban 1</td>
<td>5.05%</td>
<td>3.36%</td>
<td>7.73%</td>
</tr>
<tr>
<td>Urban 2</td>
<td>4.25%</td>
<td>2.13%</td>
<td>5.69%</td>
</tr>
<tr>
<td>Metro</td>
<td>3.10%</td>
<td>1.30%</td>
<td>4.40%</td>
</tr>
</tbody>
</table>

Table 5.5 reveals that in general, large families, crowded housing and poor quality housing were more prevalent the less urban the character of the school district under consideration. This strongly suggests that rural and small town residents are consistently worse off in terms of living conditions likely to render the education system inaccessible, compared to residents of large towns and metropolitan centres. As in all other comparisons of this kind, metropolitan areas occupied the most favourable position and rural locations occupied the least favourable position.

5.1.3 Grade 12 Students and Rural/Urban Differences

It would be consistent with rural/urban differences in social conditions that students in the more highly urbanized, and/or metropolitan school districts would find themselves in a
more favourable position vis-a-vis the prospect of further education than students in less urban and/or rural school districts. This expectation was verified by examining the results of a 1981 survey of 15,531 Grade 12 students (Table 3.2, p. 179) in 71 schools throughout British Columbia (Brown and Poiker, 1982). The purpose of this examination was to see if the effective accessibility of higher education, as reflected in projected participation, educational/occupational goals of students, and objective conditions related to student choices, was greater for students in metropolitan and large urban centres as compared to those in small urban centres and rural school districts.

Tables 5.6 and 5.7 provide demographic evidence that conditions in urban and metropolitan school districts were more favourable for educational activities than was the case in rural school districts. The lower percentage of Grade 12 males in rural school districts as compared to urban and metropolitan districts could be interpreted in two ways:

* There was more pressure on boys that on girls, rooted in both cultural and economic aspects of rural society, to quit school and seek work before Grade 12.

* There were relatively more job openings in traditionally male-dominated occupations (e.g. farming, logging, fishing, mining) in the rural economy, such that there was more incentive for boys than for girls to quit school before Grade 12.
Table 5.6: Gender of Grade 12 Students by Rural/Urban Background

<table>
<thead>
<tr>
<th>Gender</th>
<th>Rural</th>
<th>Urban 1</th>
<th>Urban 2</th>
<th>Metro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>44.7%</td>
<td>48.9%</td>
<td>48.9%</td>
<td>49.1%</td>
</tr>
<tr>
<td>Female</td>
<td>55.3%</td>
<td>51.1%</td>
<td>51.1%</td>
<td>50.9%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 5.7: Grade 12 Students Age 17 and 18 years By Rural-Urban Background

<table>
<thead>
<tr>
<th>Age</th>
<th>Rural</th>
<th>Urban 1</th>
<th>Urban 2</th>
<th>Metro</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 yrs.</td>
<td>52.6%</td>
<td>54.9%</td>
<td>56.5%</td>
<td>57.6%</td>
<td>56.3%</td>
</tr>
<tr>
<td>18 yrs.</td>
<td>39.6%</td>
<td>38.9%</td>
<td>37.1%</td>
<td>36.0%</td>
<td>37.2%</td>
</tr>
</tbody>
</table>

The fact that Grade 12 students were younger in urban and metropolitan districts than in rural districts indicated that age-grade retardation increased toward the rural end of the rural/urban spectrum.

Table 5.8 illustrates the rural/urban disparity in both education achievement of adults and in expected achievement of Grade 12 students. Both achievement of parents and expected achievement of students were substantially higher in metropolitan than in non-metropolitan school districts. Moreover, the less urban an area (school district), the lower the achievement of parents and the expected achievement of students. The same rural/urban variation in achievement occurred for mothers as for fathers, except that mothers were better educated as a group below the level of the Bachelor degree while fathers were better educated with respect to the Bachelor degree, Post-graduate degree, and technical/trade/business
Table 5.8: Education Achievement of Father Versus % of Grade 12 Students by Rural/Urban Background

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Rural</th>
<th>Urban 1</th>
<th>Urban 2</th>
<th>Metro</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>S</td>
<td>F</td>
<td>S</td>
</tr>
<tr>
<td>Under Grade 8</td>
<td>19.6</td>
<td>N.A.</td>
<td>13.5 N.A</td>
<td>13.6 N.A</td>
</tr>
<tr>
<td>Some High School</td>
<td>35.7</td>
<td>N.A.</td>
<td>31.6 N.A</td>
<td>29.6 N.A</td>
</tr>
<tr>
<td>Grade 12</td>
<td>16.6</td>
<td>10.9</td>
<td>19.3</td>
<td>14.8</td>
</tr>
<tr>
<td>Some Post-Secondary</td>
<td>7.5</td>
<td>24.5</td>
<td>6.9</td>
<td>21.1</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>3.0</td>
<td>10.4</td>
<td>4.3</td>
<td>13.6</td>
</tr>
<tr>
<td>Post-Grad. Degree</td>
<td>3.6</td>
<td>12.4</td>
<td>6.0</td>
<td>13.2</td>
</tr>
<tr>
<td>Technical, Trade, or Business</td>
<td>11.7</td>
<td>27.5</td>
<td>6.3</td>
<td>25.7</td>
</tr>
<tr>
<td>No Idea</td>
<td>4.3</td>
<td>14.3</td>
<td>6.3</td>
<td>11.6</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: F= Fathers  
S= Students

training. These findings confirmed the greater potential for upward social mobility toward the metropolitan end of the rural/urban spectrum.

The greater projected participation of metropolitan Grade 12 students than other students in post-secondary academic education, and especially in university education, is illustrated in Table 5.9. It was interesting to note, however, that rural Grade 12 students were more inclined than all other students to participate in post-secondary education at the community college level. This finding may reflect the relatively
Table 5.9: Grade 12 Decisions on Further Education by Rural/Urban Background

<table>
<thead>
<tr>
<th>Student Decision</th>
<th>Rural</th>
<th>Urban 1</th>
<th>Urban 2</th>
<th>Metro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Going to University</td>
<td>11.5%</td>
<td>11.5%</td>
<td>11.6%</td>
<td>27.6%</td>
</tr>
<tr>
<td>Going to College</td>
<td>23.1%</td>
<td>20.0%</td>
<td>21.1%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Maybe Going</td>
<td>3.7%</td>
<td>2.7%</td>
<td>2.7%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Not Going</td>
<td>61.6%</td>
<td>65.9%</td>
<td>64.7%</td>
<td>50.9%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

restricted job market for young people in the rural economy in comparison to urban areas.

Based on the foregoing findings regarding educational aspirations of Grade 12 students and the achievement of their parents, there was an expectation that urban and metropolitan students would be more inclined than rural students to aspire to occupations that involve lengthy and specialized academic preparation, high incomes and high level decision-making power; i.e. high status occupations. This expectation was well-founded, as shown in Table 5.10.

Table 5.10 shows that, in general, urban and metropolitan students aspired to a higher occupational status than did rural students. This was especially true for metropolitan students, who had the highest aspiration levels with respect to top managerial, highly technical, and professional occupations. Rural students, by contrast, were more likely than others to aspire to artistic, service, and/or manual occupations. They
Table 5.10: Occupational Goals of Grade 12 Students by Rural/Urban Background

<table>
<thead>
<tr>
<th>Occupational Goals</th>
<th>Rural</th>
<th>Urban 1</th>
<th>Urban 2</th>
<th>Metro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artistic</td>
<td>12.7%</td>
<td>12.0%</td>
<td>11.4%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Managerial</td>
<td>7.3%</td>
<td>9.9%</td>
<td>10.2%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Social/Medical</td>
<td>11.0%</td>
<td>9.8%</td>
<td>8.8%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Engineer/Architect/Planner</td>
<td>5.7%</td>
<td>7.6%</td>
<td>7.4%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Teaching</td>
<td>7.2%</td>
<td>6.1%</td>
<td>6.4%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Doctor/Dentist/Lawyer/Minister</td>
<td>3.9%</td>
<td>4.5%</td>
<td>5.0%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Police/Military</td>
<td>4.2%</td>
<td>2.5%</td>
<td>3.2%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Service Sector</td>
<td>4.0%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Skill Trades</td>
<td>9.0%</td>
<td>9.7%</td>
<td>7.6%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Other</td>
<td>35.0%</td>
<td>34.9%</td>
<td>37.0%</td>
<td>31.2%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

were also more inclined than others toward social/medical service professions, teaching, and police/military careers. These findings strongly suggest that the metropolis was the primary geographic locus for the formation of the technical/managerial elite, while human resources of the non-metropolitan areas were mainly channelled into support services and menial occupations.

Tables 5.11 and 5.12 provide some insight into the geographic and economic constraints that influence the choices available to Grade 12 students regarding further education. It was apparent that for rural students the option of living at home was less feasible than for metropolitan students (Table 5.11). Metropolitan students, having a wider range of accessible institutions to choose from, were more likely to base their choice on a convenient location. For all non-metropolitan
Table 5.11: Main Reasons for Grade 12 Students' Choice of a Post-Secondary Institution Ranked by Rural/Urban Background

<table>
<thead>
<tr>
<th>Reasons for Choice</th>
<th>Ranks by Rural/Urban Background</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural</td>
</tr>
<tr>
<td>Live at home</td>
<td>3</td>
</tr>
<tr>
<td>Program offered</td>
<td>1</td>
</tr>
<tr>
<td>Good reputation</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: Ranks are based on percentage of students citing on item as the major reason for their choice of an institution.

Table 5.12: Main Financial Sources of Grade 12 Students by Rural/Urban Background

<table>
<thead>
<tr>
<th>Financial Sources</th>
<th>Rural</th>
<th>Urban 1</th>
<th>Urban 2</th>
<th>Metro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relatives</td>
<td>26.4%</td>
<td>31.7%</td>
<td>34.6%</td>
<td>41.9%</td>
</tr>
<tr>
<td>Full-time work</td>
<td>20.4%</td>
<td>16.9%</td>
<td>15.8%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Part-time work</td>
<td>5.2%</td>
<td>8.2%</td>
<td>10.4%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Summer work</td>
<td>24.5%</td>
<td>22.8%</td>
<td>20.8%</td>
<td>19.4%</td>
</tr>
<tr>
<td>Personal savings</td>
<td>8.0%</td>
<td>8.8%</td>
<td>6.5%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Other</td>
<td>15.5%</td>
<td>11.5%</td>
<td>12.0%</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

students the key reason for the choice of an institution was the program offered. However, the possibility of living at home (i.e. convenience of location) was a more important factor for urban than for rural students, reflecting the greater spatial accessibility of community colleges to urban students.

Table 5.12 shows that metropolitan and urban students received more financial support from their families and had greater opportunities for part-time work, whereas rural students relied more on their own efforts to raise money via full-time work, summer work and personal savings. In general, it was
Table 5.13: Percentage of Grade 12 Students Certain of Obtaining Enough Funds for Further Education, by Rural/Urban Background

<table>
<thead>
<tr>
<th>Rural/Urban Group</th>
<th>Percentage of Students Confident of Obtaining Enough Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>35.8%</td>
</tr>
<tr>
<td>Urban 1</td>
<td>39.0%</td>
</tr>
<tr>
<td>Urban 2</td>
<td>42.4%</td>
</tr>
<tr>
<td>Metro</td>
<td>51.5%</td>
</tr>
</tbody>
</table>

Apparent that the more urban a student's home area, the more favourable were the spatial and economic conditions influencing the choice for further education. This finding was reinforced by the degree of certainty expressed by Grade 12 students about their ability to finance further education, as shown in Table 5.13. It was evident that the more urban the student's home area the more certain he/she was likely to be about raising enough money for further education. It was especially notable that metropolitan students were much more financially secure than other students.

5.2 Variations Among British Columbia School Districts

5.2.1 Variations in Educational Opportunity

The 75 school districts of British Columbia are shown in Figure 5.1. These districts correspond to communities or small groups of communities. The school districts are the local administrative units in charge of the daily operations of the education system at the primary, elementary, and secondary levels. Their main source of funds is grants received from the
Ministry of Education of the Government of British Columbia, although local revenues are also generated from property taxes. School districts are administered by locally elected boards whose authority is delegated to them by the provincial Minister of Education under the B.C. School Act.

If students in the various school districts of the province are to have equal opportunity to advance to post-secondary education, then conditions in the school, the family, and the community that may influence their academic performance should be relatively uniform. Under relatively uniform conditions children in various parts of the province would have approximately equal chances of success in school at the primary to secondary levels; this would have the effect of equalizing the effective accessibility of post-secondary education, subject to cultural and/or socioeconomic constraints on participation rates for different school districts.

If, on the other hand, conditions in the school, the home, and community differ substantially between school districts then the effective opportunity of advancement to post-secondary education can be expected to vary widely throughout the province. Thus, comparison of educational and social indicators for the school districts of British Columbia is a useful exercise in that it indicates the extent of geographic variation in learning and living conditions that may influence the effective accessibility of higher education. Implicitly, spatial variations in social well-being are linked to the spatial
SCHOOL DISTRICTS OF BRITISH COLUMBIA

Figure 5.1

SCHOOL DISTRICTS

1 Fernie
2 Cranbrook
3 Kimberley
4 Widdemere
7 Nelson
9 Castlegar
10 Arrow Lakes
11 Trail
12 Gran Falls
13 Kettle Valley
14 South Okanagan
15 Penticton
16 Keremeos
17 Princeton
18 Golden
19 Revelstoke
21 Armstrong/Salmon Arm
22 Vernon
23 Central Okanagan
24 Kelowna
25 North Thompson
27 Cariboo-Chilcotin
28 Quesnel
29 Williams Lake
30 South Cariboo
31 Merritt
32 Hope
33 Chilliwack
34 Abbotsford
35 Langley
36 Surrey
37 Delta
38 Richmond
39 Vancouver
40 New Westminster
41 Burnaby
42 Maple Ridge
43 Coquitlam
44 North Vancouver
45 West Vancouver
46 Sea Islands
47 Powell River
48 Howe Sound
49 Ocean Falls
50 Queen Charlotte
51 Prince Rupert
52 Smithers
55 Burns Lake
56 Neckako
57 Prince George
59 Peace River South
60 Peace River North
61 Greater Victoria
62 Sooke
63 Sooke
64 Gulf Islands
65 Cowichan
66 Lake Cowichan
68 Nanaimo
69 Qualicum
70 Alberni
71 Courtenay
72 Campbell River
75 Nanaimo
76 Agassiz-Harrison
77 Summerland
80 Interior
81 Fort Nelson
84 Vancouver Island W
85 Vancouver Island N
86 Creston-Koslo
87 Skidegate
88 Terrace
89 Shuswap
92 Nisgiva
distribution of educational opportunity through the mapping of social and educational indicators.

In order to portray the geographic variations in social well-being associated with educational opportunity, data on school conditions and on socio-economic variables in the school districts of British Columbia were obtained from the B.C. Teachers Federation, from the B.C. Ministry of Education, and from the 1981 Census. These data were then mapped using computer-aided methods in conjunction with the base map shown in Figure 5.1. The result was a cursory social geography of education in British Columbia. This material was useful for describing contrasts between metropolitan and non-metropolitan areas of British Columbia, for identifying areas of extreme deprivation or abundance, and for delineating spatial differences in social well-being within metropolitan British Columbia.

5.2.2 Learning Conditions

There was no pretense in the information to be presented here that the quality of the learning environment in the school could be perfectly represented by reference to a limited number of objective indicators based on school district data. Apart from the obvious incapacity of such an approach to capture micro-geographical variations at the scale of individual schools, there was also an important limitation on the type of data available; namely that attitudinal and perceptional data
derived from the personal views of individuals were not part of the data base. Nevertheless the indicators selected for mapping were considered to provide an interesting, if partial, profile of learning conditions at the school district level. Moreover, some of these indicators did incorporate subjective descriptive criteria in that they were pre-selected by educational agencies as representing a body of professional opinion on what constitutes standards of educational quality.

The quality of the learning environment is affected by the availability of specialized non-teaching personnel. For example, students receive help with research and reading skills from librarians, and they receive advice on both personal and academic problems from counsellors. The 1981 distribution of librarians and counsellors among the school districts of British Columbia is shown in Figures 5.2 and 5.3.

Figure 5.2 shows that the provision of librarian services varied widely in the non-metropolitan areas of British Columbia, whereas the level of such services was quite consistent throughout the Lower Mainland. Both the highest and lowest levels of service were found outside of metropolitan British Columbia, while service within the Lower Mainland was at a moderate level in all school districts.

In Figure 5.3, it is apparent that counselling services were more abundant in the school districts of southern British Columbia than in the north. The most well-serviced districts in
the province were found in the Lower Mainland, while the lowest levels of service were found in non-metropolitan districts. Within the metropolitan region, there was an east-west polarization of counselling services, with the highest level of service being found in the western part of the region and the least well-serviced districts being located in the eastern suburban Fraser Valley.

Another influence on the quality of the learning environment is the academic qualifications of the teaching staff. This is recognized by teachers' salary scales in that teachers with university degrees are more highly paid because they have more extensive training and are therefore considered to be more effective in the classroom than teachers who do not possess a degree.

The distribution of male and female teachers, respectively, without a university degree is shown in Figures 5.4 and 5.5. Female teachers without a degree were most highly represented in the central and southern Interior, and they were relatively scarce in the Lower Mainland, especially in the districts on the western extremity of Greater Vancouver. As the vast majority of primary and elementary teachers were female, such regional differences in professional credentials of female teachers may have had a large potential impact on differences in the quality of pre-secondary education. In this case it would appear that non-metropolitan school districts in the central and southern Interior were at a distinct disadvantage compared to districts
in metropolitan British Columbia. Within the Lower Mainland, school districts in the heavily urbanized western portion of the region were better off than suburban school districts in the eastern Fraser Valley.

The geographic distribution of professional credentials for male teachers (Figure 5.5) was less uneven than for females. Nevertheless, there were proportionally more male teachers without a university degree in non-metropolitan areas of the province than in the Lower Mainland. Male teachers were also less well-qualified in central and northern British Columbia than in the southern school districts. Throughout the Lower Mainland the academic credentials of the male teachers were favourable. As male teachers were more numerous in secondary rather than primary/elementary schools, the above findings were especially relevant to variations in the quality of secondary education. Southern British Columbia in general, and the Lower Mainland in particular, occupied the most favourable position with respect to qualifications of male teachers and, by implication, the quality of secondary teaching.

The pupil/teacher ratio (P.T.R.) is a very widely used indicator of classroom conditions at the primary to secondary grade levels. Most educators use the P.T.R. as an indicator of educational quality in the sense that the quality of instruction is presumed to decline if there are too many pupils per teacher. Teachers in very large classes will not have time for individualized instruction and will tend to use more superficial
Figure 5.4

PERCENTAGE OF FEMALE TEACHERS WITH NO DEGREE

Figure 5.5

PERCENT OF MALE TEACHERS WITH NO DEGREE
and objective methods for evaluating academic progress. In very large classes teaching methods will be geared to students of average ability, thus impeding the progress of students of low or high ability.

Figures 5.6 and 5.7, respectively, illustrate variations in the elementary and secondary P.T.R. for the school districts of British Columbia. Although there were no systematic differences between metropolitan and non-metropolitan districts, conditions were spatially polarized within the Greater Vancouver metropolitan region. The highest elementary pupil/teacher ratios in Greater Vancouver were found in the southern and eastern suburban school districts. The P.T.R. for metropolitan secondary school districts was also highest in suburban areas, but at both the eastern and western extremities of the region. The most notable feature of the provincial distribution of the P.T.R. was its wide variation for both the elementary and secondary school levels: maxima were almost double the values of minima. Given this extreme variability of the P.T.R. it seemed certain that the quality of learning conditions would also vary widely, depending on other local conditions.

The percentage of classes in a school district that exceed professionally recognized standards for maximum class size is also an indicator of educational quality. Where a large percentage of classes is in violation of class size criteria there is a potential for stress and a deterioration in the quality of the learning process. Teachers of excessively large
Figure 5.6

Figure 5.7
classes are faced with a heavy workload that may impact unfavourably on classroom organization, discipline and student evaluation. Class size criteria for British Columbia have been defined by the B.C. Teachers' Federation (B.C.T.F.). Maximum acceptable class size according to these criteria varies with the grade level and type of class being taught. Criteria for multi-grade classes are more stringent than for single-grade classes.

The 1981 percentages of oversized classes for elementary and secondary programs, respectively, in the school districts of British Columbia are shown in Figures 5.8 and 5.9. Of ten school districts with at least 27 percent of their elementary classes in violation of B.C.T.F. class size standards, seven were outside the Lower Mainland; the three inside the Lower Mainland were suburban districts of the eastern Fraser Valley. Thus, it was evident that the worst cases of oversized classes occurred in non-metropolitan districts. By contrast, all seven of the school districts with over 20 percent of secondary classes in excess of B.C.T.F. standards were located in the Lower Mainland. These districts were in the southern and eastern sectors of the Greater Vancouver region. It was clear from the above information that the most favourable conditions in terms of class size in metropolitan British Columbia occurred in the northwest corner of the Lower Mainland.

The quality of the learning environment is reflected in local rates of participation in the education system.
Figure 5.8

ELEMENTARY CLASSES VIOLATING THE B.C.T.F. CLASS SIZE CRITERIA

LEGEND:

% OF ELEMENTARY CLASSES:

45.00
36.00
27.00
18.00
9.00
0.00

EXPLANATORY TEXT

B.C.T.F. class for single grade classes: Kindergarten = 20; Primary = 26; Special classes 1: 20; Special classes 2: 16; Intermediate = 22.

BY B.C. SCHOOL DISTRICT

DATA FROM THE 1991 CENSUS OF CANADA

Figure 5.9

SECONDARY CLASSES VIOLATING B.C.T.F. CLASS SIZE CRITERIA

LEGEND:

% OF SECONDARY CLASSES:

25.00
20.00
15.00
10.00
5.00
0.00

EXPLANATORY TEXT

B.C.T.F. classes are single grade classes divided by 30.

BY B.C. SCHOOL DISTRICT

DATA FROM THE 1991 B.C.T.F. STATISTICS HANDBOOK

267
educational participation rate for a particular age group is defined by the percentage of persons in the group who participate in a specified type or level of education. In school districts where the quality of learning conditions is above average it can be expected that participation rates will be higher than elsewhere. The distribution of 1981 participation rates for British Columbia youth at the secondary and post-secondary levels is shown in Figures 5.10 and 5.11.

In Figure 5.10, it is apparent that secondary participation rates were generally higher in southern British Columbia than in the northern part of the province, with the exception of the Prince Rupert and Nishga districts. Secondary participation rates in the Greater Vancouver region were similar to those elsewhere in southern British Columbia, with the highest metropolitan rates being found in suburban school districts in the south and east of the Greater Vancouver region.

University participation rates for Grade 12 students were suggestive of the effectiveness of secondary programs in motivating students to continue their education, and indicated the level of cultural and economic support of communities for the pursuit of higher education. In 1981, the highest university participation rates for 1980-81 Grade 12 students were concentrated in metropolitan British Columbia, in five school districts comprising the northwest corner of the Greater Vancouver region: North Vancouver, West Vancouver, Vancouver, Burnaby, and Coquitlam. These districts were considered to form
the nucleus of metropolitan British Columbia along with the Greater Victoria and Saanich school districts (which also had high university participation rates). Suburban school districts of the southern and eastern Lower Mainland resembled non-metropolitan districts. A number of non-metropolitan school districts (Nishga) had surprisingly high university participation rates, in view of their low rank on many other dimensions of social well-being. It may be that in these areas the likelihood of students continuing their education to university level once they have reached Grade 12 increases substantially due to factors such as:

1. lack of access to a community college;
2. perception of university as an escape route from a limited local socio-economic environment;
3. special government subsidies to high academic achievers (e.g. Indian post-secondary students);
4. high effectiveness of local secondary programs in preparing students for post-secondary studies.

5.2.3 Adult Educational Achievement

The participation of adults in the education system and the educational credentials held by the adult population are also important to the learning and living environment within which both demand and opportunities for education are generated. By participating in the education system and by obtaining advanced educational credentials and adults set an example for youth and also place themselves (adults) in a better position to provide
for the pursuit of educational goals by their children. In addition, a well-educated adult population can provide a more varied and flexible labour force that is potentially important to the process of regional economic development.

Adult participation in the education system and the educational credentials of adults in the school districts of British Columbia are illustrated in Figures 5.12 and 5.13. Figure 5.12, shows that there were wide variations throughout the province in the percentage of adults attending school. However, it was clear that metropolitan education participation rates for adults were higher than participation rates elsewhere in British Columbia. Within Greater Vancouver the highest participation rates occurred in the western and northern extremities of the region. School districts in the suburban east Fraser Valley resembled non-metropolitan districts in their participation rates.

In Figure 5.13, the geographic distribution of adult educational credentials in British Columbia is illustrated through the mapping of an educational deprivation ratio, calculated for each school district as follows: \( R = \frac{UEA}{HEA} \) where \( UEA = \% \) of under-educated adults (those with Grade 8 or less) and \( HEA = \% \) of highly-educated adults (those with a post-secondary degree, certificate, or diploma). The value of \( R \) in Figure 5.13, is directly proportional to the height of the pillar centered on each school district while the division of the data into classes is indicated by the colour legend. It is clear from Figure 5.13
Figure 5.12

PERCENTAGE OF ADULT POPULATION ATTENDING SCHOOL

By B.C. School District

The color and height of each area represent the percentage of the adult population that is attending school. The average per B.C. school district is 35.6% of the adult population attending school.

Figure 5.13

RATIO OF UNDER-EDUCATED ADULTS TO HIGHLY EDUCATED ADULTS
that the 1981 adult population of the Lower Mainland was substantially better educated than the rest of the province. The most educationally deprived school districts in terms of adult credentials were located in the southern Interior and northwestern British Columbia. The largest values of R, indicating extreme deprivation, occurred in rural school districts (Nishga and Keremeos) while the lowest values, indicating extremely high credentials, were in the heart of metropolitan British Columbia (North Vancouver and West Vancouver).

Because secondary students often look on their parents as role models, the drop-out rate can be expected to be high in areas where the educational achievement level of the adult population is low. This expectation is confirmed in Figure 5.14. Low 1981 drop-out rates occurred in metropolitan school districts where adult educational credentials were high (tall ellipse). On the other hand, high drop-out rates were found in districts where adult educational achievement was moderate to low (short ellipses). The highest drop-out rates occurred in school districts in northwestern British Columbia, while the lowest rates occurred in metropolitan school districts (e.g. West Vancouver).

The educational achievement levels of adults were also linked to more generalized indicators of social well-being, as illustrated in Figure 5.15. Unemployment was found to be highest in 1981 in those school districts where adult educational
credentials were low (wide ellipse); conversely unemployment was lowest where educational achievement was very high (tall ellipse). The most favourable conditions occurred in the affluent northwestern corner of the metropolitan Lower Mainland, whereas the worst conditions occurred in school districts of the rural hinterland (e.g. Nishga, Ocean Falls, Keremeos).

Figures 5.16 and 5.17 illustrate the association between the distribution of educational credentials and wealth, respectively. It is apparent that 1981 per capita income was highest in those school districts where the adult population was best educated. High educational credentials and high per capita incomes were found in metropolitan school districts of the Lower Mainland, whereas low credentials and low incomes were typical of districts in the Interior and Northwest. West Vancouver stood out especially as the centre of high educational achievement and income, while Nishga and Keremeos were the lowest ranked districts in both educational credentials and income. The highest metropolitan per capita income values were over twice as great as those of the most deprived school districts.

5.2.4 Social Conditions

There are a number of living conditions in the school districts of British Columbia that may impact on the capacity of students to succeed in the school system. These include the ethnic/linguistic affiliation of families, family size, housing, and economic inequities within the labour force. In order to
understand the geography of effective educational opportunity it is therefore useful to know the spatial distribution of social conditions that may affect the home and community environments in which students live.

Those school districts in which there are relatively high concentrations of ethnic or linguistic minorities are often faced with specialized educational demands based on the cultural uniqueness of their client populations. The ability of the school system to identify and respond to the needs of prominent cultural minorities is therefore a significant aspect of the concept of effective educational opportunity. Figures 5.18 and 5.19, illustrate two examples of culturally distinct groups that present special challenges to the education system: non-anglophones and native Indians.

It is apparent in Figure 5.18, that the 1981 distribution of non-anglophone families was uneven. In the Lower Mainland Vancouver and Abbotsford had the highest percentages of non-anglophones. In non-metropolitan regions non-anglophones were mainly concentrated in rural school districts. The native Indian population of British Columbia (Figure 5.19), was proportionally most numerous in a zone stretching from the Central Interior to the Northwest Coast. In 55 of B.C.'s 75 school districts, located mainly in the south, native Indian language speakers were less than one percent of the population, while in the Nishga school district they were 21% of the population. Districts with a high percentage of Indian people
Figure 5.18

PERCENTAGE OF NON-ENGLISH SPEAKING FAMILIES

LEGEND:

<table>
<thead>
<tr>
<th>Percentage of Total Families</th>
<th>Explanatory Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.00</td>
<td>Obtain where main language is not English. May express more difficulty with school work especially in the lower grades.</td>
</tr>
<tr>
<td>24.00</td>
<td></td>
</tr>
<tr>
<td>18.00</td>
<td></td>
</tr>
<tr>
<td>12.00</td>
<td></td>
</tr>
<tr>
<td>6.00</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>B.C. average is 0.09%</td>
</tr>
</tbody>
</table>

BY B.C. SCHOOL DISTRICT

DATA FROM THE 1981 B.C.T.F STATISTICS HANDBOOK

Figure 5.19

PERSONS Whose MOTHER TONGUE IS A NATIVE INDIAN LANGUAGE
often coincided with rural, economically stagnant areas of the province where housing and urban cultural amenities were substandard, compared to the rest of the province.

Even though post-secondary education is officially available to all students regardless of their respective socio-economic backgrounds, there are variations in the home environments of students that may impede the progress of some toward higher education, and promote the progress of others. The size of the family in relation to its income, the size and quality of the family dwelling and the occupations of parents are likely to influence the ability of the student to achieve academic success and advanced education. Thus, conditions outside the education itself may play a role in determining the effective accessibility of higher education for individual students. Because the spatial distribution of conditions in the home is uneven, regional disparities in access to education may be reinforced, especially with regard to the metropolitan/non-metropolitan dichotomy.

Figures 5.20 and 5.21 illustrate the geographic variation in family size and high density housing throughout the school districts of British Columbia. Large families, especially those with strict constraints on income and housing, must spread a limited pool of family resources over a larger than average number of children. It is evident from Figures 5.20 and 5.21 that both family size and the incidence of densely occupied housing (1 or more persons per room) increased from south to
north in British Columbia. Family size and housing density were most favourable in the metropolitan southwest corner of the province, and least favourable in the rural northwest region. Within the Lower Mainland the Vancouver school district had the highest incidence of large families and crowded housing.

A high local concentration of poor quality housing is an indicator of the presence of socio-economic conditions that impede academic achievement and effective access to higher education. Figure 5.22 illustrates regional disparities in housing quality in British Columbia. In 1981, the quality of housing in school districts of the metropolitan southwest region was consistently higher than housing quality elsewhere in the province. In non-metropolitan school districts housing quality varied widely.

The worst conditions were found in the rural southern Interior e.g. Kettle Valley and in the northwest part of the province (e.g. Ocean Falls, Nishga). In northwestern British Columbia there was a striking convergence between school districts with a high percentage of unemployment, large families, crowded housing, and housing in disrepair. These same conditions tended to be closely associated with the spatial distribution of primary industry workers, as shown in Figure 4.23. Primary industry has been historically associated in British Columbia with economic instability due to seasonal and cyclical fluctuations, and geographically associated with small rural communities that depend on the harvesting of natural
**Figure 5.20**

FAMILIES WITH FOUR OR MORE CHILDREN AT HOME

**Figure 5.21**

PERCENT OF DWELLINGS CONSIDERED TO BE HIGH DENSITY HOUSING
resources. The three school districts with the worst 1981 unemployment in British Columbia were Ocean Falls, Keremeos, and Nishga; these were also districts characterized by large families, crowded and low quality housing, and a high percentage of primary sector workers.

5.3 Summary

This chapter has demonstrated that in British Columbia effective educational opportunity increases as the degree of urbanization of communities increases. It has also identified consistent regional and sub-regional variations in socio-economic conditions that influence educational opportunity. The basic spatial unit used in this geographic inventory of social conditions was the school district. Because school districts coincide with communities or small groups of similar communities they are useful for this purpose, especially when school districts are classified by rural-urban categories.

In general, objective economic conditions (e.g. employment, income) are less favourable to educational opportunity in rural and small town British Columbia than in large urban and metropolitan centres. Likewise, adult educational achievement and participation in formal education decline in the province as the degree of urbanization declines.

Most social and cultural conditions related to educational opportunity also are more favourable in the more heavily
urbanized parts of the province. The major exception to this is the heavy concentration of non-anglophones and immigrants in metropolitan school districts. Cultural and language minority groups have relatively less than average access to higher educational opportunity because of linguistic and cultural obstacles. For the most part, however, social conditions are more conducive to educational opportunity in large urban centres than in small towns and rural areas.

There is a parallel between, on the one hand, rural-urban disparities in living conditions and, on the other, the educational/occupational aspirations and achievements of the adult population. In the more urbanized areas, and especially in metropolitan British Columbia, Grade 12 students are relatively more inclined to aspire to high ranked managerial, technical and professional careers that require extended post-secondary education. Likewise, as the degree of urbanization of the home communities of these students rises the educational and occupational status of their parents also rises, and there is a corresponding increase in the level of family financial support for the students' future educational pursuits.

The mapping of educational and social indicators by British Columbia school district has identified areas of the province where extremes of high and low educational opportunity occur; it has also established that geographic variations in effective educational opportunity are quite substantial. The worst instances of unfavourable learning and living conditions are
found in non-metropolitan communities of the rural southern Interior and northwestern British Columbia. The most positive conditions are concentrated in the northwest sector of Greater Vancouver, i.e. in those school districts most heavily occupied by upper middle class residents. Educational credentials in the adult population are highest in affluent communities and lowest in poor communities. The northwest part of metropolitan Vancouver stands out as the apex of the social hierarchy, the area of greatest educational opportunity, and the focal point of the highest educational credentials in the province.
6.1 **Regional Disparities in Effective Access**

The regional distribution of population in British Columbia, is very uneven, as illustrated in Figure 6.1. There is a very high concentration of people in the metropolitan southwest corner of the province, comprising the Greater Vancouver and Greater Victoria areas. As a result of this unbalanced population distribution the more sophisticated institutions of culture, including higher education facilities, have tended to cluster in metropolitan British Columbia. The spatial centralization of higher education facilities within the Lower Mainland-Greater Victoria metropolitan region has left hinterland regions of the province very much at a disadvantage in terms of access to the full spectrum of higher education opportunities. This problem has been reflected in a substantial gap between metropolitan and non-metropolitan participation rates at the university level of the post-secondary system, as shown in Figure 6.2.

Since the 1960's the main policy instrument of the provincial government to offset regional disparities in access to higher education has been a system of regionalized community colleges. There are currently 15 such colleges in British Columbia. The service areas of these institutions are
University Freshmen as percentage of Grade XII Enrolment in Previous Year

SOURCE: C. GALLAGHER, OFFICE OF INSTITUTIONAL RESEARCH UNIVERSITY OF VICTORIA, 1987

*Figure 6.2*

Metropolitan refers to Victoria and Vancouver, Non-Metropolitan to the rest of the Province.
aggregations of public school districts, known as college regions. The boundaries of the 15 college regions of British Columbia are shown in Figure 6.3. This system of college regions was devised for the British Columbia Post-Secondary Education Enrollment Forecasting Committee by T.K. Peucker in 1969 and has served since then as the basic spatial grid for post-secondary institutional research and planning in the province of British Columbia.

As a means of addressing regional disparities in educational opportunity the community college system has limitations. The main benefit of community colleges to hinterland residents is the reduction of distance costs involved in accessing higher education. However, as some of the colleges in non-metropolitan British Columbia have very large service regions and serve a widely dispersed population (e.g. Cariboo College, College of New Caledonia, Northern Lights College) students from small outlying communities must still absorb considerable relocation costs to attend a college. Another limitation of the college system is that it cannot duplicate the variety and quality of programs offered at the universities, notwithstanding the possible benefits of smaller scale institutions in terms of greater personal contact between instructors and students.

The main limitation of community colleges, however, is that they address the problem of regional disparity in access to education mainly on a spatial level, i.e. they do not address regional disparities in effective access to education that are
FIGURE 6.3

COLLEGE REGIONS OF BRITISH COLUMBIA

LEGEND

1. Vancouver Community College
2. Douglas College
3. Kwantlen College
4. Capilano College
5. Camosun College
6. Malaspina College
7. North Island College
8. Fraser Valley College
9. Okanagan College
10. Selkirk College
11. East Kootenay College
12. Cariboo College
13. New Caledonia College
14. North Kootenay College
15. Northern Lights College
based on differences in the socio-economic structure of regions. College regions correspond roughly to regional economic units within the space economy of British Columbia. The demographic and economic structure of these units varies widely from the five college regions in highly urbanized industrial-commercial core in the southwest corner of the province, to the more rural, natural resource based hinterland economy that characterizes the non-metropolitan college regions.

In order to assess the full extent of regional disparities in effective access to higher education within British Columbia it was necessary to examine the regional geography of socio-economic conditions associated with adult participation and achievement in education. Educational and social indicators from the B.C. Ministry of Education and from the 1981 Census, respectively, that described regional educational opportunity in both quantitative and qualitative terms were aggregated and mapped by college region. The purpose of this exercise was to identify which regions were, respectively, most and least well-positioned to benefit from the post-secondary education system, given prevalent local conditions in post-secondary education and in socio-economic conditions within the 15 college regions.
6.2 Conditions in the Education System

The relative adequacy in the provision of post-secondary educational services in the college regions of British Columbia was assessed with reference to a number of indicators obtained from the B.C. Ministry of Education. The goal was not to establish whether the provision of services was adequate or inadequate, but rather to determine whether there was much variation between regions in the level of service provided in relation to demands being made on the system. Indicators as to the level of instructional services in relation to the number of students using these services were especially useful for this purpose.

Figure 6.4 portrays the regional profile of college staffing levels (i.e. professional and instructional staff) for non-vocational programs in 1981. There were wide variations in this indicator of educational provision among the 15 college regions. The four colleges with the highest staffing levels were Capilano, Douglas, Okanagan, and Selkirk. Staffing levels in these regions were approximately twice as high as in the four colleges with the lowest levels, viz. Fraser Valley, Kwantlen, Vancouver, and North Island. To what exact extent the quality of service provided depends on staffing levels was not known. However, given the large regional differences in staffing levels it would seem plausible that there were qualitative differences associated with staffing levels.
Figure 6.4

1981 STAFF PER 100 STUDENTS IN NON-VOCATIONAL PROGRAMS

*LEGEND*

<table>
<thead>
<tr>
<th>PROFESSIONAL &amp; INSTR. STAFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.00</td>
</tr>
<tr>
<td>6.75</td>
</tr>
<tr>
<td>5.50</td>
</tr>
<tr>
<td>4.25</td>
</tr>
<tr>
<td>3.00</td>
</tr>
</tbody>
</table>

THE B.C. AVERAGE IS 3.95

1 BY B.C. COLLEGE REGION

DATA FROM THE B.C. MINISTRY OF EDUCATION
Comparisons of faculty workloads in community colleges were based on two workload indicators: median number of students per full-time, non-vocational instructor and median class size for non-vocational lecture sessions. These two indicators are mapped in Figures 6.5 and 6.6, respectively. Faculty workload levels provide an indication of the effective student demand for post-secondary education. In addition, large differences in faculty workload also indicate the potential for impacts on the quality of instructional services that may arise from overloading the system at a given location. Such information also provided insight into the local demographic structure of the population. In heavily populated areas greater student demand can be expected to place a greater burden on instructional staff.

The highest student demand for non-vocational education relevant to the supply of instructors in 1981 among the 15 B.C. college regions occurred in the Okanagan and Capilano regions, as indicated in Figures 6.5 and 6.6. Pressure on full-time instructional staff was lowest in the Northwest and Northern Lights regions. These differences can be explained at least partially in terms of demography. The service regions of Capilano and Okanagan are more compact and densely populated than the regions of Northwest and Northern Lights. Capilano, in particular, is located in a metropolitan area where spatial access to the college is relatively easy for a large number of students. By contrast, the pattern of population distribution in the Northwest and Northern Lights College regions is quite
Figure 6.5

MEDIAN # OF STUDENTS PER FULL-TIME NON-VOCATIONAL INSTRUCTOR

*LEGEND*

<table>
<thead>
<tr>
<th>STUDENTS/INSTRUCTORS</th>
<th>96.00</th>
<th>84.00</th>
<th>72.00</th>
<th>60.00</th>
<th>48.00</th>
</tr>
</thead>
</table>

THE B.C. AVERAGE IS 70.87

BY B.C. COLLEGE REGION

DATA FROM THE B.C. MINISTRY OF EDUCATION

Figure 6.6

MEDIAN CLASS SIZE, NON-VOCATIONAL LECTURE SESSIONS

*LEGEND*

<table>
<thead>
<tr>
<th>STUDENTS/CLASS</th>
<th>28.00</th>
<th>24.00</th>
<th>20.00</th>
<th>16.00</th>
<th>12.00</th>
</tr>
</thead>
</table>

THE B.C. AVERAGE IS 18.53

BY B.C. COLLEGE REGION

DATA FROM THE B.C. MINISTRY OF EDUCATION
dispersed, and many students do not have immediate spatial access to the main campus of the college. The existence of small satellite campuses in these two regions has accommodated the spatial fragmentation of the student population. It may also be that significant numbers of students from northern British Columbia prefer to attend the University of Alberta in Edmonton rather than attend a local community college. Thus, small class sizes, and relatively light faculty workloads had been maintained as of the 1981 academic year.

The level of participation in post-secondary education reflects the effective accessibility of higher education in a given area. The more favourable local conditions are in terms of location, economic variables, and culture, the greater the potential participation of the adult population in the education system. Participation of adults in the education system is compared for the college regions of British Columbia in Figures 6.7 and 6.8.

The relative deprivation in effective educational opportunity (See p. 35) for a regional population is represented by the percentage of adults (i.e. persons age 15 years or over) not attending school. Figure 6.7, shows that in cultural, economic and logistical terms the education system in 1981 was more accessible to adults in the southwest metropolitan portion of British Columbia than to those in the non-metropolitan regions of the province. This was reflected in higher percentages of adults outside the Lower Mainland who were not
Figure 6.7

PERSONS 15 YRS. AND OVER NOT ATTENDING SCHOOL

Figure 6.8

1980-81 GRADE 12 STUDENTS IN UNIVERSITY IN 1981

DATA FROM THE B.C. MINISTRY OF EDUCATION
attending school. Adult participation in education was lowest in the Selkirk and Okanagan college regions. Both of these were regions with prominent contingents of ethnic minority groups who may be less inclined to participate in the education system because of cultural and/or linguistic barriers.

The disparity between post-secondary participation rates in metropolitan and non-metropolitan regions, respectively, was further demonstrated by regional differences in the 1981 university participation rates for 1980-81 Grade 12 students, shown in Figure 6.8. Metropolitan participation rates were higher than those elsewhere in the province. The Vancouver region had the highest participation rate, while the Northern Lights region had the lowest. The only non-metropolitan region with a university participation rate on par with those in the Lower Mainland was East Kootenay. This may have been partially due to the close proximity of the East Kootenay region to universities in Calgary and Lethbridge.

6.3 Social Conditions

An important dimension of the regional social environment is the education achievement level of the adult population. It is important in its own right as an aspect of human well-being, but also because educational credentials are used as cultural currency to purchase both material security (jobs, income) and social status (decision-making power, influence, prestige). In
addition, adult educational achievement may influence the educational choices of youth as secondary students look to adults in their homes and communities for role models.

The distribution of the educational credentials of the adult population can be portrayed through the use of the educational deprivation ratio ($R$), calculated as shown on p. 271. A value of the $R$ ratio above unity signifies regional educational deprivation, indicating a greater percentage of under-educated than of highly educated adults. When the value of $R$ is below unity this reflects the presence of a relatively well-educated regional adult population.

Figure 6.9, shows that in 1981 the least deprived college regions in terms of the educational credentials of adults were the five regions comprising the metropolitan area of the Lower Mainland and Greater Victoria: Capilano, Camosun, Vancouver, Kwantlen and Douglas college regions. Of these five, the Capilano and Camosun regions were in the most favourable positions, with $R$ values of below 0.37. The most deprived college regions ($R$ values ranging from 1.24 to 1.32) were those in the central and northern Interior: Okanagan, Cariboo, and New Caledonia. All of the non-metropolitan regions were relatively deprived in terms of the educational deprivation ratio. High educational credentials were clearly concentrated among adults of the metropolitan southwest.
Figure 6.9

EDUCATIONAL ACHIEVEMENT RATIO

College Regions of B.C.

Figure 6.10

PERCENTAGE OF TOTAL POPULATION IN 0-19YRS AGE GROUP

*LEGEND*

<table>
<thead>
<tr>
<th>% of Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.00</td>
</tr>
<tr>
<td>35.00</td>
</tr>
<tr>
<td>30.00</td>
</tr>
<tr>
<td>25.00</td>
</tr>
<tr>
<td>20.00</td>
</tr>
</tbody>
</table>

THE B.C. AVERAGE IS 32.30

1 BY B.C. COLLEGE REGION

DATA FROM THE 1981 CENSUS OF CANADA
The potential demographic pressure on the post-secondary educational system at the regional level is indicated by the percentage of the total population in the 0-19 years age group. Escalation in the need for post-secondary education is likely to occur in regions with a high percentage of persons of school age, especially if people leaving the secondary education system to enter the job market, remain unemployed and require upgrading or training to improve their employability. As illustrated in Figure 6.10, the percentage of persons age 0-19 years in 1981 increased with increasing distance from the metropolitan nucleus in southwestern British Columbia. Northern college regions had a younger population than did southern regions. Vancouver had the lowest percentage of youth (21.0%) while the highest percentages were found in the Northern Lights (39.0%) and Northwest (40.0%) regions.

The presence of significant ethnic minorities in a college region may pose a special challenge to educators by virtue of the need for special culturally-adapted programs. For example, non-anglophones may require courses in English as a second language. Prominent ethnic minorities may wish to be represented in the post-secondary curriculum through courses focusing on their cultural heritage. Native Indian communities are often the most deprived in terms of both educational credentials and socio-economic problems, and may require special compensatory programs in upgrading, local government administration and teacher training (Brown, 1986).
The regional distribution of non-anglophones and native Indians in British Columbia is portrayed in Figures 6.11 and 6.12, respectively. The Vancouver college region had the highest percentage of non-anglophones (34.0%), due to its large immigrant population. Other above-average concentrations of non-anglophones occurred in the Fraser Valley, Selkirk, and Northwest college regions. The lowest percentages of non-anglophones were found on southern Vancouver Island. Thus, it can be seen that the greatest potential need for post-secondary programs relevant to the educational needs of immigrant ethnic minorities was in the metropolitan centre of Vancouver.

On the other hand, there was a generally higher proportional concentration of native Indians in the northern and central Interior, and especially in the Northwest, than in southern British Columbia. In general the highest percentages of Indians were found in large, rural college regions. In these regions effective access to post-secondary education for the native Indian population may imply a need for special, culturally-adapted programs that take into account both the unique ethnic traits of native communities as well as their particularly serious socio-economic problems.

Living conditions within the home have an influence on the effective accessibility of higher education to household members. Even if post-secondary facilities are physically accessible, a shortage of living space, poor quality housing or low income may create sufficient stress within the family unit
Figure 6.11

% OF POPULATION WITH A LANGUAGE OTHER THAN ENGLISH AS THEIR MOTHER TONGUE

*LEGEND*

% OF TOTAL POPULATION

| 38.00 | 30.00 | 24.00 | 18.00 | 12.00 | 6.00 |

THE B.C. AVERAGE IS 14.07%

1 BY B.C. COLLEGE REGION

DATA FROM THE B.C. MINISTRY OF EDUCATION

---

Figure 6.12

PERCENTAGE OF TOTAL POPULATION WITH NATIVE INDIAN AS MOTHER TONGUE

*LEGEND*

% OF TOTAL POPULATION

| 2.76 | 2.07 | 1.39 | 0.70 | 0.01 |

THE B.C. AVERAGE IS 0.46

1 BY B.C. COLLEGE REGION

DATA FROM THE 1981 CENSUS OF CANADA
to distract family members from the pursuit of educational goals. In this sense, mere physical access alone to education facilities does not render higher education effectively accessible if the potential student is faced with unsurmountable constraints on his/her quality of life and socio-economic status.

It has been shown elsewhere (pp. 194, 244, 566, 567) that there is a positive correlation between high density housing (i.e. 1 or more persons per room) and other social indicators that reflect a low standard of living (e.g. low income, unemployment, low educational achievement, etc.). In a home environment where there is crowding, and especially where other conditions of economic stress are present, it may be very difficult for the individual to concentrate on academic pursuits. If there are marked regional variations in housing density then students in regions where overcrowded housing is more prevalent may experience a lower level in the effective accessibility of post-secondary education, due to their unfavourable living conditions.

Figure 6.13, depicts the regional distribution of very high density housing occupancy in British Columbia. It is clear from this illustration that the lowest incidence of crowded housing in 1981 occurred in the metropolitan southwest corner of the province, i.e. Lower Mainland and Greater Victoria. As distance from the metropolis increased, so did the percentage of housing units that were overcrowded. The most prevalent conditions of
housing occurred in Northwest and Northern Lights college regions. Thus, it was apparent that there was a rural/urban dichotomy in housing conditions as regards overcrowding.

A somewhat similar situation prevailed with respect to housing quality, as shown in Figure 6.14. The percentage of the regional housing stock comprised of dwellings in need of major repairs was lowest in metropolitan British Columbia. On the other hand, the regions with the highest percentages of dwellings in disrepair were located in peripheral areas of the province. As in the case of crowded housing, the Northern regions of British Columbia had the worst housing conditions in terms of the percentage of housing in disrepair.

6.4 Economic Conditions

The distribution of wealth that is embodied in private property is reflected in the geographic distribution of housing values. Wealth itself is often a key requirement in achieving effective access to higher education, and in supporting educational achievement. Residents of high value homes possess the economic resources that stimulate and sustain a personal commitment to higher educational objectives. In contrast, people who can only afford housing of low value may not possess the financial means to purchase access to higher education. As the expense of participating in post-secondary education rises, families of modest means will find it increasingly difficult to
Figure 6.13

VERY HIGH DENSITY HOUSING
(MORE THAN 1.5 PERSONS PER ROOM)

*LEGEND*

% OF TOTAL DWELLINGS

5.00
4.00
3.00
2.00
1.00
0.00

THE B.C. AVERAGE IS 1.17%

BY B.C. COLLEGE REGION

DATA FROM THE 1981 CENSUS OF CANADA

Figure 6.14

% OF TOTAL DWELLINGS IN NEED OF MAJOR REPAIR

*LEGEND*

% OF TOTAL DWELLINGS

10.00
8.00
6.00
4.00
2.00

THE B.C. AVERAGE IS 0.29

BY B.C. COLLEGE REGION

DATA FROM THE 1981 CENSUS OF CANADA

306
meet the cost of educating family members beyond the secondary level.

The regional distribution of housing units valued at $35,000 or less in 1981 is illustrated in Figure 6.15. The presence of housing in this low price range in an area would indicate that the local population is of relatively modest financial means and therefore, less likely than owners of more valuable housing to be able to afford the cost of higher education. It is apparent in Figure 6.15 that British Columbia was geographically polarized with respect to the distribution of low value housing. In general, the lowest percentages of such housing were found in the metropolitan southwest. As distance from the metropolitan centre increased, so did the percentage of low-priced housing. In the geographic periphery of the province, housing of low value was over four times as prevalent as in the metropolitan centre (Lower Mainland and Greater Victoria).

The regional distribution of housing units of high value ($80,000 or more), as shown in Figure 6.16, was almost the exact opposite of the pattern for low value housing. There was in 1981 a heavy concentration of high value housing in the metropolitan Lower Mainland and Greater Victoria. The highest percentage of such housing were found in suburban college regions in the Vancouver area. With increasing distance from the metropolitan centre the proportion of high value housing declined. The distribution of wealth implicit in the distribution of residential real estate values indicated clearly there was a
Figure 6.15

Dwellings valued at $35,000 or less

*LEGEND*

% of total dwellings

20.66
15.66
13.04
9.26
5.46
1.67

The B.C. average is 10.49%

1 by B.C. college region

Data from the 1981 Census of Canada

Figure 6.16

Housing valued at $80,000 or more

*LEGEND*

% of total dwellings

69.00
59.00
47.00
36.00
25.00
14.00

The B.C. average is 36.095%

1 by B.C. college region

Data from the 1981 Census of Canada
concentration of wealth in metropolitan British Columbia. From this it can be inferred that metropolitan residents were in a better position than non-metropolitan residents to be able to afford the cost of higher education. When the distribution of housing valued at $200,000 or more was considered metropolitan/non-metropolitan disparities in this form of wealth were even more striking. The percentage of such housing in the Capilano college region was over 5 times higher than in non-metropolitan regions of the province.

The regional labour market may have an important influence in the demand for education. In an active labour market, income created by employment of the labour force may generate expansionary impacts on the post-secondary education system in two ways:

1. increased spending of personal disposable income on higher education;

2. strengthening of the pool of taxable wealth in the community that is used to finance public investment in education.

In regions where there is high unemployment economic opportunity may be re-distributed via the education system through programs designed to upgrade the education and skills of unemployed people. If the result is a more flexible and mobile workplace this can relieve the problems of a stagnant regional economy, either through re-structuring of the labour market or through out-migration of workers who gain skills that make them employable elsewhere.
Figure 6.17 shows the regional distribution of unemployment in 1981. It is clear from this information that unemployment rates were lowest in the metropolitan college regions and highest in the hinterland regions of British Columbia. The worst unemployment was found in the northwest corner of the province. With the exception of the East Kootenay, 1981 unemployment was substantially higher in the geographic periphery of the province than at the metropolitan centre. In Figure 6.18, it is apparent that regions of high unemployment were also regions of low per capita income, and that per capita income was highest in the metropolitan suburbs of the Lower Mainland. Per capita income was lower in the Vancouver and Camosun college regions than what could be expected on the basis of unemployment rates. This is probably due to high population densities and to relatively large percentages of persons in the dependant age categories (e.g. retired persons) in these regions.

While per capita income does not tell us how evenly wealth is distributed within the population of a given area, it does provide a general indication of wealth in relation to the size of the regional population. It was evident that in 1981 the metropolitan southwest of British Columbia, particularly in the more affluent suburban areas of Vancouver, possessed significantly more wealth on a per capita basis than did the rest of the province. This indicated that metropolitan residents were, as a group, better equipped to deal with the financial requirements of participation in higher education. In this
Figure 6.17
UNEMPLOYMENT RATE FOR 1981

*LEGEND*

% OF TOTAL LABOUR FORCE
11.47
10.14
9.81
7.48
6.15
5.82

BY B.C. COLLEGE REGION

DATA FROM THE 1981 CENSUS OF CANADA

Figure 6.18
PER CAPITA INCOME

*LEGEND*

$1,000'S PER PERSON
11.00
9.50
8.00
6.50
5.00

BY B.C. COLLEGE REGION

DATA FROM THE 1981 CENSUS OF CANADA
sense, effective access to higher education was higher in metropolitan British Columbia than elsewhere. It is worth noting that the college region with the highest per capita income (Capilano) had a level of wealth over twice that of the region with the lowest per capita income (Okanagan).

The geographic association between educational achievement, unemployment and the structure of the regional labour market is depicted in Figures 6.19 and 6.20. The educational credentials of the adult population were highest in the metropolitan southwest of the province, as indicated graphically by tall, narrow ellipses representing the metropolitan college regions. In these same metropolitan college regions, unemployment was low. The highest 1981 unemployment rates were found in regions that were heavily dependent on employment in resource-extracting primary industries, e.g. forestry, mining, farming, and fishing. These were also regions where the educational credentials of adults were low, as shown in Figure 6.20 by short, wide ellipses representing these regions.

In general, there were strong similarities between the respective hinterland distributions of low educational credentials, unemployment, primary sector employment and low per capita incomes. On the other hand, metropolitan British Columbia had the highest levels of adult educational achievement in association with low unemployment rates, high per capita incomes, and a low percentage of the workforce engaged in primary sector activities. It would appear that the more
A diversified metropolitan economy attracted more highly credentialed workers while at the same time creating economic conditions favourable to material support for, and participation in, higher education. In this context, higher education was not only more geographically accessible to metropolitan residents, but also more accessible in terms of economic conditions that permit effective access to the post-secondary system.

6.5 Government Financial Aid to Students

Given the sharp disparity that has been identified in socio-economic conditions between metropolitan and nonmetropolitan college regions, if government policies were to compensate non-metropolitan students for their socioeconomic disadvantages then there would be a concentric pattern in the distribution of student aid in British Columbia, with metropolitan college regions receiving proportionally the least student aid and hinterland regions receiving the most. As distance from the metropolis increased, so would the per student amount of government aid received.

The actual distribution of provincial and federal financial aid to college students in the 1983-84 academic year is shown in Figures 6.21 and 6.22. Policies designed to compensate students for socio-economic and locational handicaps should produce a proportionally greater increase in the effective accessibility of higher education in economically depressed and/or
geographically remote regions. Students in such regions who have the ability and motivation to pursue post-secondary studies but lack the financial means are highly vulnerable to economic and spatial barriers in the absence of government financial support.

As can be seen in Figure 6.21, the 1983-84 pattern of provincial aid to college students was not consistent with the regional variation in economic conditions that was described earlier. Although the highest levels of per student support were found to be in hinterland college regions, the lowest levels of support were found in other hinterland regions. On the basis of imputed need, it was expected that northern regions of the province would receive the highest per student levels of support. This proved not to be the case. Metropolitan college regions, being located in the areas of highest socio-economic well-being, could be expected to receive the lowest per student levels of aid. However, these regions received higher per student levels of aid than did most hinterland regions.

The lowest 1983-84 per student provincial aid levels occurred in rural and geographically peripheral college regions. This ran counter to the principle of providing depressed regions with a financial compensation proportional to their relative disadvantage. For example, Northwest college region in 1981 suffered the highest unemployment rate in British Columbia. However, in 1983-84, this region was among the three least-assisted regions of the province in terms of B.C. government student aid. Assuming relative unemployment had not
Figure 6.21

B.C. GOVERNMENT AID TO COMMUNITY COLLEGE STUDENTS
1983–1984

+LEGEND+

$ PER FULL-TIME STUDENT
235.00
180.00
15.00
THE B.C. AVERAGE IS $77.30

BY B.C. COLLEGE REGION

DATA FROM THE B.C. MINISTRY OF EDUCATION

Figure 6.22

CANADA STUDENT LOAN FUNDS ALLOCATED TO B.C.
COMMUNITY COLLEGE STUDENTS: 1983 – 1984

+LEGEND+

$ PER FULL-TIME STUDENT
777.00
754.75
532.50
310.35
88.00
THE B.C. AVERAGE IS $159.19

BY B.C. COLLEGE REGION

DATA FROM THE B.C. MINISTRY OF EDUCATION
decreased in the region since 1981, college students in this part of the province were doubly disadvantaged by high regional unemployment and a low level of government support.

Another anomaly in the distribution of provincial student aid occurred in the North Island college region, which received the lowest allocation in B.C. of only $17 per student. It is noteworthy that North Island College is an entirely distance education institution without any significant campus-based programs. It would appear that distance education students were either less inclined to depend on government assistance or less well-informed of it than campus-based students at other colleges. It is easy to understand the provincial government's recent enthusiasm for distance education given the very modest demands made by distance education students on the provincial student aid system. Whether this situation is socially equitable, however, is debatable given the enormous gap between the highest per student rate of provincial assistance ($277 per student in Selkirk region), and the minimal $26 per student in the North Island region.

Figure 6.22, shows that the 1983-84, regional distribution of Canada Student Loan Funds to college students in British Columbia was no more comensurate with the concept of geographic and/or socio-economic compensation. The lowest per student funding levels went to the four rural college regions of Fraser Valley, North Island, Northwest and Northern Lights. This is regrettable as these same regions suffer from perennial high
unemployment, and also received very low levels of provincial student aid in 1983-84. The highest level of federal financial aid for B.C. college students was $977 per student in the Selkirk region. This was over 10 times higher than the $88 per student granted in the North Island college region.

Again it appeared that distance education students were either more financially self-sufficient or less well-informed about government student aid.

Between 1982-83 and 1983-84 there was a dramatic drop in B.C. government student aid, only partially offset by a large increase in Canada Student Loan allotments, as illustrated in Figures 6.23 and 6.24. Unfortunately, those regions that suffered the greatest impacts from provincial government cutbacks were not rescued by a compensating increase in Canada Student Loan funds. The Northwest region, for example, was among the hardest hit but also received less Canada Student Loan funding in 1983-84 than in the previous year. As this was a region of exceptionally high unemployment, there appears to have been virtually no protection afforded to college students in this region from the excessive economic hardship sustained in recent years. Indeed, there appears to have been very little, if any, attention paid by the government student aid policy to the systematic regional economic disparities that have been shown to exist in British Columbia.
Figure 6.23


*LEGEND*

PERCENTAGE CHANGE

- 69.00
- 56.00
- 47.00
- 36.00
- 25.00

THE B.C. AVERAGE IS 52.100%

1 BY B.C. COLLEGE REGION

DATA FROM THE B.C. MINISTRY OF EDUCATION

Figure 6.24

INCREASE IN CANADA STUDENT LOANS TO COLLEGE STUDENTS FROM 1982–1983 TO 1983–1984

*LEGEND*

% CHANGE 1983–84 VS 1982–83

- 72.00
- 52.00
- 32.00
- 12.00
- 0.00

THE B.C. AVERAGE IS 34.710%

1 BY B.C. COLLEGE REGION

DATA FROM THE B.C. MINISTRY OF EDUCATION
Chapter 6 has reconfirmed the fact that effective educational opportunity (see p. 35) is regionally polarized, and that higher education is substantially more accessible in the metropolitan southwest than in hinterland regions of the province. This is reflected in higher post-secondary participation rates in the five metropolitan college regions, as compared to non-metropolitan college regions. Conditions in the post-secondary education system, the social milieu and the economy also point to a regional polarization of educational opportunity to the advantage of metropolitan British Columbia. The nucleus of the provincial metropolis in this respect is the Capilano College region.

Notwithstanding the metropolitan concentration of post-secondary institutions and of wealth to sustain them, there are indications of a greater proportional need for higher education opportunities in the hinterland regions of the province. The regional distributions of youth and of ethnic/racial minorities suggest there is a need for greater de-centralization of higher education. The relative economic deprivation of northern British Columbia in particular as compared to the south also suggests, on the basis of social equity, the need to provide northern hinterland residents with greater educational opportunities to offset their economic disadvantages.
Despite the very substantial regional imbalance in effective access to higher education, there is, in practice, no consistent government policy of providing student financial aid to those regions where it is most needed. In fact, the least assisted college regions in British Columbia were among the most economically depressed areas of the province.
PART C

DISTANCE EDUCATION
CHAPTER 7
THE POTENTIAL OF DISTANCE EDUCATION

7.1 The Goals of Distance Education

7.1.1 Goals

Open learning systems belong to a distinct type of education program variously described as distance education, university at home, correspondence study, or non-traditional study. Medsker et al. (1975) offer a definition of such education rooted in its general aim and strongly indicative of its operational ethic:
"... a system that puts the student first and the institution second, that concentrates more on the former's needs than the latter's convenience, that de-emphasizes time, space, and even content in favour of competence and performance, and that concerns the learner of any age and circumstance" (Medsker, et al., 1975, p. 318). Such education programs are non-traditional in the sense that they usually have relaxed admissions requirements aimed at the mature student, use a variety of teaching media and materials, and conduct their instructional activities usually with the student at a distance in a non-campus setting, serving a clientele that is spatially dispersed and not easily amenable to rigorous scheduling.

The distinction between goals objectives in the planning of such system can be made by reference to a public planning framework formulated by Quade (Quade, 1975, pp. 33, 34) Goals
are general targets based on social priorities. As such, they are based on cultural values, tradition, and social ideology; they therefore change very slowly over time. Objectives are narrowly-defined operational targets derived from goals, i.e. what a particular organization wants to accomplish given practical constraints of time and resources, in order to move toward the goals of society. Goals are normally articulated by politicians, the press, public opinion polls, etc. whereas objectives are formulated by managers, administrators and technocrats. The social goal of increasing equality of educational opportunity may remain intact while the institutional objectives employed to that end may change over time, shifting the balance of funds and resources between various educational options available. The open learning system is but one of a number of policy options, including universities, community colleges, technical/vocational institutes, community organizations, on-the-job training programs, etc.

Goals of open learning are derived from two sources: social philosophy and practical social needs. The former is developed through theoretical/ideological discourse, while the latter are articulated by individuals, communities, commissions of inquiry, and the like. One source of educational goals springs from philosophical ideals, while the other emerges directly from the practical problems faced by people in their everyday lives.
The philosophical basis for the goals of open learning arose largely from investigation into the manifestations and causes of social stratification. Research and theory of sociologists and educators in Germany (Dahrendorf, 1967), the U.S.A. (Coleman, 1966; Jencks, 1972; Moynihan and Mosteller, 1972), and Canada (Pike, 1970; Porter, 1973) are examples of seminal research in this area. In some cases, the goals of open learning have originated in egalitarian socialist ideology (e.g. the Open University in Great Britain, initiated by the Labour government of Harold Wilson).

The general slogan which serves as a generic goal for open learning is that of 'equal educational opportunity'. Bolstered by sociological research and theory indicating that those social classes that are most affluent and powerful are also the most well educated, the proponents of open learning propose that higher education be organized on the egalitarian principle of universal accessibility, as opposed to the elitist principle of meritocracy. The analyses of Porter (1973, pp.1-9) and Bereday (1973, pp.1-18) are particularly relevant to this view and its implications for higher learning. Another approach to setting broad social goals for open learning is to advance it as a means for promoting the social pluralism, upward social mobility, and sophisticated cultural consumerism that is so often associated with the modern affluent society (Clarke, B.R., in MacKenzie, O. and Christenson, E.L. (eds.), 1971). Finally, the goal of open learning in its pedagogical context is to improve the quality,
variety, and adaptibility of the educational experience for individual students in a complex and changing society. A social benefit which is a bi-product of this pedagogical goal, and which may rank as a goal itself, is the enhancement and integration of the information, skills, and social awareness of people, i.e. so as to increase the supply and quality of human capital possessed by society and facilitate communication between different social classes.

In practice, most established agencies of open learning tend to state their goals with reference to particular social needs or groups. This is a first-stage translation of broad social goals into institutional objectives. Examples of such statements of purpose can be found in a number of comparative case studies of open learning as it is carried out in various countries and under various social ideologies (Vanderhayden, K. and Brunel, L. (eds.), 1977; MacKenzie, N. et. al., 1975; MacKenzie, O. and Christensen, E. (eds.), 1971).

The British and American examples are most germane to models of open learning being attempted in Canada. The Open University of Great Britain (O.U.) emphasizes two general purposes:

1. to provide a flexible, accessible learning system for working adults;
2. to provide new educational opportunities for those who missed their first chance for higher education.

A more detailed statement of the purposes of the O.U. is found in Perry, W. (1976, ch. 1). In the United States, the University
Without Walls is a cooperative agency involving conventional universities and colleges in open learning. It stresses that its purpose is to provide educational programs and resources to those having temporal and/or spatial handicaps (e.g. prisoners, sick people, working people) through self-directed learning. Its general target outcome is to increase the adaptability of its clientel to the complexities of modern society (Vanderheyden, et. al., 1977, pp. 11-15).

In British Columbia three new distance education agencies have been established within the past decade:
1. the Open Learning Institute;
2. the Knowledge Network;
3. the Open University Consortium.
Their mandate is to improve educational opportunities for all residents of the province by making technical, vocational, and academic home study programs available to all British Columbians, regardless of prior educational standing, economic circumstances, or place of residence. This goal is shared by the Correspondence Branch of the British Columbia Ministry of Education, along with various distance education and outreach programs operating within the universities, the community colleges, and the British Columbia Institute of Technology. The Open Learning Institute has been particularly explicit about the goal of equalizing access to education with respect to the social and geographical situation of potential students, and maintains a data base on student characteristics for the purpose
of tracking its performance in this regard.

The goals of the above agencies derive their origin to a large extent from the Report of the Ad Hoc Committee on Accessibility of Post-Secondary Education (Universities Council of British Columbia, 1977). This report drew on the work of Jencks and others to support the view that access to education is a personal and social necessity, as well as a citizens' right. It also cited educational and socio-demographic statistics for British Columbia which indicated large disparities in attitudes toward and access to higher education, both between social classes (based on income, occupation, and educational achievement of adults) and regions; the contrast between the metropolitan Lower Mainland and the Interior was especially prominent. The report endorsed the principle of universal access to higher education. The main suggested criterion for measuring this was the participation rate, i.e. the rate for a particular social group or region should ideally be the same as that for the population as a whole. The report recognized a need for positive discrimination in favour of the socially disadvantaged. This implied that the participation of socially or geographically disadvantaged groups in higher education should be more actively promoted through government policies designed to increase the short-term participation rate of these groups to a level higher than the average rate. However, the use of expanded educational opportunities as a compensatory device for overcoming social stratification was not
developed as a detailed proposal. Recommendations were suggestive of the need for an open learning system in British Columbia, without specifically recommending one as such.

Once policy-makers have identified the goals of an open learning system, i.e. the social values it will serve, educational planners must establish realistic organizational objectives, in view of what the system can be expected to accomplish within budget constraints over a given time period. Different alternative vehicles for delivering educational services have to be considered (e.g. distance education versus conventional campus-based institutions). The impacts of the different alternatives have to be assessed in terms of their acceptability to policy-makers, administrators, complementary institutions, and the public to be served. Criteria for judging effectiveness must be consistent with goals.

It is not the purpose of this dissertation to examine the intricate operational details of distance education systems, but rather to evaluate the general effectiveness of distance education as a device for expanding educational opportunity and social mobility. Therefore, its effectiveness will be assessed in relation to its social goals rather than vis-a-vis narrowly-defined administrative objectives.
7.1.2 Challenges

As a means of pursuing greater social equity and educational quality, open learning systems are subject to the following three main criticisms:

1. They are a debased form of education because of the lack of direct personal contact between the student and the institutional environment; the rigidities inherent in pre-packaged teaching for mass consumption; and a relaxation of admissions and academic performance standards.

2. They are ineffective in reducing educational inequality because they fail to reach the socially and/or geographically disadvantaged, as reflected in enrollments, participation rates, and drop-out rates.

3. They are no more than an expansion of the monopoly of traditional formal education using modern mass communications media; as such, they foster psychological dependence and economic regimentation, i.e. they are irrelevant to the reduction of social inequality.

Each of these criticisms is, in turn, subject to counter-arguments.

The argument that open learning debases academic standards rests largely on the assumption that direct contact of the student with the teacher and a collective learning environment are crucial to the quality of the student's educational process. This argument is disputed by Holmberg (1978), who has claimed that distance learning is an intrinsically superior learning
mode for many students. Citing the research of Moore (1976, 1977) he pointed out the important distinction between field-dependent and field-independent learners. The latter, who apparently form a substantial portion of the population, benefit greatly from the open learning approach and achieve high academic results (Beijer, 1972) provided proper use is made of the teaching, media, counselling, and student feedback components of distance education. Moreover, Holmberg claimed distance learning is a more pleasurable experience for these students because of the intellectual autonomy associated with individualized content and self-pacing.

Bereday (1973) found no evidence of sharp increases in mass education being associated with falling academic standards and listed a number of reasons why it is in the narrow self-interest of the social elite, including the academic establishment, to be overly concerned about maintaining traditions and standards as a means of protecting their own professional and social privileges. He found that over time mass education leads naturally to higher standards, as literacy is cumulative over the generations. In this context he suggested that the main motivation for participation in mass education is the need for enhanced personal dignity rather than that of achieving higher income.

The problem of failing to meet the needs of high priority client groups is a difficult one to resolve. Some open learning systems opt for careful pre-operational planning to deal with
this, while others favour the plan-as-you-go approach based on trial-and-error. Some planners recommend advance educational needs assessment surveys, while others opt for a combination of public information campaigns and personal contacts with prospective students. The market survey approach may fail to elicit much response from the socially disadvantaged, who may not see education as directly relevant to their immediate problems, or may view education as a non-feasible option in the short run. This suggests the need for a more intensive opinion-gathering effort limited to specific occupational and/or community groups, via the organizations that they are already the most involved with (e.g. labour unions, human resource agencies, advocacy groups, etc.). Medsker (op. cit.) has suggested three main criteria for identifying target students:

1. geographical barriers;
2. time constraints of occupation or family;
3. unique educational needs and experience (e.g. immigrants).

Some empirical studies (to be reviewed later in this chapter) have indicated that there are grounds for accepting the thesis that open learning fails to reach major portions of its intended clientele; this appears to be especially the case for cultural/racial minorities and people in economically marginal income and occupational categories. There is evidence that such programs do attract women and married persons with children, but it also appears that distance education students tend to be highly motivated, upwardly mobile individuals with strong
educational backgrounds. That is, non-traditional programs may be helping those whose main barrier to higher education is logistical rather than socio-economic. The Open University tries to compensate for regional variations in access to educational opportunity by imposing admissions quotas based on proportional representation of regions, but there is no policy of compensating for regional differences in average socio-economic status.

The argument that open learning is not a truly non-traditional approach to education raises a serious policy dilemma. It seems obvious that the first objective in establishing a new distance education agency is to win public credibility. Pursuit of this objective, however, poses the danger of slavish imitation of existing conventional programs with regard to admissions standards, course content, and academic accreditation. Moreover, if open learning is presented to the public as an experimental pilot project it risks failing to attract competent teachers and committed students because of its apparent transiency and doubts about long range viability. It is not clear whether an educational program can be socially innovative if it adopts an institutional authority structure, an instructional staff and a curriculum modelled on the traditional campus-based educational system.

The most damning criticism of the concept of continuing education is that of I. Illich (1976). Illich claimed that the hidden curriculum of life-long continuing education is to
maintain people beyond the age of compulsory schooling in a perpetual state of psychological and economic dependence upon the formal educational system and its educational elite, "the capitalists of knowledge and the professionals licensed to distribute it" (Illich, 1976, p.14). This interpretation suggests that, whatever its official goals, the underlying role in society of education is to render the individual dependent on the educational bureaucracy for his/her sense of self-worth, and for access to the material rewards of industrial society. Once "...professional educators, through the institution of permanent education, succeed in convincing men of their permanent incompetence...", this will "transform society into an enormous planet-sized classroom watched over by a few satellites." (ibid., p.14). Open learning in this context implies the building of a giant Skinnerian box for programming society 'beyond freedom and dignity'. Thus, a system which is open in its appeal to potential students may not necessarily be open either in its final ends or in the means it employs to reach them.

7.1.3 Social mobility

Potential benefits to individuals from expanded access to education may include the following:

1. material security derived from acquisition of skills in demand in the job market;
2. cultural flexibility derived from general knowledge, accredited intelligence, and achievement motivation;
3. personal satisfaction through self-realization, enhanced self-confidence, and productive leisure;
4. improved citizenship skills stemming from greater social and/or political awareness.

It is generally recognized in the literature on social stratification that the above advantages are unevenly distributed among different social classes. Decision-making power, personal credibility, and income are positively related to the social class or occupational group to which individuals belong. Educational achievement, in turn, is strongly correlated with most of the higher status occupations, including the professional, managerial, technical, and capitalist classes. (Dahrendorf, 1967; Pike, 1970; Porter, 1973).

Education serves a number of functions with respect to the maintenance of social structure, including the following:
1. a screening device for the assignment of socio-economic status;
2. a certification of intelligence, i.e. the ascription of personal competence;
3. a mechanism for controlling access to income;
4. a potential form of compensation to those born into low socio-economic status, allowing the expansion of their life chances;
5. a potential form of de-selection of those born into high socio-economic status who may lack the means to maintain their status.
To the extent that open learning expands the opportunity set for adult education, and to the extent that the benefits of these opportunities can be realized by people from lower socio-economic classes, it could be expected that open learning would increase the rate and volume of 'sociological migration' across class boundaries. Thus, the ranks of the upper socio-economic status (S.E.S.) groups would swell while those in the lower S.E.S. range would shrink. Such is the thesis of upward social mobility.

However, the prior existence of S.E.S. boundaries and their impact on the interaction between the education sector and other social institutions may have unforeseen effects on the outcomes of open learning. It is not certain a priori which of the following social goals are most closely aligned to open learning as regards its impact on access to education:

1. meritocracy (sponsored mobility) - the selective removal of access barriers only to the most demonstrably competent students in terms of purely academic ability (Porter, 1973, pp. 1-9);
2. universal accessibility (contest mobility) - equal access to all who can benefit from education, contingent upon a designated minimal required level of academic competence (Porter, ibid.);
3. positive discrimination (compensatory mobility) - unequal access which favours disadvantaged students and imposes access costs or quotas on students with geographic,
educational, or socio-economic advantages (Smith, 1977). The distribution of benefits from open learning among different S.E.S. strata will be affected by which of the above goals carries the most weight with policy-makers. The ultimate results of open learning may not be immediately assessable because of inter-generational effects over time.
7.2 Theoretical Perspectives on Social Mobility

7.2.1 Education and social stratification

The most direct challenge to the upward mobility thesis as it relates to education is the question of whether the education system per se is the appropriate instrument for redistributing human well-being. Given that the goal is redistribution, there may be three distinct routes to its realization:

1. redistribution of people among social classes, i.e. the upward mobility thesis;
2. redistribution of goods and services across the boundaries of social class, i.e. the welfare state ethic;
3. redefinition of social class so as to reduce the number and/or the rigidity of social strata, i.e. movement toward the goal of a classless society.

In other words, what redistributional effects can be achieved by mass education that could not be achieved by other policy tools, such as taxation, labour legislation, human rights legislation, government transfer payments, and public enterprise?

Another challenge to the thesis of upward mobility is posed by the so-called base/superstructure model of society. This is the concept that western industrial society is essentially immutably hierarchical in its structure, and must be viewed as a pyramid. The base of this pyramid is the capitalist mode of production, involving the large majority of people in wage labour subordinated to the maximization of private profit. Upon
this foundation rest the institutions of society, among which the education system is but one. Finally, at the top of the pyramid is the ideology of the dominant social class, i.e. capitalism. The number of social niches corresponding to each of the functional tiers in this society decreases progressively toward the apex of the pyramid.

Since the number of available places in the social hierarchy declines in the upward direction, it would seem that a dramatic increase by the education system in the rate of production of individuals qualified to occupy society's upper echelons could be destabilizing in its social impact. That is, a "crisis of overproduction" in education could theoretically threaten the security of members of high S.E.S. groups because of an imbalance between the limited number of high S.E.S. places available and the expanding number of qualified persons seeking such places. There are three possible outcomes to such an event:

1. a slowing down of upward social mobility as the privileged social classes protect their social position by exercising political pressure to restrict effective access to education;
2. the creation of a substantial number of new places in the upper social classes (i.e. a more "top-heavy" social pyramid);
3. a general expansion and equalization of socio-economic opportunities throughout society (i.e. a "flatter" social pyramid).
It can be argued that the first of the above three options is the easiest (if not the most equitable), since the upper social echelons have a high degree of control over the education system. Bereday (1973) has outlined the motives and means through which the social elite may restrict access to education, thereby controlling the rate of upward social mobility. Access barriers include high admissions standards, financial constraints (funding cutbacks and/or higher tuition fees) and geographical discrimination (Bereday, 1973, pp. 37-57). The fear of overproduction of diplomas is rooted in a potential labour market crisis that would lower the material rewards and social status of the educated and create an unemployed or semi-employed, educated "white collar proletariat". On the other hand, mass education could conceivably increase the general quality of the labour force in terms of skills and knowledge, while creating pressures for better pay and working conditions at all social levels. Even if a new class of educated unemployed were created this may be an improvement over uneducated unemployment as concerns the quality of life of those affected.

Both the elitist and the egalitarian sides of the issue of educational democratization claim to embrace both equity and efficiency. The functional inequality theory of social class (Davis, K., and Moore, W.E., 1945) presents differential class rewards as socially necessary to provide the incentives required to accept responsibilities and to efficiently allocate tasks to those most competent to perform them. On the other hand, it has
been argued that the existence of a larger pool of intelligent persons (in terms of absolute numbers) among the lower social strata justifies the "capitalization" of that talent pool through the expansion of educational opportunity (Porter, 1966, p.198). The response of modern industrial society to this dilemma has been to develop large welfare bureaucracies. Dependence of large numbers of people from all social classes on these institutions for material security, and the gradualist approach to social reform inherent in these organizations, tends to blur class distinctions and contain class conflicts (ibid., pp. 25-28).

7.2.2 Social processes and open learning

Illich's analysis of continuing education, referred to earlier (pp. 333-334) interpreted this form of education as both an extension of welfare bureaucracy and a manifestation of high mass consumerism. The role of continuing education in this perspective is to create what he calls "the educational illusion" of redistribution within a stratified capitalist society. This illusion has as its goal the induction in adults of psychological dependence on the services and standards provided by the educational elite. Illich calls this the "perpetuation of childhood". Its higher purpose is to distract people from the root causes of their social problems, e.g. unemployment is imputed to the technical incompetence or lack of initiative of the unemployed.
The incorporation of the technology of mass communications to facilitate the delivery system of continuing education has insidious implications in the light of Illich's interpretation. Such a development bears the potential for an increased capacity of the educational superstructure to manipulate the intellectual consumption patterns of its clientel. In particular, the consumption of a mass-produced set of social ethics becomes a distinct possibility. These would include such values as:

1. faith in the efficiency and benevolence of large, technocratic organizations;
2. the association of continual economic growth with the ideal of "the good life";
3. perpetual consumption of socially-alienating goods and services;
4. acceptance of institutionally-defined social rankings.

Just as advertising agencies mould and shape consumer demand in the market for goods and services, so too could the continuing education system play a central role in shaping intellectual needs and beliefs that impinge on the quality of social life.

In this context, the open learning system appears analogous to the de-centralized marketing techniques of the mail order catalogue, the fast food chain, and the home delivery retail outlet. The consumer of pre-designed, mass-produced and pre-packaged information could be described as the 'education addict'. As an alternative, Illich has proposed a form of anarchical consumer sovereignty based on self-conscious choice.
and the atomization of curricula, along with extreme
de-centralization of educational production and delivery
systems; this is referred to as "de-schooling". A "de-schooled"
continuing education system would be served by the modern
technology of the credit card, and high-speed information
processing, with the object of matching the learner to
compatible resources and co-participants in a "learning
exchange".

The work of Illich has been criticized by Gintis (1972), on
the grounds that the education system is a reflection of social
relations in the sphere of production, rather than consumption.
Gintis used the theory of social reproduction to explain the
function of the education system in terms of its subordination
to industrial production under capitalism. Institutions of
education in this interpretive framework are the mirror image of
the capitalist division of labour and private ownership of the
means of production.

The role of educational institutions, according to Gintis,
is to reproduce and select the labour force required by
capitalist industrial production. This is done by training and
selecting individuals on the basis of affective, rather than
cognitive traits. Grades are used as proxies for wages to induce
passive, obedient behaviour, i.e. labour discipline.
Hierarchical social relations in the education sector mimic
those in industrial production, with ownership of industrial
capital being replaced by controllership of institutional
capital. Gintis offered historical evidence suggesting that universal education arose from the need for a socialized and stratified industrial labour force. (ibid., pp. 78-80).

While agreeing with Illich that education is a form of commodity fetishism, Gintis rejected the proposition of consumer sovereignty as a futile adjustment of scale. In its place, he proposed the need for the exercise of direct control of educational technology and institutions by the users of the system. This would take the form of collective participation in the planning and production of educational services.

The concept of cultural hegemony (Apple, op. cit.; Gramsci, 1971) elaborates on the implications of social reproduction for social mobility. The term cultural hegemony refers to the infusion of the values of the dominant social classes into the everyday experience of students; the effect is to exclude some students from upward mobility and reinforce the favoured class position and/or mobility of others. Rather than reproducing an economic mode of production (e.g. capitalism) per se, the role of the education system in this schema is to reproduce a stock of "cultural capital". This form of capital is made up of the nexus of meanings, beliefs, attitudes and abilities which underpin the motives that guide, order, and interpret social behaviour.

The concept of cultural hegemony is a logical extension of social reproduction theory into the sphere of culture; it is,
however, partially distinct from the social constructs of both Illich and Gintis. While the former emphasizes the cognitive content of education as a form of consumption, and the latter puts the accent on its institutional structure in relation to the capitalist mode of production, cultural hegemony stresses the interactive process in education as informal social behaviour. In the interpretive framework of cultural hegemony, the education system is portrayed as having its own internal dynamics that are partially autonomous. The nature of these interactive dynamics has been described by Freire (1968), who has compared oppressive, one-way education (the banking concept of education) with the liberating alternative of a problem-solving student-teacher dialogue. The social ramifications of cultural hegemony for economically depressed regions have been described by A. Gunder Frank (1969), who described the education system as a device for propagating and imposing the cultural values, behaviour, and world view of powerful social classes and/or regions. This view is supported by Carnoy (1974).

The foregoing theoretical models of education have their echoes in the literature on open learning. Holmberg (1978) has pointed out the parallels between open learning systems and industrial mass production, and has also stressed the importance of the quality of the "didactic dialogue" that occurs between teacher and student in distance learning. Opinions are distinctly divided as to whether or not open learning
constitutes a radical departure from, or an enshrinement of, the aims and consequences of conventional classroom education. A learning program in distance education is "... a purposeful, deliberate, and planned activity or series of activities by the learner intended to result in a change in his knowledge, behaviour or attitude", and although the student has some control in implementing learning procedures most distance education programs have their goals and evaluation prescribed by the teacher and/or educational agency (Moore, 1977, pp. 29, 31).

Critics of distance education suggest that in structure and content it has disturbingly repressive tendencies. These include (Harris, D. and Holmes, J., 1976, pp. 78-88):

1. promotion of a type of social mobility derived from open access to an impersonal and undemocratic form of education;
2. use of academic grading systems as a form of social reward and punishment which allocates students to niches in a labour market hierarchy;
3. use of a highly structured pedagogy that controls meanings, discourages subjective judgement, and imposes an arbitrary evaluation system on students;
4. reduction of student learning activities to passive mastery of impersonal procedures and definitions;
5. commoditization of knowledge as a pre-packaged, mass-marketed product;
6. subordination of didactic dialogue and spontaneity to criteria of cost-effectiveness and technological expediency.
Such an education system involves "the accumulation of expert knowledge at the centre and its rational dispersal to ignorant students on the periphery" (ibid., p.83).

This centralized control is even more authoritarian to the extent that the client population is unable to participate in the appointment of executive officers and the development of institutional policies on curriculum, grading, teaching methods, and program development. Moreover, those distance education programs that rely heavily on the medium of print (i.e. correspondence courses) are likely to intimidate potential students who have weak literary skills.

Such criticism has been directed at the Open University (O.U.) by Pratt (1971), who argued that the O.U. has failed in several ways:

1. The institution was established through an arbitrary act of the central government and is run as an authoritarian public bureaucracy.

2. The O.U. was not designed to serve the socially underprivileged, and has in fact attracted a large proportion of students who already have post-secondary educational credentials.

3. The O.U. has not attempted to identify the underprivileged social groups it was originally intended to serve.

4. The O.U. has penalized students with prior part-time study experience by adhering to a rigid system of credit equivalences.
These criticisms beg the question of whether upward social mobility can be promoted by a social institution that has an academic, conservative, and exclusive tradition.

7.2.3 Education and the positional economy

It has been suggested that the democratization of higher education may reinforce or even increase social stratification because of the traditional identification of education as a means of achieving social status (Hirsch, 1976). This occurs when those programs most subject to democratization are perceived as having a declining social prestige value; the result is a migration of socially advantaged students toward tougher, longer-lasting, and less accessible educational programs. These students possess a material support system that facilitates their survival in higher education, and are therefore able to use their socio-economic advantages to achieve a superior educational status.

The dynamics of this phenomenon are best understood by reference to the division of economic activity into two distinct realms (Hirsch, 1976):

1. the material economy - physical goods and services, the production of which depends on labour productivity, technology, and technical innovation;
2. the positional economy - qualities of goods, services work positions, and social rank that are either scarce or prone to deterioration in value associated with congestion,
crowding, or expanded use.
Positional goods are normally a source of social prestige, and may include important jobs, expensive recreation, travel, sophisticated consumer goods and higher education.

As the material economy expands more rapidly than the positional economy, the price of positional goods as compared to material goods rises. Although the growth of the material economy generates more resources to sustain higher education, it does not necessarily create more high-ranking jobs (i.e. those involving great personal freedom, creativity, wealth, leadership, etc.). The holders of such favoured niches in the positional economy have the power to resist incursions of newly-qualified rivals for these places; therefore access to these positions is rationed through various devices, including pay differentials, information control, and inflation of educational requirements demanded of job seekers.

The result of rising educational requirements is increased educational competition among those seeking to rise in the positional economy. This may be both a stressful and socially wasteful process if it only leads to a minor reshuffling in the social pecking order, without actually expanding the possibilities of upward social mobility in general.
7.2.4 Technocratic society versus credential society

The phenomenon of educational competition raises the question of whether higher education is a major source of social and economic progress. Two opposing paradigms of the social role of education are relevant to this question. The concept of technocratic society reflects optimism about the role of education; the alternative, that of the credential society (Collins 1979), is much less sanguine in this regard.

The paradigm of technocratic society is strongly focused on the idea that education makes two key contributions to society: 1. technical progress in the production of goods and services; 2. upward social mobility for individuals, classes, and regions.

The main assumption of the technocratic paradigm is that technical change over time increases the demand for more sophisticated labour skills and this, in turn, increases the demand for higher education. It is implicit in this theory that increased education is required to produce higher labour skills essential to complex jobs that result from technological innovation. Thus, higher education and technical change are mutually reinforcing.

In a technocratic society individuals, social classes, and/or regions that possess a high level of education are assumed to have a high level of technical skill, and this confers high upward mobility, high income, and high socio-
economic status on them. Such a society is, in effect, a meritocracy in which the social status of the highly educated is derived from labour skills that are perceived as more efficient, productive, and complex than those of the less well-educated. The greater prestige, power, and income of well educated individuals, classes, and regions, is thought to be justified on the basis of their greater contribution to economic growth.

The technocratic paradigm has come under fire from various quarters, notably from radical and Marxist educational theorists (Jencks, Illich, Bourdieu, Bowles, Gintis). These critics claim that education reinforces social class boundaries and middle class consumerism more than it promotes upward social mobility. They point to the need for a more systematic and subtle evaluation of the social role of education, particularly as regards its linkage to social stratification and variations in educational achievement over time and space.

Such an evaluation is found in the paradigm of the credential society (Collins, 1979). This social model describes the linkages between the education system and social stratification in a way that directly challenges the main theses of the technocratic paradigm. The concept of a credential society is holistic enough to be applicable to most modern societies. In brief, the central credentialist thesis is that the key social role of the education system is not to equip people with the technical skills required for economic progress, but rather to define the cultural traits (i.e. credentials)
required for admission into the higher ranks of society.

The novelty of the credential society model is that it contradicts the notion of higher education being vital to economic progress. Other radical critiques of technocratic society don't challenge the link between education and economic growth. They object rather to the oppressive way in which education is used to produce material wealth and regulate its distribution, and to the way in which education selectively reinforces the cultural and ideological values of the social elite.

In challenging the technocratic paradigm, Collins cited studies indicating that only 15% of the increase in higher educational achievement of the U.S. labour force in the 20th century has been translated into shifts in the general occupational structure of that work force, whereas 85% of increased education occurred within existing job categories. This indicates that the increase in the educational requirements of jobs is not due to a decline in the overall proportion of low-skill jobs or an increase in the proportion of high skill jobs. Empirical evidence also suggests that increases in the educational level of the labour force exceed what is required for the improvement of technical skills. The implication is that higher educational requirements for jobs are not necessarily due to higher requirements in production skills (Berg, 1970).
This evidence casts doubt on the technocratic premise that more highly educated employees are more economically productive. It thereby weakens residual analyses by Denison (1962), Schultz (1971), and others that asserted economic growth is largely due to increased education of the labour force; these studies were based on an uncritical acceptance of the idea that the marginal value product of educated labour is higher than that of uneducated labour. The credentialist position, if correct, suggests that highly educated workers generally receive higher incomes than their labour is worth in strictly economic terms, i.e. their incomes exceed the actual marginal value product of their labour.

Comparative studies of regional economic growth often indicate a positive correlation between income and educational achievement levels; regions with high incomes usually also have high educational achievement levels. However, it has also been noted that no significant correlation exists between income and education within groups of countries classified by level of socio-economic development (Collins, 1979, pp. 13-16.). Within a single group of countries at approximately the same level of economic development if education is directly related to productivity, and if productivity is reflected in income levels, it could be expected that education levels would be correlated. If no such correlation exists then it is not clear whether educational achievement precedes or follows economic productivity and growth. It is therefore not clear whether
higher education levels are a cause or an effect of economic prosperity. If education is a cause of economic growth, increases in post-secondary educational achievement by a population should be followed by increased labour productivity and/or periods of economic growth. Historical evidence cited by Peaslee (1969) and Berg (op. cit.), respectively, indicates no such pattern, except for increases in elementary schooling, secondary schooling, and doctoral degrees in a limited number of occupations.

In advancing the credentialist critique of the technocratic paradigm, Collins drew on a wide range of empirical evidence to make the following points:

1. People with vocational schooling are no less subject to unemployment than those who learn job skills outside the school system (e.g. armed forces, apprenticeship, company training programs).

2. Adaptation to technical change occurs mainly through informal and/or on-the-job training rather than through the education system.

3. Most school curricula are focused on the learning of middle class cultural values rather than on academic or vocational skills.

4. There is a low correlation between grades obtained in school and later job success, except for 'straight A' students.

5. There is no consistent correlation between school grades and personal creativity.
These findings strike at the heart of the technocratic concept of the role of education in society.

The credentialist attack on the technocratic paradigm also asserts that technological knowledge is not nearly as important to the structure and operation of economic enterprises as are the dynamics of informal social, political, or cultural groups striving for decision-making power. Those who control the administration, communications, and public relations functions are more vital to the organization's survival than those involved directly in its production technology. Thus, the occupational status and upward mobility of an individual is mainly determined by a set of social skills, cultural values, and personality traits, rather than by objective knowledge of production technology.

It has been shown by Collins (op. cit., pp. 22-35) that enterprises base their hiring and promotion decisions mainly on criteria unrelated to technical skills, such as:

1. informal production standards well below maximum efficiency;
2. ability tests based on attitudes and interests of current jobholders without reference to a control group;
3. intelligence tests that are known to be poor predictors of actual job performance;
4. social, ethnic, or cultural traits;
5. personal sponsorship of individuals by senior personnel.

In this context, educational credentials are often used by employers as a screening device to classify job applicants.
according to their ideological and social conformity, personal stability, loyalty, and adaptability, quite independently of technical job-related skills (Gordon and Howell, 1959). Business administration degrees, for example, are seen by employers not as a skill credential, but as an indicator of personal commitment to business attitudes and values.

7.2.5 Social stratification and credentialism

In the credentialist perspective higher education does not create human capital as such, but rather a set of cultural credentials that regulate access to occupational positions. Thus, educational requirements form a barrier between managerial and non-managerial personnel that is based on culture, rather than on technical skills. This is reflected by participation of dominant cultural, ethnic, and racial groups in national business and professional elites, and in elite educational programs/institutions. Organizational research indicates that technological change has less effect on educational requirements for jobs than the effect of the organization's size, type, and degree of national prominence (Collins, 1969, 1974; Gordon and Thal-Larson, 1969). The technocratic idea of meritocracy is invalid because the upward mobility of the individual in such a system depends on cultural credentials, and not on technical competence or productivity.

The rationale for the paradigm of the credential society is based on the idea that there are two types of labour (Collins,
op.cit.):
1. productive labour - the production of material wealth, i.e. work in the material economy;
2. political labour - control of the conditions through which wealth is appropriated and distributed, i.e. work in the positional economy.

Society can be roughly divided into classes defined by these two types of labour. The working classes are those mainly involved in productive labour, while the dominant classes are those engaged mainly in political labour. Such a typology must, however, be flexible enough to recognize that some jobs are divided to varying degrees between the two types of labour.

Credentialism holds that economic life is divided into two markets:
1. the material market - the market for goods and services;
2. the cultural market - the market for positional property.

In the cultural market education is a kind of cultural currency. Access to material wealth depends on control and/or possession of employment. Social and occupational status are based on educational credentials that strongly influence the social distribution of material property. People invest in higher education to obtain credentials with which to purchase jobs at the highest level of income, security and prestige possible; education is used to purchase positional property, especially in the market for political labour. The upper echelons of the political labour sector are especially desirable, as they
provide the luxury of sinecured employment.

Technology, higher education, and material production are linked to social stratification in the credential society by the need to create jobs so that economic surplus generated by production technology can be converted into consumer demand. Jobs are not so much a requirement of the material production process as a device to permit both the redistribution of wealth and the absorption of excess labour not required in material production. Jobs are purchased with cultural currency in the form of educational credentials.

While both the material economy and the education system have expanded dramatically in the U.S. over the past two centuries, Collins (op.cit.) has argued that this has not increased social equity. Intergenerational social mobility has remained relatively constant, as indicated by the stable correlation between the occupations of fathers and sons, respectively. Thus, social stratification has not declined. Gini coefficients indicating increasing income equality during the mid-20th century correspond to a redistribution of income among the upper income groups in male-dominated, full-time, secure, urban occupations, especially in expanding government and corporate bureaucracies, and in unionized trades of the middle income working class.

Collins claims that growth of the education system has sustained the rise of large bureaucracies. These organizations
have been appropriating wealth and re-distributing it among the male middle class at the expense of female labour, rural labour, the unemployed, welfare and pension recipients, etc. The long-run outcome has been an inflationary crisis in the market for positional goods. As the expansion of the material economy has outstripped that of the positional economy, educational competition has increased and the price of jobs in terms of required educational credentials has surpassed the ability of many individuals to afford investment in education. The cultural result of this has been a devaluation of educational credentials and the emergence of ambivalent and mercenary social attitudes toward higher education.

Higher education is related to socio-economic inequality in one or both of two ways:

1. Individuals, classes and regions are unequally equipped through education with the technical skills required for material economic progress (i.e. technocratic paradigm).

2. Individuals, classes, and regions are unequally endowed through education with the cultural currency needed to buy secure niches in the positional economy (i.e. credentialist paradigm).

Whichever paradigm is used, it is clear that those with higher educational credentials are in a relatively favoured position.

Inequality in educational opportunity has a geographic dimension, i.e. there is a human resources landscape, comprising educational and other socio-economic attributes. The positional
economy can therefore be re-defined in terms of both geographic and social locations. Thus, social inequality is based not only on social stratification, but also on a form of spatial stratification linked to the education system. Locations where people have ready access to higher education tend to coincide with locations of greater economic opportunity.

Locations that are geographically remote from centres of higher learning are often poor in economic opportunity unless the education system adopts special program delivery devices to overcome geographic and social barriers that impede access to education. This is where distance education becomes a potential force for redressing imbalances in educational opportunity. However, the paradigm of the credential society strongly suggests that increased educational opportunity by itself is not likely to result in a significant increase in social mobility, except for certain individuals, and that it is even less likely to result in a substantial redefinition of social class boundaries in the absence of an expansion of the number of available places in the positional economy. If educational opportunity is merely re-distributed among members of the middle class, how effective is distance education as a policy for enhancing social equity and reducing regional disparity?
7.3 Empirical Evidence: Education and Social Disparity

7.3.1 Education in general

Evidence on the possible redistributional effects of open learning can be divided into two categories:
1. that which relates to education per se;
2. that which relates to open learning as a form of higher education.

Results of benefit/cost studies suggest a good deal of potential controversy on the issue of re-distributional effects in higher education. Bharath (1975) concluded that higher education in British Columbia gave greater proportional benefit to lower income groups than to higher ones. Mehmet (1978), however, found that the Ontario university system produced greater benefit for middle and upper income groups and negative benefits for lower income groups.

The apparent contradictions in the above results probably stem from methodological discrepancies. Bharath's study adopted a number of heuristic devices and simplifying assumptions which may not be valid, e.g.:
1. not distinguishing between the cost structure of different types of education;
2. assuming no student drop-outs before graduation;
3. omission of student financial aid from the analysis;
4. aggregation of society into only two income groups.

The matter of student drop-outs is important. A study by Hall
and McFarlane (1963) concluded on the basis of comparison of drop-out rates with intelligence ratings that "... 2/3 of the students that went to university were less than brilliant and ... only 1/5 of those who were brilliant reached university" (ibid., p. 38). If similar wastage rates prevail at the university level, and if they are related to social class, then the impact on Benefit/Cost studies is potentially very substantial. The inclusion of private opportunity costs to students is also of interest. Cook and Stager (1969) showed that including private income foregone in total educational costs resulted in an rise of that portion of educational costs attributable to students from 15% to 55%. They did not, however, allocate these opportunity costs by social class.

A substantial body of empirical research exists on the sociological and socio-geographic factors related to the participation of various social groups in higher education in Canada. The work of Pike (1970), Porter (1973, 1979), and Lucas (1980) for Canada as a whole is noteworthy; detailed research for British Columbia has been done by Wennevold (1976); Dickinson (1979), and Brown (1982, 1985). In general, there is consensus on the existence of a strong correlation between participation in higher education, on the one hand, and, on the other, the income and occupational status of students' parents. In general, there is also consensus on the over-representation of children from higher S:E:S. family backgrounds in post-secondary student populations. A more detailed examination
of socio-demographic factors underlying variations in post-secondary participation rates is required to assess the potential need for a system of open learning as a "second chance" educational option.

Jencks (1972) has postulated that four factors account for a social class bias in university participation rates:
1. family income;
2. home environment;
3. personal motivation;
4. genetic differences.
He took the position that the key variable is motivation. However, there is abundant evidence to suggest that motivation is itself strongly embedded in social class variables that permeate family life and the process of attitude formation.

Porter et al. (1973) found there were links between personal motivation toward higher education and a variety of other conditions among secondary students. These factors include:
1. Students from families with high S.E.S. had relatively high motivation and expectations, while educational motivation/expectations decreased with lower S.E.S.
2. Students' aspirations and expectations corresponded closely, suggesting effective socialization into a well-defined social niche.
3. Students' preferences regarding higher education generally matched those their parents had for them, and varied
systematically by occupational group of the parents.

4. Large families were associated with low student expectations of university education, especially for students from low S.E.S. backgrounds.

5. Lower expectations of younger children, as compared to first born children, regarding university education among students from large families reflected the "stretching" of family resources.

6. Relatively low self-esteem with respect to mental ability was apparent among students of low S.E.S. background.

7. Students who were of both rural and low socio-economic backgrounds exhibited an especially low level of motivation toward higher education.

8. A much higher educational aspiration level existed among low mental ability students of high S.E.S., as compared to their mental ability peers of low S.E.S.

9. Financial reasons for not going on to university were prevalent among low S.E.S. students.

10. A relatively low information level regarding post-secondary educational opportunities was noted among low S.E.S. students.

Thus, low educational achievement cannot be ascribed to lack of motivation unless socio-economic limitations on motivation are considered.

Both Pike (1970) and Dickinson (1978) produced data relating non-attendance at post-secondary institutions to a rural,
working class sub-culture and to employment in primary industries. Some of this data which is geographic in nature (e.g. Siemen, 1964) suggested that attitudes toward higher learning were related to such factors as:

1. spatial proximity of institutions;
2. local educational facility mix;
3. settlement size;
4. membership of the individual in a farm family;
5. limitations of the rural information field;
6. rural cultural values;
7. ethnicity;
8. perceived job opportunities;
9. urban versus rural teacher expectations.

In general the rural environment, small settlement size, non-anglophone ethnicity, and employment in primary industries were factors associated with low rates of participation in higher education. This suggests a potential constituency for open learning among educationally deprived people in remote resource towns and agricultural areas, but only if restrictions on motivation that stem from low socio-economic status can be overcome.

European and American researchers have contributed greatly to the empirical evidence concerning education and social mobility. The Swedish geographer Hoppe (1978) conducted longitudinal studies focused on the concepts of life path and inter-generational resource transfer. The aim was to explore
what effects increased access to education have on the social, occupational, and spatial mobility of individuals over time. This, in turn, provided a framework for analyzing changes in the social and spatial structure of Swedish society.

Hoppe found an increase over time in so-called indirect or partial resource transfer between generations, i.e. where genetic inheritance, information, and intellectual formation were passed along to succeeding generations without being accompanied by occupational traits and material possessions. Increased educational levels were associated with a greater distance and frequency of moves, both spatial and social. Formal education was more statistically important in explaining these moves than was informal education. Inter-regional mobility was closely related to high educational achievement and high S.E.S., while intra-regional mobility was related to low educational and social status. There were indications that possession of material property per se restricted spatial mobility. A final verdict could not be reached on whether education actually increased the range of free choice in individual mobility ("education as social equalizer") or restricted and directed such choice ("education as social control"). Mobility in itself apparently does not necessarily confer greater locational freedom on people.

Research on adult education in Sweden has indicated that educational reform has served the already educated upper middle class more than any other group (Rubenson, 1908, p.32). Adult
education that depends on self-selection of participants "... will help to widen, not narrow, the educational and cultural gaps in society" (ibid., p.34). A number of reasons for this have been noted (ibid., pp.35, 39):

1. High status occupational groups get more opportunity for increased education both on the job and outside the workplace.

2. Individuals that hold jobs over which they have no control tend not to exercise personal initiative outside their work life with respect to education.

3. Grassroots organizations that sponsor increased educational opportunity for the underprivileged often become financially dependent on, and co-opted by, the large institutions of the educational establishment.

4. Credentialism encourages alternative educational programs to become extensions or complements to the conventional education system.

Time series research in Sweden showed that the representation of disadvantaged social groups in adult education changed little; thus the social class structure, as it related to education, was left intact (Borgstrom, in Rubenson, ibid, p.129)

Even if social mobility can be increased to some degree through adult education, it is uncertain that an increase or reorganization of public educational investment via open learning could produce major redistributional consequences, given the existence of other variables that influence the
outcome of education. Coleman (1968) found that educational achievement was much more affected by family background, peer group, and teacher characteristics than by non-teacher inputs; moreover, family and peer group appeared to be dominant. This suggests that, for those of lower S.E.S., the establishment of a new delivery system will not change their response to higher education opportunities unless accompanied by more fundamental qualitative changes in their social or family milieu.

Bowles (1968) reinterpreted the statistical analysis of Coleman to produce different results. By controlling for school inputs before other factors, i.e. eliminating collinearity between family/social milieu and school inputs he found school resources could have a significant impact on educational outcomes. This led him to recommend positive discrimination in the allocation of school resources to the socially disadvantaged (ibid., pp. 90-95). However, he pointed out that even if educational outcomes were equalized over different social groups the existence of discrimination based on racism, sexism, and social class still would maintain income and occupational gaps between educational peers of different social, racial, or sexual characteristics. He concluded that educational reform could only be effective if it directly involved the recipients in policy decisions and was reinforced by re-distribution of political power in other spheres of social life.
7.3.2 Open learning

The data on actual student characteristics in programs of open learning are ambivalent on the issue of social equity. Tapper and Salter (1978) cited various negative findings, such as:

1. The main beneficiaries were from non-manual occupational groups, while the semi-skilled and unskilled groups had proportionally the fewest beneficiaries.
2. The majority of Open University students were already in occupations where increased education is rewarded by higher salary.
3. Working class students at the Open University had the highest drop-out rate.

Medsker (1975) found that benefits from open learning were largely restricted to individuals with the following characteristics:

1. mature students (over 30 yrs. of age);
2. those with previous college education;
3. those with high self-rated achievement, independence, persistence, drive, etc.;
4. married working people with children;
5. single career women.

No significant increase in educational opportunity appeared with respect to sex or ethnicity when the composition of part-time student populations was compared with the population as a whole.
Perhaps the most detailed, systematic longitudinal study of open learning students is that of McIntosh et al. (1976). It is clear that in both absolute and relative terms people from the teaching, technical, scientific, and commercial occupations participated more heavily in Open University (O.U.) programs than did those from manual trades, communications, and transportation occupations. However, when the occupational backgrounds of the fathers of Open University students was compared with that of students from campus-based universities it appeared that open learning did benefit students of lower S.E.S. origin: 52% of O.U. students' fathers were in manual occupations, versus 29% of fathers of students in other institutions. The distribution of Open University students' fathers by occupation and education was much closer to that of the general population than was the case for other universities (McIntosh, 1976, pp. 136-138).

The situation of female Open University students reflected some progress toward greater equality. Housewives had the second highest participation rate in O.U. programs and the participation levels of women was rising over time toward that of men. However, female participation was not analyzed in detail as to social class origins. The main reason cited by women for not getting enough prior education was financial barriers, but Open University women were better off than their male counterparts in terms of previous education and socio-economic status. This suggests that it was mainly women of middle class
origin who had benefitted from the Open University (ibid., p.167).

The question of whether open learning increases the social mobility of individuals from underprivileged backgrounds is complex. Undoubtedly, Open University students have acquired upward occupational mobility as reflected in statistics on job changes. However, there were indications that they were already upwardly mobile before entering the Open University. For example, a large proportion had a higher pre-Open University level of educational achievement than what would be expected on the basis of the socio-economic and educational status of both their fathers and their S.E.S. peers. McIntosh interpreted the role of the Open University as that of correcting previous errors in the educational selection process. This process is represented in the following combinations of educational levels:

1. father high/student high;
2. father high/student low;
3. father low/student high;
4. father low/student low.

The Open University's clientel apparently comes mostly from females in group 2 and males in group 3 (ibid., p. 104); this indicates that the Open University does provide a second chance educational opportunity for middle class women and for working class men.

Research in Canada on distance education students has not suggested that open learning programs are an effective means of
reducing social class or geographical disparities. The typical profile of distance education student populations has tended to portray a group of mature, economically secure, achievement-oriented adults who are neither socially or geographically disadvantaged. In general, their characteristics as a group include (Waniewics, I., 1982; Knapper, C.K., 1982): 1. 25-39 yrs. of age; 2. well-educated, full-time professionals, many of whom already hold a university degree; 3. previously established record of good academic achievement; 4. financially secure; 5. married, and receiving emotional and/or material support from their families in the pursuit of their education; 6. living within commuting distance of a university campus, the median distance being 20 miles.

The motives of these students for participating in distance education were focused mainly on career needs: the need to acquire more educational credentials to facilitate career mobility, the need to continue working while doing this, and the need to obtain academic credit from a well-recognized post-secondary institution. Although they may recognize some disadvantages from a lack of personal contact with instructors and other students, they are generally well-satisfied with open learning (Knapper, ibid., p.125).
On the basis of the foregoing discussion it seems clear that while distance education does open up new educational opportunities, those opportunities are not evenly distributed throughout the population and may, in fact, be more available to people whose already privileged socio-economic position gives them greater effective access to higher education of any sort. Certainly, the fact that distance education is designed for direct delivery to students irrespective of their location suggests that distance education does promote a more equitable distribution of educational opportunity in a purely geographic sense. However, if the opportunities presented by distance education do not compensate for pre-existing socioeconomic and regional disparities then the ultimate impact of distance education may be to reinforce, rather than to abate the problem of unequal effective access to higher education. This will occur if the main beneficiaries of distance education are people who, due to their socio-economic origin, would be upwardly mobile even without distance education. It may also occur if metropolitan residents benefit equally or greater than hinterland residents from distance education. Simply stated, distance education may not be an effective means of redressing unequal educational opportunity if it functions merely as an added convenience of the middle classes rather than as a necessary improvement to the life chances of the socially disadvantaged.
In order to assess the potential impacts of distance education on barriers to educational opportunity in British Columbia these impacts could be described in hypothetical terms as follows:

1. Distance education reduces geographic inequality of educational opportunity by expanding the participation of hinterland residents in higher education.

2. Distance education increases inequality of educational opportunity among social classes because its main beneficiaries are individuals whose privileged socioeconomic status predisposes them toward upward social mobility.

3. Distance education reduces sexual inequality by providing greater relative access to education for women.

4. The impact of distance education on sexual inequality of educational opportunity varies by social class, the main beneficiaries being upwardly mobile women of middle class origin and upwardly mobile men of working class background.

5. Rural residents and underprivileged social groups (e.g. working class women, cultural/racial minorities) are unlikely to participate significantly in distance education.

Surveys on the characteristics of distance education students in British Columbia were used to generate information that would either support or contradict the above assertions. Survey questions were designed to reveal the relative accuracy of the five hypotheses on the impacts of distance education.
Regarding the geographic distribution of educational opportunity, students were asked to identify the maximum distance and time they would travel to attend a class. They were also asked to describe the relative spatial accessibility of adult education programs and facilities in their home areas. In this way it was possible to estimate whether the bulk of distance education students were people whose access to educational opportunity was blocked by excessive distance costs. The geographic background of students was also examined to see whether they were from urban or rural/small town backgrounds. In addition, students were classified according to their degree of spatial mobility to see if there was an association between geographic mobility and the educational and occupational aspirations that contribute to social mobility.

With respect to inequality of educational opportunity among social classes, it was important to determine whether distance education students were from social backgrounds that favour the pursuit of education. The most obvious indicators of socio-economic origins were the occupational, income, and educational status of the students and their parents. Other variables indicating possible social class influences on effective educational opportunity included:

- the participation of peers and family in postsecondary education;
- the relative importance to the student of various financial constraints on the pursuit of education;
the financial sources available to students;
- conditions within the family that could either promote or impede effective access to education through the effects of cultural, economic, or personal status variables.

If survey data indicated that most distance education students were from privileged socio-economic backgrounds then it could be concluded that distance education is likely to accentuate social class differences in British Columbia, by providing greater effective educational opportunity to those of comfortable socio-economic means than to people of underprivileged social classes.

In the matter of sexual inequality of educational opportunity the surveys of distance education students were designed to discover whether female participation in distance education was equal to or greater than that of males. In addition, it was possible to compare male and female distance education students in terms of their educational/occupational aspirations, personal traits, and socio-economic characteristics, to see if distance education is an attractive option to particular segments of the male and female populations, respectively.

Another research task was to find out if distance education offers greater educational opportunity for disadvantaged social groups. Because of the variety of information collected on the social and personal background traits of distance education students it was feasible to identify certain groups within the
student population that could be considered potentially disadvantaged due to sexual, ethnic, geographic or economic impediments to their effective participation in higher education. By comparing the proportional participation of these disadvantaged student groups, and their educational/occupational expectations, with that of the general population of distance education students it was possible to infer whether distance education was providing socially marginal British Columbians with a similar level of opportunity and upward mobility as prevailed for what could be described as socially "mainstream" students.

7.5 Summary

As a prelude to the assessment of the impact of distance education in British Columbia, this chapter has examined theoretical and empirical evidence regarding the potential effects of distance education on educational opportunity. Most proponents of distance education claim that it increases both spatial and social equity in access to higher education tailored to fit the needs, logistic constraints and learning speed of individuals. Critics, on the other hand describe distance education as undemocratic in the sense that the learning process is pre-designed, pre-packaged and impersonally administered at a central location in the absence of direct contact and prior consultation with the client population. While it is generally recognized that higher education credentials enhance upward
social mobility it is not clear a priori that distance education is especially accessible to the socially downtrodden and/or those who lack the academic skills to succeed in the conventional education system. If distance education serves merely to speed up the social mobility of those who are already upwardly mobile will it not have the effect of aggravating existing imbalances in educational opportunity and reinforcing social class differences?

The credentialist analysis of the socio-economic system presents a more daunting challenge to educational reformers in general, and to distance educators in particular. Even if access to higher education is increased, credentialism suggests that social inequality is unlikely to be affected because the number of available places in the positional economy rises only slowly over time. Contrary to the technocratic assumption that educational credentials are translated into upward social mobility through the value of enhanced labour productivity on the job market, credentialism holds that the capacity of the economy to absorb credentialed workers is normally quite limited. This results in credential inflation, i.e. over time, the value of educational credentials as cultural currency used to purchase career niches declines in response to oversupply of credentialed job-seekers.

Research on education and social mobility suggests that in the absence of a thorough re-distribution of wealth and power in society the education system alone can do little to reduce the
inequality of social classes, unless there is positive discrimination in allocating education resources to low socio-economic status groups. Research on the origins of distance education students has produced mixed results on the issue of social equity. Most studies indicate that a majority of distance education students are from upwardly mobile, middle class backgrounds. There is some evidence to indicate that distance education selectively increases educational opportunity for certain disadvantaged groups; for example, women of middle class origin and academically skilled men from low socio-economic status families. However, the overwhelming impression is that most distance education students are career-oriented professionals who are neither geographically nor socially disadvantaged. Thus, an assessment of distance education as a remedy for unequal educational opportunity must consider whether the beneficiaries of open learning are privileged or underprivileged in terms of their location, social class, gender, or other personal/family traits.
CHAPTER 8
A PROFILE OF DISTANCE EDUCATION STUDENTS IN BRITISH COLUMBIA

8.1 Student Profile Traits

In order to simplify the identification of socio-demographic profile traits for distance education students in British Columbia the information collected on students of the Open Learning Institute, B.C. Correspondence Branch, and Knowledge Network, respectively, was combined into a single data base. This procedure was justified on the basis of analysis of variance (ANOVA) tests indicating that there were no significant differences in the educational and occupational goals of distance education students that could be related to the institutions in which they were enrolled. The results of ANOVA analysis of key variables are summarized in Appendix 1.

Once this unified information base had been established a socio-demographic profile of distance education students was constructed focusing on six categories of student traits:

1. student goals and expectations
2. personal traits
3. educational traits
4. perceptual traits
5. socio-economic traits
6. geographic traits

The purpose of this exercise was to produce a general profile of
distance education students that would serve to identify their main characteristics as a group. This profile was intended to provide first impressions as to the accuracy of research hypotheses about the personal socio-economic, and geographic background of distance education students in British Columbia. In particular, it addressed the question of whether or not distance education students in the province can be considered to constitute an underprivileged or socially marginal group.

8.2 Goals and Expectations

The social status of distance education students could be expected to be reflected in their choice of educational programs and in their long-term educational and occupational goals. In general, the more academically or technically demanding programs of longer duration i.e. programs that usually require a relatively advanced level of prior educational achievement, would attract students whose family or social class background is conducive to a comparatively high aspiration level. On the other hand, programs that require little a priori educational achievement would be used mostly by students from modest circumstances, whose educational goals could be expected to be somewhat more limited.

Table 8.1 shows that distance education students were almost evenly divided into 3 program orientations:
- academic post-secondary;
- technical/vocational;
- secondary or less advanced education.

It is not possible to draw conclusions from such data regarding student backgrounds. However, it is notable that only 14.85% of distance education students surveyed were in non-academic secondary programs, i.e. programs designed especially to meet the needs of students whose previous level of academic achievement is marginal.

A majority (66.4%) of survey respondents intended to continue their education after completing their distance education experience, while only 10.8% did not intend to pursue their education further. Of those planning to continue their education, 57.1% planned to enter a university program as a first choice, while 35.1% planned to undertake career or technical education. These results indicate that a majority of distance education students were committed to long-term educational goals. This conclusion is substantiated in Table 8.2, which shows that 56.3% of survey respondents expected to achieve some form of university education.

In order to discover whether distance education students considered themselves to be socially mobile they were asked to indicate the direction their life would take with respect to work and education in the two years immediately following their distance education program. Almost half of the respondents expected some immediate change or improvement in their occupational status and over 70% expected to go on to some form
Table 8.1: Participation of Students in Distance Education in British Columbia by Program Type

<table>
<thead>
<tr>
<th>Program Type</th>
<th>Percentage of Respondents*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Academic post-secondary</td>
<td>33.0%</td>
</tr>
<tr>
<td>2. Academic secondary</td>
<td>9.3%</td>
</tr>
<tr>
<td>3. Secondary school completion</td>
<td>9.3%</td>
</tr>
<tr>
<td>4. Technical/vocational</td>
<td>35.1%</td>
</tr>
<tr>
<td>5. Adult basic education</td>
<td>5.5%</td>
</tr>
<tr>
<td>6. Non-credit course</td>
<td>7.0%</td>
</tr>
<tr>
<td>7. Other</td>
<td>0.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

* Based on aggregate results of 3 surveys of distance education students in British Columbia.

Table 8.2: Highest Lifetime Educational Achievement Expected

<table>
<thead>
<tr>
<th>Educational Achievement</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grade 12 or less</td>
<td>6.8%</td>
</tr>
<tr>
<td>2. Some university</td>
<td>18.6%</td>
</tr>
<tr>
<td>3. Bachelor degree</td>
<td>16.7%</td>
</tr>
<tr>
<td>4. Post-graduate degree</td>
<td>21.0%</td>
</tr>
<tr>
<td>5. Technical institute training</td>
<td>13.7%</td>
</tr>
<tr>
<td>6. Vocational or trade training</td>
<td>7.6%</td>
</tr>
<tr>
<td>7. Business school</td>
<td>2.6%</td>
</tr>
<tr>
<td>8. No idea</td>
<td>12.9%</td>
</tr>
<tr>
<td>9. Other</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

of further education. The students were also asked about their long term career and educational aspirations. The four most frequently cited career goals were:

- managerial (23.9% of respondents);
- teaching (10.8%);
- skilled technician (9.8%)
- semi-skilled or skilled social/medical professions (9.0%).
When occupational goals were classified as being associated with low, medium, or high educational requirements (See Appendix 1, pp. 4-6) it was apparent that 50.0% of survey respondents aspired to occupations involving high educational requirements, while 45.8% aspired to occupations with medium educational requirements; less than 5.0% of respondents aspired to other occupations. It would appear on the basis of the above findings that a majority of survey respondents saw distance education as a means to achieving substantially higher socio-economic status. Simply stated, distance education students as a group saw themselves as being upwardly mobile.

8.3 Personal Traits

If distance education was conceived as a means of expanding educational opportunity for the socially disadvantaged, then in order to fulfill this role it should be especially accessible to those whose personal characteristics have made the pursuit of conventional classroom-based learning difficult or inconvenient. In particular distance education should provide opportunities of the following categories of potential students:

1. women who, because of either child rearing and homemaking responsibilities or sexually stereotyped attitudes on the part of parents and spouses, missed the opportunity of immediately pursuing their educational interests beyond the secondary level;

2. adults over 25 years of age who, for various reasons, were
unable to directly continue their education beyond the secondary level;

3. married persons whose family and/or job responsibilities prevent them from undertaking a full-time educational program;

4. members of ethnic or cultural minorities who, either because of recent immigration to Canada or because of racial discrimination, have not had the opportunity or economic means of acquiring significant educational credentials within mainstream society;

5. people whose age order among siblings may have had some influence on their effective level of educational opportunity, either through motivational effects or through the order in which children get access to family resources that promote educational achievement;

6. persons whose family background has not been conducive to a smooth transition from secondary to post-secondary education, due to breakdown of their parents' marriage, reliance on a single parent, etc..

Distance education students surveyed were asked to provide information that would identify in a general way their personal traits in relation to the above criteria.

With regard to sex, age and marital status the following profile of distance education students emerged:

- A majority (53.5%) of survey respondents were female.
- Seventy percent of respondents were over 25 years of age.
Sixty percent of survey respondents were married; of those respondents under 18 years of age 73.8% had parents or guardians who were married.

On the basis of the above information, it can be surmized that distance education provides substantial benefits to women, to mature adults, to married persons, and to young adults from families headed by married parents. This suggests that distance education did effectively function as a second-chance educational opportunity, and that it attracts people from traditional family backgrounds.

Survey respondents were also asked about more detailed family/household characteristics. Ninety-five percent lived in households where English is the main language. Table 8.3 shows the household structure of respondents regarding the number of financial dependents. The largest group (40.5%) was that with two or three dependents. It is worth noting, however, that over half of those surveyed were from homes with either only one or no dependents. Table 8.4 shows that the largest respondent group with respect to age order was constituted of oldest children.

The foregoing indicated that the families of most distance education students cannot be considered to be socially marginal. The fact that they are overwhelmingly anglophone, and that they have relatively few financial dependents gives confirmation of this. The predominance of oldest and second oldest children among distance education students is not easy to interpret. It could simply suggest that older children are more motivated
Table 8.3: Financial Dependents in Households of British Columbia Distance Education Students

<table>
<thead>
<tr>
<th>Number of Dependents</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. none</td>
<td>32.8%</td>
</tr>
<tr>
<td>2. one</td>
<td>18.5%</td>
</tr>
<tr>
<td>3. two or three</td>
<td>40.5%</td>
</tr>
<tr>
<td>4. four or five</td>
<td>7.6%</td>
</tr>
<tr>
<td>5. over five</td>
<td>0.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Table 8.4: Age Order of Distance Education Students in British Columbia

<table>
<thead>
<tr>
<th>Age Order</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. only child</td>
<td>6.7%</td>
</tr>
<tr>
<td>2. oldest child</td>
<td>35.5%</td>
</tr>
<tr>
<td>3. second oldest child</td>
<td>26.7%</td>
</tr>
<tr>
<td>4. third oldest child</td>
<td>16.7%</td>
</tr>
<tr>
<td>5. fourth/more oldest child</td>
<td>14.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

toward academic achievement, or it could reflect the fact of family financial resources in lower and middle income groups being dispersed among competing uses and thereby inducing a delay in the effective access of older children to higher education. This would indicate that distance education is a second chance educational opportunity for older children from families of modest means.

8.4 Educational Traits

If distance education students are to be considered as an educationally disadvantaged group this should be reflected in
their educational backgrounds. There is, in fact, some validity in defining distance education students in British Columbia as educationally disadvantaged, when taking into account their age and the length of time since they were last in school. Table 8.5 shows that 41.0% of survey respondents had achieved secondary school graduation or less. Given that 70% were over 25 years of age and that 58% had been out of school for at least 3 years (See Table 8.6) it was apparent that distance education did, indeed, provide a second chance educational opportunity for many of these students.

However, the past academic performance and current educational objectives of distance education students also provide clues as to whether they can be seen as educationally disadvantaged. As regards academic performance in secondary school, only 5.8% of respondents reported having had below average grades, while 50.6% reported above average grades; another 43.7% had experienced average grades. Over half of respondents had majored in Arts and Science in secondary school, while 60% were currently taking distance education courses for academic credit. This information suggests that in terms of academic ability and motivation distance education students were not disadvantaged.

It would appear from the foregoing facts that distance education students in British Columbia were not disadvantaged in their educational ability or experience; except that they had not advanced continuously from secondary to post-secondary
Table 8.5: Highest Educational Level Achieved by Distance Education Students in British Columbia

<table>
<thead>
<tr>
<th>Achievement Level</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. some secondary schooling</td>
<td>14.5%</td>
</tr>
<tr>
<td>2. secondary school graduation</td>
<td>26.5%</td>
</tr>
<tr>
<td>3. apprenticeship/trade school</td>
<td>14.8%</td>
</tr>
<tr>
<td>4. special training diploma</td>
<td>3.4%</td>
</tr>
<tr>
<td>5. 1-2 yrs. community college</td>
<td>8.9%</td>
</tr>
<tr>
<td>6. 1-3 yrs university</td>
<td>19.9%</td>
</tr>
<tr>
<td>7. university degree(s)</td>
<td>8.8%</td>
</tr>
<tr>
<td>8. other</td>
<td>3.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Table 8.6: Time Since Last Attended Some Form of Schooling

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. more than 5 years</td>
<td>45.0%</td>
</tr>
<tr>
<td>2. 3 to 5 years</td>
<td>13.2%</td>
</tr>
<tr>
<td>3. 2 years or less</td>
<td>22.2%</td>
</tr>
<tr>
<td>4. presently attending a class</td>
<td>18.5%</td>
</tr>
<tr>
<td>5. never attended</td>
<td>1.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

education. For some 80% of survey respondents distance education represented a part-time, occasional or infrequent activity. This suggests that for most distance education students, this form of education provides an opportunity to upgrade their academic credentials while circumventing the circumstances in their lives that have prevented them from following a regular classroom-based form of education. This impression is strengthened by the fact that they were somewhat ambivalent about distance education as an alternative to classroom-based learning. Although 46.7% of survey respondents thought distance education was as effective or more effective than classroom
learning, 30.4% saw distance education as less effective than conventional education. In sum, it appears that many distance education students are people who lack neither the capacity nor the experience to engage in classroom-based learning, and in fact might have preferred a conventional mode of education. For these people distance education provides a practical, if not ideal, means of upgrading their educational credentials.

8.5 Perceptual Traits

The attitudes and perceptions of distance education students provided clues as to what extent they saw themselves as disadvantaged or socially mobile, and indicated what elements of their decision-making environment had the most influence over their educational goals and expectations. The three conditions most frequently cited by survey respondents as the most important factor affecting their decision to take distance education were:

1. inability to attend conventional classes due to job or family responsibilities (44.8% of respondents);
2. preference for greater personal independence in style of learning (24.8%);
3. inability to attend a conventional institution due to distance from the nearest institution (14.5%)

Table 8.7 summarizes the main reasons cited by respondents for not proceeding to further education beyond their distance
education objectives. While over half indicated limited motivation as the main factor, the second most frequent obstacle to further education was 'family and/or job responsibilities'; the third most prominent factor overall was 'financial limitations.' The overwhelming impression created is that distance education students are people whose main disadvantage with respect to post-secondary educational opportunity is that they are simply too busy attending to their careers and families to engaged in full-time campus-based education.

There were, however, indications that financial constraints do play a role in the decisions of distance education students about further education. Of those who intended to do further education, 56.8% were confident of having enough money, but 43.2% were either unsure or did not expect to have enough money. Almost 70% of survey participants felt they were not well-informed about government financial aid for students. While a majority of distance education students did not see money as a critical obstacle to the pursuit of higher education there were many for whom financial constraints were important.

The goals and expectations of distance education students reflected the anticipated benefits from this form of education. The three goals that were ranked equally by survey respondents as most important were:
1. increased occupational mobility;
2. personal development;
3. improved educational credentials.
The goal of increased income was relatively low ranked.

It would appear that most respondents placed a higher value on social mobility and personal achievement per se than on purely economic outcomes. This is borne out by Table 8.8, which shows that occupational mobility was by far the most important perceived long run effect of distance education on the careers of survey respondents, followed by improved educational credentials. Increased income was not seen as being an important consequence of participating in distance education.

These results lend credence to the credentialist premise that the role of education is particularly important in relation to the positional economy, as opposed to the material economy. They also suggest that distance education students are less concerned about improving their economic status than with increasing their range of occupational choices and improving their educational status. In other words, social mobility rather than economic necessity seems to be the primary motivational
8.6 Socio-Economic Traits

The choices made by distance education students regarding their educational and occupational goals, and the means of achieving those goals, are realized within a specific socio-economic environment. Therefore, the socio-economic class to which an individual belongs may have some bearing on the role of distance education in the pursuit of life path aspirations. The term socio-economic class as used here encompasses the immediate economic means of individuals, their long-term socio-economic status aspirations, and the social milieu of family and friends that may influence the individual's degree of upward social mobility. By examining the socio-economic class traits of distance education students it should be possible to surmise whether they are a relatively privileged or underprivileged social group.

The most direct indication of a person's social class is found in his or her employment and occupational status. Occupations that confer favourable socio-economic status are those that are associated with a combination of stable employment, good income, economic independence, and relatively high educational credentials. People who enjoy a high degree of socio-economic security can be expected to be either employed themselves in such occupations or to be from families sustained
Table 8.8: Most Important Perceived Effect of Distance Education on Career in Long Run

<table>
<thead>
<tr>
<th>Most Important Effect</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. no effect</td>
<td>10.8%</td>
</tr>
<tr>
<td>2. more occupational mobility</td>
<td>49.6%</td>
</tr>
<tr>
<td>3. increased income</td>
<td>4.5%</td>
</tr>
<tr>
<td>4. better educational credentials</td>
<td>22.0%</td>
</tr>
<tr>
<td>5. more self-confidence</td>
<td>10.7%</td>
</tr>
<tr>
<td>6. other</td>
<td>2.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

by such occupations.

Table 8.9 shows the distance education students surveyed were mainly from three employment status groups: employed full-time (31.5%), homemaker (21.1%), and employed part-time (20.4%). The interpretation of Table 8.9 in terms of the socio-economic status of survey respondents is ambivalent. If all those who have some form of employment outside the home are considered to have independent socio-economic status then it is apparent that 60% of survey respondents enjoyed some degree of economic independence, while 40% fell into what could be described as the economically dependent categories. However, if part-time employees, homemakers, students, the unemployed and retired persons are all counted as economically dependent groups, then it is apparent that 60% of survey respondents were economically dependent. In any case, it is clear that the largest single group of beneficiaries of distance education consisted of people who were employed full-time.
Table 8.9: Primary Employment Status of British Columbia Distance Education Students

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. self-employed</td>
<td>8.4%</td>
</tr>
<tr>
<td>2. employed full-time</td>
<td>31.5%</td>
</tr>
<tr>
<td>3. employed part-time</td>
<td>20.4%</td>
</tr>
<tr>
<td>4. homemaker</td>
<td>21.1%</td>
</tr>
<tr>
<td>5. student</td>
<td>5.7%</td>
</tr>
<tr>
<td>6. unemployed</td>
<td>11.4%</td>
</tr>
<tr>
<td>7. retired</td>
<td>1.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

It is a safe assumption that the socio-economic status conferred by any given occupation is usually related to the educational requirements of the occupation. Survey responses on occupations were classified according to the general educational requirements of various occupations (See Appendix 1, pp. 5-7).

It is clear from Table 8.10 that a large proportion of survey respondents were currently engaged in occupations that do not normally have high educational requirements. However, Table 8.11 shows that 70% of the fathers of distance education students were in occupations requiring medium to high levels of education. These results suggest that a large proportion of the distance education students surveyed were people of middle class background striving to emulate the socio-economic status of their parents.

Another important indicator of social class background is income. Survey responses concerning income levels were classified into five groups (See Appendix 1, p. 5). The distribution of respondents and their families among these...
Table 8.10: Current Occupation of Distance Education Students Grouped by General Educational Requirements

<table>
<thead>
<tr>
<th>Occupational Groups</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. low requirements</td>
<td>42.0%</td>
</tr>
<tr>
<td>2. medium requirements</td>
<td>36.6%</td>
</tr>
<tr>
<td>3. high requirements</td>
<td>14.2%</td>
</tr>
<tr>
<td>4. other</td>
<td>7.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Table 8.11: Occupations of Parents of Distance Education Students Grouped by General Educational Requirements

<table>
<thead>
<tr>
<th>Occupational Groups</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Father</td>
</tr>
<tr>
<td>1. low requirements</td>
<td>24.5%</td>
</tr>
<tr>
<td>2. medium requirements</td>
<td>41.1%</td>
</tr>
<tr>
<td>3. high requirements</td>
<td>29.3%</td>
</tr>
<tr>
<td>4. other</td>
<td>5.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Income groups in the year previous to the survey is shown in Table 8.12. While almost 70% of respondents were in the low or low medium income groups with regard to their own personal incomes, almost 65% came from families in the high medium or high income range, and fully one third came from families in the high income group. This evidence portrays a majority of distance education students as individuals from relatively affluent families. While as individuals they were of modest means, their family incomes indicated that a majority of these students were not from economically disadvantaged social classes.
Table 8.12: Income Levels of Distance Education Students and Their Families

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Percentage of Respondents</th>
<th>Percentage of Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.low</td>
<td>52.1%</td>
<td>13.0%</td>
</tr>
<tr>
<td>2.low medium</td>
<td>16.0%</td>
<td>13.7%</td>
</tr>
<tr>
<td>3.high medium</td>
<td>25.4%</td>
<td>31.9%</td>
</tr>
<tr>
<td>4.high</td>
<td>4.2%</td>
<td>33.0%</td>
</tr>
<tr>
<td>5.unknown</td>
<td>2.2%</td>
<td>8.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

The issue of whether or not distance education students surveyed were of privileged socio-economic status can also be clarified by reference to their sources of income. If they were underprivileged they could be expected to be relatively dependent on government financial aid, as opposed to income generated from employment or from within their own families. Almost half (48.8%) of the survey respondents indicated that their main source of financial support was earnings from work outside the home; the next most important (23.1% of respondents) source of income was 'direct support of parent, spouse, or other family members'; the most frequently-cited secondary source of income was 'personal savings'. Only 16% of respondents had decided to seek financial aid from the provincial government, while 56% did not intend to seek this form of financial support, most of the remainder were undecided. In general, the relatively high degree of financial autonomy of these distance education students suggests that they were not from underprivileged social classes.
The economic conditions that influence people to choose distance education over conventional classroom-based education reflect the socio-economic circumstances of distance education students. Table 7.13 indicates that the single most important consideration among survey respondents in taking distance education was the need to preserve the income received through employment, but transportation and housing expenses also carried substantial weight in the choice of distance education. It is apparent that distance education was selected on the basis of its convenience, i.e. it allows the student to pursue educational goals without having to interrupt career activities or incur distance costs arising from transportation or relocation.

It appears that distance education students surveyed were not from economically disadvantaged social classes, in that they were engaged in careers that generated an amount of income worth preserving. Their main disadvantages with respect to educational opportunity were logistical i.e. the lack of time to engage in a full-time schedule of courses and/or the inability to accept the distance costs associated with conventional classroom-based education.

Social class is also partially defined with reference to educational credentials. In general, people with high educational credentials tend to enjoy more affluent and stable economic conditions. Therefore, the social class background of distance education students can be described in terms of the
educational credentials of their friends and family members. A large majority of survey respondents had at least some contact with family members or friends who either participated or intended to participate in post-secondary education, as illustrated in Table 8.13. Contact with friends of this type was more prevalent than contact with family members.

Survey respondents were also asked about the educational achievement level of their parents. The overwhelming majority of distance education students surveyed had parents with low educational credentials. Approximately 70% of fathers and 80% of mothers of these distance education students had not achieved secondary school graduation. This is a remarkable result, given that in most other respects survey respondents were typically of middle class social backgrounds.

Apparently a majority of distance education students were originally from families whose parents had achieved economic success beyond what could be expected on the basis of their educational achievement. These students, although not disadvantaged in purely economic terms, could be considered to be culturally disadvantaged due to the low educational credentials of their parents. This would indicate that distance education provides an opportunity for inter-generational social mobility: middle class socio-economic status is first achieved for the family by relatively undereducated parents, then confirmed by their children through the acquisition of educational credentials.
Table 8.13: Distance Education Students With Friends or Family Members Involved in Post-Secondary Education

<table>
<thead>
<tr>
<th>Number Involved</th>
<th>Friends</th>
<th>Family Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. none</td>
<td>22.8%</td>
<td>31.4%</td>
</tr>
<tr>
<td>2. 1 or 2</td>
<td>24.8%</td>
<td>44.5%</td>
</tr>
<tr>
<td>3. 3 or 4</td>
<td>16.4%</td>
<td>15.5%</td>
</tr>
<tr>
<td>4. 5 or more</td>
<td>36.0%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

8.7 Geographic Traits

In order for distance education to promote a more equitable geographic distribution of educational opportunity it should provide educational services to people who, because of their location or their local living environment, would not normally have effective access to higher education. In addition, distance education could improve social equity by providing those in economically disadvantaged or geographically remote locations with credentials that would give them greater potential geographic mobility with respect to job markets.

Geographical aspects of distance education that were explored in the survey included:

1. the regional distribution of students;
2. the type of community lived in;
3. recent and expected future mobility patterns;
4. local spatial access to post-secondary education.

The purpose of geographically-oriented questions was to determine whether some people were predisposed toward distance
education on the basis of their distinct geographic characteristics, and whether or not the users of distance education could be considered to be people who were geographically disadvantaged.

Of particular interest was the question of whether distance education was used proportionally more by adults in the more geographically remote regions of British Columbia. People in non-metropolitan locations could be considered to be geographically disadvantaged in the sense of lacking direct spatial access to the major post-secondary institutions of the province. Disproportionally high use of distance education by adults in non-metropolitan regions would suggest that distance education was effective in overcoming geographical disadvantages that impeded access to higher education. Table 8.14 indicates that on a proportional basis distance education was more heavily used by non-metropolitan adults than by metropolitan adults, as evidenced by the fact that in most non-metropolitan college regions the percentage of British Columbia distance education students surveyed was greater than the percentage of the total provincial adult population. College regions of the metropolitan Lower Mainland and Greater Victoria, however, accounted for only 34% of British Columbia survey respondents whereas their combined adult populations represented 58% of the total 1981 British Columbia adult population.

In the absence of specially-adapted education delivery systems people who live in small communities normally have less
### Table 8.14: Regional Distribution of Distance Education Students Versus Adult Population of British Columbia

<table>
<thead>
<tr>
<th>College Region</th>
<th>% of B.C. Survey Respondents</th>
<th>% of B.C. Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vancouver</td>
<td>9.8</td>
<td>16</td>
</tr>
<tr>
<td>2. Douglas</td>
<td>6.0</td>
<td>12</td>
</tr>
<tr>
<td>3. Kwantlen</td>
<td>7.7</td>
<td>14</td>
</tr>
<tr>
<td>4. Capilano</td>
<td>3.9</td>
<td>6</td>
</tr>
<tr>
<td>5. Camosun</td>
<td>6.8</td>
<td>10</td>
</tr>
<tr>
<td>6. Malaspina</td>
<td>4.5</td>
<td>5</td>
</tr>
<tr>
<td>7. North Island</td>
<td>3.5</td>
<td>4</td>
</tr>
<tr>
<td>8. Fraser Valley</td>
<td>4.6</td>
<td>5</td>
</tr>
<tr>
<td>9. Okanagan</td>
<td>8.9</td>
<td>8</td>
</tr>
<tr>
<td>10. Selkirk</td>
<td>7.0</td>
<td>3</td>
</tr>
<tr>
<td>11. East Kootenay</td>
<td>7.7</td>
<td>3</td>
</tr>
<tr>
<td>12. Cariboo</td>
<td>10.7</td>
<td>5</td>
</tr>
<tr>
<td>13. New Caledonia</td>
<td>8.5</td>
<td>5</td>
</tr>
<tr>
<td>14. Northwest</td>
<td>7.2</td>
<td>3</td>
</tr>
<tr>
<td>15. Northern Lights</td>
<td>3.2</td>
<td>2</td>
</tr>
</tbody>
</table>

Total 100.0 100

Note: Percentages in column 2 were derived from B.C. Ministry of Education data.

Access to higher education than do the residents of large communities, where most post-secondary facilities are located. In this sense, residents of small communities can be considered to be geographically disadvantaged with respect to educational opportunity compared to those who live in metropolitan or other large urban areas. As distance education is designed to overcome geographical impediments that block access to higher education it can be expected that one of the main groups to benefit from distance education will be people who have resided for substantial periods of time in small communities.

The two community types where distance education students had lived longest were, respectively, 'major metropolitan area'
and 'small town'. Approximately half of all survey respondents had lived in either small towns or rural areas for ten years or more, indicating that distance education does, indeed, provide expanded educational opportunities to people from small communities. Nevertheless, the high frequency (42.4%) of distance education students who had lived ten years or more in a metropolitan region showed that the market for distance education was by no means restricted to small town and/or rural people. This form of education also provided very substantial service to metropolitan residents.

Given the relatively non-traditional instructional methods used by distance education and its more portable format it could be expected that this form of education would be used by people who are geographically mobile. It was not possible to generate strong evidence in support of this premise. In the recent experience of distance education students surveyed, local moves were much more numerous than moves of larger magnitude (i.e. regional, inter-provincial, international).

As regards future mobility, it was clear that survey respondents did not expect to become more geographically mobile as a result of their distance education experience. Only 16.3% of respondents had this expectation.

Another aspect of spatial mobility relevant to the accessibility of higher education is commuting travel. The distance and time required to commute to the nearest adult
education facility may determine the feasibility of participating in higher education. If spatial accessibility of adult education facilities is a decisive constraint on access to higher education it can be expected that a large proportion of distance education students will be people who live beyond the limits of reasonable physical access to facilities where adult education is available.

Survey respondents were asked to indicate the maximum time and distance they would be willing to travel in order to attend a course. Their response can be taken as an indication of acceptable levels of spatial accessibility for adult education programs. Almost one third of the distance education students surveyed were willing to commute over 30 km., while approximately 70% would travel over 11 km. The most frequently cited maximum acceptable travel time was 45 min.; only one third of all respondents were willing to travel one hour or more.

The distance and time actually required to travel to the nearest adult education facility indicate how physically accessible such facilities are to distance education students. Table 8.15 shows that the vast majority of distance education students were within easy access of an adult education facility. This was confirmed by the fact that over 70% of respondents indicated that transportation would not be a problem if they were to attend a course at the nearest available facility, and that they felt their area of residence was well served in terms of educational opportunities for adults. It is evident that
distance education students in British Columbia could not be considered to be disadvantaged with regard to spatial access to higher education facilities.

8.8 **Variables Linked to Student Aspirations**

8.8.1 **Identifying Key Variables**

It has been postulated (ch. 1, p. 34; ch. 7, pp. 331-333) that although distance education increases educational opportunity in an absolute sense through a wider geographic diffusion of educational programs, the actual distribution of educational opportunity resulting from distance education may reinforce existing patterns of socio-economic disparity. This is because some members of society are better positioned than others to take full advantage of distance education programs. Distance education, although potentially beneficial to all, is effectively accessible only to those who recognize it as an opportunity and possess both the academic ability and material means to participate in it.

In order to assess the potential of distance education as a means of promoting social and spatial equity we need to identify the particular characteristics of those persons whose social mobility will be enhanced by participating in distance education. In the absence of longitudinal data on the long term outcomes of exposure to distance education, student goals and aspirations can be treated as proxies for social mobility. Four
Table 8.15: Distance and Time to Nearest Adult Education Facility

<table>
<thead>
<tr>
<th>Distance</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. less than 1 km.</td>
<td>15.8</td>
</tr>
<tr>
<td>2. 1 to 5 km.</td>
<td>36.6</td>
</tr>
<tr>
<td>3. 6 to 10 km.</td>
<td>32.7</td>
</tr>
<tr>
<td>4. 10 km. or more</td>
<td>14.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 15 min. or less</td>
<td>52.0</td>
</tr>
<tr>
<td>2. 20 min. or less</td>
<td>24.7</td>
</tr>
<tr>
<td>3. 45 min. or less</td>
<td>11.7</td>
</tr>
<tr>
<td>4. 1.5 hrs. or less</td>
<td>11.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Such variables were identified in the survey of distance education students in British Columbia (See Table 3.2, p. 179.); these variables were:

1. intention to do further education or training after completing distance education;
2. first choice program for future education;
3. long term career goals;
4. highest expected level of educational achievement.

Survey responses of distance education students (See Table 3.2, p. 179.) to questions focused on these variables indicated which distance education students were most likely to be upwardly mobile. In order to determine which student traits were linked to social mobility in distance education students the above four aspiration variables were cross-tabulated against other profile characteristics of distance education students.
drawn from the 1981-82 surveys of distance education students in British Columbia. Chi-square tests were used to identify seven profile traits that were significantly related to at least three of the four aspiration variables at the 95% confidence level or better:

1. Student gender;
2. Perceived affordability of future education;
3. Degree of information regarding student financial aid;
4. Family income;
5. Personal income;
6. Students' present occupation;
7. Father's occupation.

This list can be simplified by stating that the social mobility of distance education students is significantly related to three broad types of student characteristic: gender; ability to pay for education; and occupational background.

8.8.2 Gender

Gender differences in distance education student aspirations were most pronounced with regard to intentions for pursuing future education choice of future educational programs, and long term educational goals. Of those survey respondents who intended to do further education beyond their distance education courses, 57% were female, while only 43% were male. In the case of students not going on to further education, these percentages were reversed, i.e. 57% were male and 43% were female. Table 8.16 shows that women were twice as likely as men to choose
university programs, and were slightly less inclined than men toward choosing vocational training. It is clear from Table 8.17 that women were substantially more attracted than men toward extended university studies and business training. Men, on the other hand, were more likely to have long term aspirations for technical and vocational credentials.

These findings suggest that women benefit more as a group from distance education than men do, in terms of the acquisition of post-secondary educational credentials. Whether this distribution of credentials in favour of women is equitably translated by the job market into a higher relative level of economic well-being for the women who have taken advantage of distance education is a moot point. It cannot be assumed that higher academic credentials allow women to escape the negative effects of sexism in the allocation of professional niches within the positional economy.

8.8.3 Ability to Pay for Education

It can be expected that the educational and occupational aspirations of distance education students will be influenced to some extent by their perceptions of the affordability of education, their access to information on student financial aid, and the actual income available to them and their families. Those students who are financially better supported and/or informed can be expected to have higher educational and occupational aspirations.
Table 8.16: Intention to do Further Education After Completing Distance Education, By Gender

<table>
<thead>
<tr>
<th>Intention Regarding Further Education</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>1. Yes</td>
<td>43.1%</td>
</tr>
<tr>
<td>2. No</td>
<td>57.0%</td>
</tr>
<tr>
<td>3. Undecided</td>
<td>51.4%</td>
</tr>
<tr>
<td>4. Total</td>
<td>46.5%</td>
</tr>
</tbody>
</table>

Table 8.17: Highest Expected Lifetime Education Achievement by Gender

<table>
<thead>
<tr>
<th>Education Achievement</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>1. Grade 12 or less</td>
<td>51.8%</td>
</tr>
<tr>
<td>2. Some university</td>
<td>42.0%</td>
</tr>
<tr>
<td>3. Bachelor</td>
<td>28.5%</td>
</tr>
<tr>
<td>4. Post graduate</td>
<td>39.8%</td>
</tr>
<tr>
<td>5. Technical</td>
<td>78.1%</td>
</tr>
<tr>
<td>6. Vocational</td>
<td>57.9%</td>
</tr>
<tr>
<td>7. Business</td>
<td>40.6%</td>
</tr>
<tr>
<td>8. No idea</td>
<td>44.7%</td>
</tr>
</tbody>
</table>

Table 8.18: Intentions for Further Education Versus Perceived Ability to Pay for Education

<table>
<thead>
<tr>
<th>Intention Regarding Further Education</th>
<th>Percentage of Respondents by Confidence Regarding Ability to Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Confident</td>
</tr>
<tr>
<td>1. Yes</td>
<td>61.4%</td>
</tr>
<tr>
<td>2. Undecided</td>
<td>43.9%</td>
</tr>
</tbody>
</table>

Table 8.18 shows the perceived affordability of further education for distance education students who either had decided to do further education or were still undecided. Those who had decided in favour of further education were substantially more confident of their ability to pay for it.
Table 8.19: Intentions for Further Education Versus Information Regarding Financial Aid

<table>
<thead>
<tr>
<th>Intention Regarding Further Education</th>
<th>Percentage of Respondents</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Informed</td>
<td>Not Informed</td>
<td>Total</td>
</tr>
<tr>
<td>1. Yes</td>
<td>34.2%</td>
<td>65.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. No</td>
<td>21.6%</td>
<td>77.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. Undecided</td>
<td>23.4%</td>
<td>76.6%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

It can be seen from Table 8.19 that those distance education students who had chosen to go on with their education were better informed about financial aid for students than were students who either didn't intend to go on or had not made up their minds. It is apparent that financial information is linked to the formation of long-term educational goals in distance education students.

The educational goals of distance education students are related to the ability of the students to pay for education. As illustrated in Table 8.20, students who aspired to secondary or vocational education were least confident of their ability to pay, while those aspiring to a university degree were most confident. This same general pattern was replicated with respect to the awareness of student financial aid, i.e. those aspiring to secondary or vocational education were least well-informed and those who expected to obtain a university degree were the most well-informed.

The decision to go on to further education beyond distance education is also related to family income, as shown in Table
Table 8.20: Highest Expected Educational Achievement Versus Perceived Ability to Pay for Education

<table>
<thead>
<tr>
<th>Highest Expected Education</th>
<th>Confidence Regarding Ability to Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Confident</td>
</tr>
<tr>
<td>1. Grade 12 or less</td>
<td>47.6%</td>
</tr>
<tr>
<td>2. Some university</td>
<td>56.3%</td>
</tr>
<tr>
<td>3. Bachelor degree</td>
<td>67.9%</td>
</tr>
<tr>
<td>4. Post graduate degree</td>
<td>64.8%</td>
</tr>
<tr>
<td>5. Technical training</td>
<td>51.0%</td>
</tr>
<tr>
<td>6. Vocational training</td>
<td>42.0%</td>
</tr>
<tr>
<td>7. Business school</td>
<td>54.2%</td>
</tr>
<tr>
<td>8. No idea</td>
<td>48.6%</td>
</tr>
</tbody>
</table>

Table 8.21: Intentions for Further Education Versus Family Income

<table>
<thead>
<tr>
<th>Intention Regarding Further Education</th>
<th>Percentage of Respondents by Family Income Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Low Medium High Medium High Unknown Total</td>
<td></td>
</tr>
<tr>
<td>Yes 9.7% 8.4% 19.6% 23.0% 5.8% 66.6%</td>
<td></td>
</tr>
<tr>
<td>No 1.3% 1.9% 3.2% 3.3% 1.0% 10.7%</td>
<td></td>
</tr>
<tr>
<td>Undec'd 2.0% 3.4% 9.1% 6.7% 1.5% 22.8%</td>
<td></td>
</tr>
<tr>
<td>Total 100.0%</td>
<td></td>
</tr>
</tbody>
</table>

8.21. In general, those who had decided to further their education were in the higher income groups. This finding lends weight to the contention that those who benefit most from participation in distance education are from relatively privileged socio-economic origins. The future educational objectives of distance education students were related to their respective family incomes. Students from high income families were more likely to choose university programs than career/technical or vocational programs.
When the personal incomes of distance education students were considered, however, a re-interpretation of the relationship between income and the affordability of higher education was called for. Over half (57.1%) of those going on to further education were in the lowest personal income group. This implies that, although many distance education students are from affluent families, they depend on family or spousal income rather than on their own personal income to sustain their educational activities.

The ability of distance education students to pay for further education was also related to their lifetime occupational goals. In general, those occupations that require a high level of educational achievement were aspired to by students who were confident about their ability to pay for further education, and who were from high income families. Students from low income families usually aspired to occupations that require less formal education.

8.8.4 Occupational Background and Student Aspirations

Information on the occupational origins and aspirations of distance education students is useful for identifying the beneficiaries of distance education and their expected degree of social mobility. The term 'occupational background' as used here refers to the occupational status of both the student and the student's father, as in most cases the student's economic well-being is likely to be affected by these two variables in
combination. In analyzing this issue, occupations were grouped into three broad categories according to the level of formal schooling normally required of people in a given occupation (see Appendix 1).

Table 8.22 shows that the majority of distance education students aspiring to the educational goals of secondary schooling, vocational training or business schooling were from occupational backgrounds that have low requirements in terms of educational credentials. On the other hand, students aspiring to a university degree were comprised in a large measure of persons from occupations having medium or high educational requirements. Thus, it would appear that upward mobility in terms of educational goals is associated with the a priori participation in occupations linked to high educational achievement. Distance education students whose current occupational status does not depend on educational achievement are less likely to have high long term educational goals.

The educational goals of distance education students were also related to the occupational status of the students' fathers (Table 8.23). Students whose fathers were in occupations where educational requirements are low were attracted to goals that do not require an extended post secondary education. In contrast, students whose fathers' occupations require high educational credentials were much more inclined toward achieving a university degree. The above findings were reinforced by data collected on the program choices of distance education students.
Table 8.22: Student's Occupational Background Versus Lifetime Educational Goal

<table>
<thead>
<tr>
<th>Educational Goal</th>
<th>% of Respondents by Current Occupational Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Ed.</td>
</tr>
<tr>
<td>1. Grade 12 or less</td>
<td>51.3%</td>
</tr>
<tr>
<td>2. Some University</td>
<td>43.0%</td>
</tr>
<tr>
<td>3. Bachelor</td>
<td>33.0%</td>
</tr>
<tr>
<td>4. Post-grad</td>
<td>28.8%</td>
</tr>
<tr>
<td>5. Vocational</td>
<td>53.5%</td>
</tr>
<tr>
<td>6. Business</td>
<td>65.5%</td>
</tr>
<tr>
<td>8. No idea</td>
<td>50.0%</td>
</tr>
</tbody>
</table>

Table 8.23: Father's Occupational Background Versus Student's Lifetime Educational Goal

<table>
<thead>
<tr>
<th>Student's Educational Goal</th>
<th>% of Respondents by Father's Occupational Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Ed. Req's</td>
</tr>
<tr>
<td>1. Grade 12 or less</td>
<td>33.8%</td>
</tr>
<tr>
<td>2. Some University</td>
<td>25.8%</td>
</tr>
<tr>
<td>3. Bachelor</td>
<td>19.3%</td>
</tr>
<tr>
<td>4. Post-graduate</td>
<td>18.2%</td>
</tr>
<tr>
<td>5. Technical</td>
<td>28.3%</td>
</tr>
<tr>
<td>6. Vocational</td>
<td>27.1%</td>
</tr>
<tr>
<td>7. Business</td>
<td>33.3%</td>
</tr>
<tr>
<td>8. No idea</td>
<td>28.0%</td>
</tr>
</tbody>
</table>

for future education. In general, students who chose more academically demanding and extended programs were from occupation backgrounds (theirs and their fathers') that stressed educational credentials. Those from less education-oriented occupations tended to choose programs of shorter duration and less academic content i.e. technical/vocational, secondary, and adult basic education.
The long term occupational goals of distance education students were associated with the perceived affordability of higher education, the student's occupational background, and the income level of the student and his/her family. The pattern of association was similar to that of educational goals.

It is apparent from Table 8.24 that distance education students who perceive further education as unaffordable are more likely to have occupational goals that are not linked to high educational credentials; in contrast, students who are confident of their ability to pay for education are more susceptible to choosing occupations with high educational requirements. Thus, the student's immediate economic status may influence his/her vision of what is possible to achieve in the future.

The lifetime occupational goals of distance education students were related to their current occupational status. Students already involved in occupations with high educational requirements were much more likely to see such occupations as lifetime goals, as shown in Table 8.25; those engaged in occupations with low educational credentials had relatively modest occupation goals. A similar pattern prevailed with respect to the occupations of fathers: students whose fathers' occupations usually require higher education were prone to choose occupations similar to those of their fathers while those whose fathers' occupations require little education had less interest in highly ranked occupations. This indicates a tendency for the allocation of occupations to be reproduced from
Table 8.24: Student's Long Term Occupational Goal Versus Confidence Regarding Ability to Pay for Education

<table>
<thead>
<tr>
<th>Occupational Type</th>
<th>% of Respondents by Ability to Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Confident</td>
</tr>
<tr>
<td>1. Medium Education</td>
<td>49.6%</td>
</tr>
<tr>
<td>2. High Education</td>
<td>63.2%</td>
</tr>
</tbody>
</table>

Table 8.25: Students' Occupational Goals Versus Students' Present Occupations

<table>
<thead>
<tr>
<th>Occupational Goal by Education Required</th>
<th>% of Respondents by Occupational Type According to Education Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Ed. Req's</td>
</tr>
<tr>
<td>1. Medium Education</td>
<td>49.3%</td>
</tr>
<tr>
<td>2. High Education</td>
<td>34.7%</td>
</tr>
</tbody>
</table>

generation to generation.

The same tendency of the social hierarchy to reproduce itself was evident in the relationship between occupational goals of distance education students and their respective income categories. While few of the survey respondents had high incomes, it was nevertheless found that those who had high occupational aspirations were likely to be from families with high incomes. Conversely, the occupational goals of those from low income families were quite limited by comparison.
This chapter has reviewed the profile traits of distance education students in British Columbia with a view to probing their social status, their aspirations, and the likely impact of distance education on their potential social mobility. It is clear that most of these students consider themselves to be upwardly mobile. Their aspired degree of social mobility, however, is closely tied to the occupational status of their fathers. Thus, most distance education students are simply emulating the socio-economic achievements of their fathers rather than attempting to rise above their socio-economic origins. Their main immediate concern is to achieve social mobility per se, rather than to achieve a higher income.

The question of whether distance education students are from disadvantaged social groups is debatable. Certainly, in purely socio-economic terms distance education students are mostly from financially and socially secure, stable families. On the other hand, many of these students are persons whose parents have modest educational credentials and whose own schooling was interrupted for a number of years prior to entering distance education. The strong academic background of most distance education students indicates they are capable and ambitious students who are making up for lost time and seeking inter-generational social mobility by surpassing their parents' academic achievement levels. The fact that a majority of these
students are women with relatively high aspiration levels suggests that distance education provides increased opportunity to women whose early career ambitions were frustrated by lack of parental financial support or by the constraints of family life.

In relative terms distance education does provide greater benefits to rural areas and small communities of British Columbia than to large urban centres. Nevertheless, a very substantial percentage of distance education students are of metropolitan origin, reflecting a considerable absolute benefit of this form of education to the metropolitan southwest. Moreover, when commuting time to the nearest adult education facility and the level of local adult education service are considered the vast majority of distance education students, in British Columbia cannot be considered to be locationally disadvantaged in terms of physical access to the education system. For most participants, distance education is not a necessity imposed by geographic disadvantage but rather a convenience in accommodating to the demands of career and family responsibilities.
CHAPTER 9
SOCIAL MOBILITY AND SOCIAL CLASS DIFFERENCES

9.1 The Importance of Social Class

It has been asserted (ch. 7) that in British Columbia the privileged social classes enjoy relatively greater opportunity for post-secondary education than the rest of society, in several ways:
1. higher educational achievement in general, embodied in higher credentials;
2. greater educational participation rates;
3. sexual stereotyping such that men and women have differing degrees of upward social mobility according to their social class origins;
4. residential segregation of social classes that provides a living environment to the more affluent that is more conducive to participation in higher education;
5. ethnic and racial inequities that favour anglophones.

It has also been argued that because of their socio-economic advantages, members of the more affluent social classes are more likely to benefit from distance education than other social classes do. The impact of distance education on social inequality is thought to vary by the sex, location and ethnic background of distance education students, and may also vary in relation to other student characteristics.
In order to discover if there were sub-groups within social classes that were more apt than their socio-economic peers to take advantage of distance education, the profile characteristics of distance education survey respondents were first classified into the following broad categories:

1. Student Goals and Expectations
2. Personal Traits
3. Educational Traits
4. Perceptual Traits
5. Socio-Economic Traits
6. Locational Traits

Variables in the category 'Student Goals and Expectations' were considered to be outcomes associated with specific personal, socio-economic and geographic conditions and were therefore treated as dependent variables in relation to variables in other categories.

To identify student profile traits that were related to social class origins of distance education students, a number of student profile variables were selected from surveys of distance education students (See Table 3.2, p. 179; also Appendix 1.) for cross-tabulation against a group of variables that represented social class. Chi Square analysis was used to select those variables most closely associated with both the educational goals of students and with their socio-economic origins. In order to be retained for detailed examination, student profile characteristics had to meet at least two of the following
criteria:
* Association at the 95% confidence level or better with one or more variables representing the category 'Student Goals and Expectations';
* Association at the 95% confidence level or better with one or more variables representing the category 'Socio-Economic Traits';
* A discernable pattern of association in cross-tabulation against one or more socio-economic variables.

Variables that were initially included in this exercise included the following:

1. Student Goals and Expectations
   a. intention to continue education after distance education
   b. long term career goal
   c. long term educational goal

2. Personal Traits
   a. gender
   b. number of financial dependents in household
   c. use of English as main home language

3. Educational Traits
   a. highest education level completed
   b. time since last attending school
   c. academic performance in secondary school
   d. perceived effectiveness of distance education

4. Perceptual Traits
   a. confidence regarding ability to finance further education
b. most important factor against further education
c. most important goal in taking distance education
d. most important effect of distance education on career
e. level of information regarding government financial aid

5. Socio-Economic Traits
a. current employment status
b. current occupation of student
c. father's occupation
d. mother's occupation
e. total family income
f. income of student
g. father's education level
h. mother's education level

6. Locational Traits
a. difficulty of transportation to attend classes
b. level of local educational opportunity
c. distance to nearest adult educational facility
d. time lived in major metropolitan area(s),
e. time lived in major regional towns
f. time lived in small towns
g. time lived in rural area(s)
h. number of moves between countries
9.2 Personal Traits

Based on arguments and evidence cited earlier (ch. 7) it is to be expected that females benefit more than males do from distance education. Results of studies elsewhere (McIntosh, 1972, op. cit.) suggest that distance education is most useful for females from a privileged social class background, and for males from an underprivileged social class background. In the instance of this study, social class background was interpreted as social class origins. Thus, while the student's current socio-economic status as an individual is of interest, it is the socio-economic status of the student's family, especially the father, which is important as it had been shown elsewhere to be related to the long term educational and occupational goals of students (Brown and Poiker, 1982).

Results of this survey showed that the largest single group of respondents (30.1% of the sample) was made up of women whose current occupational status was low in terms of educational requirements. In general, the current occupational status of males surveyed was higher than that of females with respect to educational credentials. However, when the occupational status of the students' fathers was considered it was found that a higher percentage of women than men (33.3% vs. 24.8%) had high status fathers while a higher percentage of men than women (28.1% vs. 21.6%) were of low status fathers. Similarly, women were more likely than men to be of high income families, and to
have well-educated fathers. Of men surveyed, 68.1% had fathers with Grade 8 or less, while the same was true for only 58.3% of women surveyed.

These results give credence to the idea that while the educational ambitions of sons are promoted before those of daughters in all social classes, daughters of the more privileged social classes are more willing and able than others to take advantage of second-chance opportunities for learning via distance education. In the case of men, it would appear that sons of underprivileged families either postpone their educational interests and/or pursue them through the more indirect route that distance education provides.

Besides gender, the other personal trait of distance education students that was significantly associated with social class, according to Chi Square Analysis, was the use of English as the main language at home. As illustrated in Table 9.1 a higher proportion of distance education students from non-anglophone homes were in low-status occupations, as compared to anglophones students. Anglophone distance education students were also more likely than non-anglophones to be from high income families (Table 9.2). These results show that distance education students from English-speaking homes tended to be from a more favoured social class background than that of their non-anglophone counterparts.
Table 9.1: Use of English at Home Versus Student's Current Occupation

<table>
<thead>
<tr>
<th>Main Language at Home</th>
<th>Occupational Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>1. English</td>
<td>41.7%</td>
</tr>
<tr>
<td>2. Non-English</td>
<td>52.6%</td>
</tr>
</tbody>
</table>

Table 9.2: Use of English at Home Versus Family Income

<table>
<thead>
<tr>
<th>Main Language Used at Home</th>
<th>Family Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>1. English</td>
<td>12.6%</td>
</tr>
<tr>
<td>2. Non-English</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

9.3 Educational Traits

If the relationship postulated earlier between education achievement and socio-economic status holds true for distance education students, then those who have higher educational credentials should occupy more favourable positions in the social class hierarchy, both in terms of their status as individuals and in terms of their families' social status. In general, this proved to be the case for survey respondents with respect to all indicators of social class that were tabulated.

Table 9.3 shows that, in most cases; distance education students with low educational credentials had jobs of low or medium status, while those with high academic credentials were more likely to have medium-to-high occupational status. The case
Table 9.3: Education Achievement Level Versus Current Student Occupational Status

<table>
<thead>
<tr>
<th>Educational Achievement</th>
<th>Occupational Status</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Some secondary school</td>
<td></td>
<td>64.3%</td>
<td>22.1%</td>
<td>5.2%</td>
<td>8.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Grade 12</td>
<td></td>
<td>52.1%</td>
<td>32.3%</td>
<td>7.6%</td>
<td>8.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. Apprenticeship</td>
<td></td>
<td>11.1%</td>
<td>66.7%</td>
<td>18.5%</td>
<td>3.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>4. Trade school</td>
<td></td>
<td>21.0%</td>
<td>63.6%</td>
<td>11.2%</td>
<td>4.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>5. Special training</td>
<td></td>
<td>30.0%</td>
<td>62.5%</td>
<td>2.5%</td>
<td>5.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>6. Community college</td>
<td></td>
<td>44.2%</td>
<td>38.9%</td>
<td>9.5%</td>
<td>7.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>7. Some university</td>
<td></td>
<td>41.1%</td>
<td>31.4%</td>
<td>18.4%</td>
<td>9.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>8. Bachelor's degree</td>
<td></td>
<td>22.7%</td>
<td>25.0%</td>
<td>46.6%</td>
<td>5.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>9. Post-graduate degree</td>
<td></td>
<td>23.1%</td>
<td>23.1%</td>
<td>53.8%</td>
<td>NIL</td>
<td>100.0%</td>
</tr>
<tr>
<td>10. Other</td>
<td></td>
<td>38.9%</td>
<td>27.8%</td>
<td>25.0%</td>
<td>8.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>42.0%</td>
<td>36.6%</td>
<td>14.2%</td>
<td>7.2%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

of students with a community college background was somewhat ambivalent, and could reflect the fact that most community colleges in British Columbia are situated in areas where the labour market is not as diversified or as buoyant as in the Metropolitan Southwest. It was also apparent, that the occupational benefits of unfinished university credentials (i.e. some university) were substantially less than those accrued from completed degree programs.

Distance education students whose fathers had high occupational status were much more likely to have obtained high academic credentials than were those with fathers of low status (See Table 9.4). Conversely, a higher percentage of students whose fathers had low status were low education achievers. This evidence confirms the view that high socio-economic status confers upward social mobility via the education system, while
low status impedes social mobility. However, the unexpectedly high percentage (31.3%) of students with graduate degrees who had fathers of low occupational status indicates there is a notable minority of individuals from disadvantaged social backgrounds who may overcome social class barriers through high academic achievement.

Data collected on the family incomes of distance education students support the notion that members of the more advantaged social classes are in a better position than others to take advantage of distance learning opportunities. Of the entire sample 12.9% were from low income families. However, 16.9% of those with only some secondary schooling and 14.0% of those with a Grade 12 diploma were from low income families. With regard to high income family origins 33.1% of the sample were in this category; however, the percentages of high income distance
education students with some university, a bachelor's degree, or a post-graduate degree were respectively, 41.6%, 45.2%, and 80.0%. Those students of high medium income families were more frequently associated with the education achievement categories 'apprenticeship', 'trade school', and 'special training' than was the case for the sample as a whole. Students of 'low medium' income origins were highly associated with the 'Grade 12', 'trade school' and 'community college' achievement categories.

Thus, social class origins of students were linked to the segmentation of educational credentials into academic/non-academic, technical/non-technical, and manual/non-manual categories that are frequently associated with distinct occupational categories. The eventual position of the student in the social class hierarchy is tied to the screening function played by the education system. The corollary of this is that the ultimate outcomes of participation in distance education are likely to be different for students of different social class origins. This is because students come into the distance education system with prior credentials that are quite dissimilar and also unequal in the degree of potential social mobility conferred on the individual.

Not surprisingly, there was also a relationship between the educational achievement of distance education students and that of their fathers. Students with under-educated fathers tended to be relatively more numerous in 'some secondary school', 'Grade 12', and 'apprenticeship' achievement categories as opposed to
those credentials requiring more extensive schooling.

One of the main virtues that has been claimed for distance education by its supporters is that it provides an avenue of access to higher education for those who have been away from schooling for some time and who in the absence of distance education would not be able to pursue their educational interests. The fact that half of the sample had been away from formal schooling for more than five years supports this contention. Of those who had not attended school for over six years, 41.1% were currently engaged in low status occupations. Thus, there was a substantial minority of people (20.6% of the total sample) of low social class status for whom distance education was fulfilling the function of providing a channel for re-entry into formal education after a long absence.

A similar situation prevailed with respect to the length of time out of school versus the occupational and educational status of the fathers of distance education students. Those students who had been out of school for five years or more were more likely than others to have fathers with low occupational and educational status. On the other hand, distance education students who were currently attending other courses were more subject than others to being of fathers with high occupational and educational status. For this latter group of students distance education was not needed to re-enter the formal education system but rather to complement and/or facilitate other educational activities currently in progress.
An attempt was made to discover whether there were qualitative differences in the impact of distance education on students from different social class backgrounds. If it is assumed that students of higher social class background generally have more well-developed academic skills, it could then be expected that they would be more able than low socio-economic status students to cope with the independent learning style usually associated with distance education. Little firm evidence was generated by the survey on this issue. Those from low status occupations were inclined to see distance education as more effective than conventional learning methods, while those with high status jobs were inclined to see it as less effective. However, the differences between the two groups, if significant, were not very large.

It could be expected that the academic performance of secondary students is related to their respective socio-economic origins. Students whose parents possess relatively high academic credentials and whose family incomes are above average would presumably be more motivated to do well in school and would receive more economic support from their families for the pursuit of educational goals. Thus, students from a more privileged social class background would be in a favoured position to take full advantage of distance education opportunities.

Distance education students were surveyed regarding both their own academic performance in secondary school and the
social class traits of their parents (including educational credentials). The division of survey respondents into groups by academic performance in secondary school was as follows:

* Top students = 12.5%
* above average students = 38.4%
* average students = 43.7%
* below average students = 5.0%

About 50.0% were people who had been either above average or top students in high school.

Cross-tabulation of the academic performance of distance education students in secondary school against socio-economic variables revealed the following relationships:

1. Students who were low achievers in high school had a higher than average incidence of under-educated parents (Grade 8 or less).
2. Students whose fathers were of high occupational status were more likely than others to have been above average or top students in high school.
3. Students from the highest family income group were relatively numerous among those who had been above average or top students in high school.

Thus, it is apparent that distance education students from favoured social class backgrounds tended to have greater potential for upward social mobility in terms of educational achievement.
9.4 Perceptual Traits

The extent to which individuals take advantage of distance education opportunities is at least partially a function of their perceptions regarding the accessibility of higher education and their personal motivations. If it can be shown that there is a systematic association between attitudinal variables and social class traits, then it will be possible to identify socio-economic sub-groups that are predisposed toward participation in distance education.

When the current occupations of survey respondents were classified into three broad categories according to general educational achievement levels normally associated with their respective occupations, it was apparent that those in high status occupations were more confident as a group than those with low status occupations of being able to afford future education. However, it was notable that 44.5% of the total sample were distance education students of low or medium occupational status who expressed confidence regarding their ability to finance further education. Thus, although there were social class differences that favoured those of more privileged occupational background, there was a very sizeable group of students who were participating in distance education despite their low occupational status.

As can be seen from Table 9.5, distance education students from high income families were relatively confident about their
Table 9.5: Confidence Regarding Affordability of Further Education Versus Family Income

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>Family Income</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>Unknown</td>
</tr>
<tr>
<td>1. Confident</td>
<td>9.1%</td>
<td>10.3%</td>
<td>29.3%</td>
<td>42.9%</td>
<td>8.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Unsure</td>
<td>13.0%</td>
<td>18.8%</td>
<td>38.8%</td>
<td>22.1%</td>
<td>7.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. Not confident</td>
<td>25.7%</td>
<td>14.5%</td>
<td>30.2%</td>
<td>19.6%</td>
<td>10.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>13.0%</td>
<td>13.3%</td>
<td>32.0%</td>
<td>33.3%</td>
<td>8.4%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

ability to finance further education, while those from low income families were substantially less confident. Over 40.0% of all respondents were persons from high medium or high income families who were confident about the affordability of future education. It was evident that, in general, higher education was seen as more financially accessible by those from affluent economic origins, who constituted the largest single group of distance education students.

Conditions cited by survey respondents as the main obstacle to further education were cross-tabulated against socio-economic variables, to reveal the following relationships:

1. The most frequently cited obstacles in general to further education were 'limited motivation' and 'family or job commitments'.

2. Students in the lowest income group were much more prone than others to perceiving 'location of post-secondary facilities' and 'family or job commitments' as major obstacles to further education.
3. Students in low status occupations were much more subject than others to seeing 'limited financial means' and 'location of post-secondary facilities' as major obstacles to further education.

4. Students from low income families were proportionally more impeded than others by limited funds and locational constraints, while 'lack of motivation' was relatively more prevalent among those of high income families as a major reason for not going on to further education.

5. Family or job responsibilities had a greater-than-average impact upon both those from low income families and those of upper middle income families as an obstacle to further education.

It was apparent that distance education students of low social class background had less potential upward social mobility than distance education students as a whole, and that this lack of upward mobility was related to economic, geographic and job/family constraints.

Employment status is at least a partial indicator of social class in that it denotes a person's relative degree of economic security and/or independence. Table 9.6 shows that the educational goals of those in the least independent groups, namely part-time workers, homemakers, students and the unemployed, were somewhat different from those of other distance education students in the sense that they were more geared to job preparation and educational credentials as opposed to job
Table 9.6: Two Leading Goals of Distance Education Students, by Employment Status

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Educational Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Education Credentials</td>
</tr>
<tr>
<td>1. Self-employed</td>
<td>*</td>
</tr>
<tr>
<td>2. Employment</td>
<td>*</td>
</tr>
<tr>
<td>full-time</td>
<td></td>
</tr>
<tr>
<td>3. Employment</td>
<td></td>
</tr>
<tr>
<td>part-time</td>
<td></td>
</tr>
<tr>
<td>4. Homemaker</td>
<td></td>
</tr>
<tr>
<td>5. Student</td>
<td>*</td>
</tr>
<tr>
<td>6. Unemployed</td>
<td>*</td>
</tr>
<tr>
<td>7. Retired</td>
<td>*</td>
</tr>
</tbody>
</table>

mobility and personal development. It would appear that those of less secure economic status are bound to pragmatic decisions designed to initiate upward social mobility rather than to merely complement it.

Similar results were obtained in tabulating educational goals against occupational and income variables. Those survey respondents who were of low socio-economic status with respect to their own respective occupations, the occupations of their fathers, their own personal incomes or their family incomes were substantially more oriented than the sample as a whole toward 'educational credentials' and 'job preparation' as educational goals. On the other hand, distance education students of high socio-economic status were relatively more inclined than others to choose 'increased income', 'job mobility', and 'personal development' as primary educational goals. In terms of upward social mobility it was apparent that those of privileged social class origins were preoccupied with climbing the social ladder.
while those of low social class status were simply intent on getting onto the bottom rungs of the social ladder.

The expectations of survey respondents as to the long term effect of distance education on their careers also varied by social class traits. In general, the most frequently perceived effect (53.0% of all respondents) was 'increased job mobility'. However, when respondents were grouped by their current occupations, their personal incomes and their family incomes, their respective patterns of perceived career effects were significantly different from that of the sample as a whole. The most notable associations of perceived effects with socio-economic status groups were as follows:

1. low socio-economic status—increased access to higher levels of education;
2. middle socio-economic status—increased job mobility;
3. high socio-economic status—increased income.

This again confirms the notion that while distance education students of low socio-economic status are mainly concerned with merely establishing a foothold in the positional economy, those of higher status are mainly concerned with enhancing the benefits they already reap from their more favoured position in the social hierarchy. Thus, high status students have a "head start" in terms of social mobility over their less fortunate peers.

The relationship between the level of information of distance education students regarding financial aid and their
social class origins can be interpreted differently, depending on assumptions about how the financial information fields of people differ according to their socio-economic status. It may be assumed that persons of higher social class status live in a more information-rich environment and are therefore better informed of opportunities for financial support. On the other hand, it may be argued that students of less favoured socio-economic backgrounds are of necessity better informed of government student aid programs because they lack the means to be self-supporting and are therefore, forced to look for alternative sources of support.

Evidence was found to support both of the above hypotheses. On the one hand, distance education students with the lowest personal and family incomes were better informed than their more affluent counterparts, as show in Table 9.7. On the other hand, students whose parents had high occupational status and/or high educational credentials tended to be better informed than others (See for example, Table 9.8). With regard to employment status the three most well-informed groups were: part-time workers, students, and the unemployed.

These findings support the contention that although students from economically favoured social origins may be generally more well-informed of financial resources at their disposal, those individuals whose economic position is least secure are compelled to become more well-informed than most students regarding student financial aid. Thus, initial lack of upward
mobility may be partially compensated for by increased personal information on financial aid.

9.5 Locational Traits

Ideally, the effect of distance education on access to higher education opportunities would be to rectify any disparities based on either social class or location by providing educational opportunities to the under-privileged that they would not normally enjoy. However, if wealth and other social class advantages are geographically concentrated in areas where access to higher education is already very favourable, then the provision of distance education programs may simply accelerate the social mobility of the already privileged by providing them with yet another channel for obtaining higher educational credentials. Thus, the ultimate effect of distance education could be to aggravate social class disparities by improving the relative position of those who already enjoy both socio-economic and locational advantages.

Such an outcome would not negate the benefits to society in general of an absolute increase in higher educational opportunity derived from distance education. Nevertheless, if the goal of distance education is to reduce social class and geographic disparities in access to higher education this purpose could be obstructed by a strong a priori imbalance of educational opportunity in favour of the more affluent social
Table 9.7: Awareness of Student Financial Aid Versus Family Income

<table>
<thead>
<tr>
<th>Family Income</th>
<th>Informed</th>
<th>Not Informed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low</td>
<td>37.7%</td>
<td>62.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Low medium</td>
<td>24.8%</td>
<td>75.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. High medium</td>
<td>27.2%</td>
<td>72.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>4. High</td>
<td>32.8%</td>
<td>67.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>5. Unknown</td>
<td>33.3%</td>
<td>65.6%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 9.8: Awareness of Student Financial Aid Versus Father's Occupational Status

<table>
<thead>
<tr>
<th>Father's Occupational Status</th>
<th>Informed</th>
<th>Not Informed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low</td>
<td>26.7%</td>
<td>73.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Medium</td>
<td>28.4%</td>
<td>42.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. High</td>
<td>38.3%</td>
<td>61.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. Unknown</td>
<td>37.3%</td>
<td>62.7%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

classes, in particular if this imbalance favours urban over rural locations.

Cross-tabulation of locational traits of distance education students against their socio-economic traits was carried out to discover to what extent social class advantages were associated with locational advantages. If a consistent pattern of association between high socio-economic status and favourable geographic location of distance education students were identified this would indicate that distance education had the effect of providing relatively more potential social mobility to the privileged urban social classes than to the socially and/or geographically under-privileged.

Survey respondents were asked how difficult it would be to arrange for transportation if they were attending a course in
the nearest town, there was a very consistent pattern of variation according to social class traits. Respondents who, in terms of occupational status, employment status, personal income and family income, were of privileged social class background had less difficulty with transportation than did those of lower socio-economic status. This is illustrated in Tables 8.9 and 8.10.

These findings indicate that distance education students of upper middle class backgrounds are more spatially mobile than those of less fortunate economic circumstances and thus, would have easier access to post-secondary education facilities in the absence of distance education. In this context, students of high socio-economic status have greater potential upward mobility because they have more access routes to higher education. However, it is noteworthy that a majority of all distance education students did not have difficulty with transportation; thus, for many students of low socio-economic status transportation was not a crucial constraint on access to higher education.

Survey respondents were also asked to indicate how well-served their home communities were in terms of higher education opportunities. Responses to this question were cross-tabulated against social class variables. In general, students with the highest social class status in terms of occupation, income, and educational credentials of parents were more likely than less privileged students to live in well-served
Table 9.9: Difficulty of Transportation to Attend Classes
Versus Current Occupational Status

<table>
<thead>
<tr>
<th>Occupational Status</th>
<th>Not Difficult</th>
<th>Difficult</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low</td>
<td>66.2%</td>
<td>29.8%</td>
<td>4.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Medium</td>
<td>73.2%</td>
<td>22.4%</td>
<td>4.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. High</td>
<td>78.4%</td>
<td>16.2%</td>
<td>5.4%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 9.10: Difficulty of Transportation to Attend Classes
Versus Family Income

<table>
<thead>
<tr>
<th>Family Income</th>
<th>Not Difficult</th>
<th>Difficult</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low</td>
<td>59.1%</td>
<td>36.2%</td>
<td>4.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Low medium</td>
<td>68.1%</td>
<td>28.1%</td>
<td>3.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. High medium</td>
<td>72.8%</td>
<td>22.6%</td>
<td>4.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>4. High</td>
<td>78.4%</td>
<td>18.8%</td>
<td>2.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>5. Unknown</td>
<td>68.8%</td>
<td>19.8%</td>
<td>11.5%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Communities. However, the disparities between different socio-economic groups were not substantial.

It has been hypothesized that proportionally more educational opportunity accrues to metropolitan residents of relatively privileged economic status than to other sectors of society. If it could be shown that the largest single group of beneficiaries of distance education consists of metropolitan residents who are of middle class or upper middle class background then this hypothesis would be considered accurate. The implication of such a result would be that both social class and regional disparities in access to higher education may be exacerbated by distance education.

Over 70.0% of distance education students surveyed had fathers with medium or high occupational status, and
Table 9.11: Time Lived in a Major Metropolitan Area Versus Father's Occupation

<table>
<thead>
<tr>
<th>Time Lived in Metro</th>
<th>Father's Occupational Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>1. More than 10 years</td>
<td>34.5%</td>
</tr>
<tr>
<td>2. Nil</td>
<td>26.2%</td>
</tr>
<tr>
<td>3. Other</td>
<td>39.3%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

approximately 33.0% had fathers with high occupational status. This fact in itself indicated that the main beneficiaries of distance education opportunities were not from the under-privileged social classes. Table 9.11 shows that of those whose fathers had high occupational status just over half had lived in a major metropolitan area for over ten years. On the other hand, only 34.5% of those with fathers of low occupational status had lived in the metropolis for more than 10 years. Students with fathers of low status were more subject than those of high status fathers to have never lived in the metropolis (26.2% vs. 14.8%). These findings support the hypothesis that distance education provides greater absolute educational opportunity to middle class and upper middle class metropolitan residents than to other socio-economic groups.

Further evidence was found of combined urban-rural and social class disparities in the distribution of educational opportunities via distance education. For example, 40.7% of survey respondents with low occupational status had lived in small towns for over ten years, as opposed to only 32.4% of
Table 9.12: Time Lived in a Rural Area
Versus Family Income

<table>
<thead>
<tr>
<th>Time in Rural Area</th>
<th>Low</th>
<th>Low Medium</th>
<th>High Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Over 10 yrs.</td>
<td>18.3%</td>
<td>19.9%</td>
<td>14.8%</td>
<td>9.3%</td>
</tr>
<tr>
<td>2. Nil</td>
<td>54.2%</td>
<td>55.0%</td>
<td>54.1%</td>
<td>64.7%</td>
</tr>
<tr>
<td>3. Other</td>
<td>27.5%</td>
<td>25.1%</td>
<td>31.1%</td>
<td>26.0%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

those with high status. Of those whose fathers had low occupational status, 17.8% had lived in a rural area for over ten years, while the same was true for only 7.9% of those with high status fathers. Table 9.12 shows that on a percentage basis twice as many respondents with low family incomes had lived in rural areas for over ten years, as compared to those from high income families. Thus, distance education opportunity was skewed in favour of the privileged urban middle class.

The implication of these findings is that distance education provides relatively greater opportunity for social mobility to members of the already affluent and/or educated social classes occupying favoured metropolitan locations, as compared to people of lower socio-economic status living in hinterland locations. Thus, there is a very real possibility that both social class and regional disparities are reinforced by distance education.
Chapter 8 has examined in more detail the particular combinations of personal and social class traits likely to confer upward social mobility on distance education students. The purpose of this exercise is to create a more sharply focused image of the beneficiaries of distance education, and to learn if the potential benefits of distance education are tied to distinctive associations between personal and social class traits of students.

The impact of distance education on sexual inequality in educational opportunity varies by social class. The main beneficiaries of distance education are women of high socio-economic status origins and men of low socio-economic origins. Similarly, the accessibility of distance education to ethnic groups is not uniform across social classes. Anglophone distance education students, who are the vast majority, come from relatively affluent backgrounds while non-anglophone students come from more humble socio-economic origins. These findings show that effective access to distance education varies by social class.

Similarly, both the accessibility of distance education and the degree of upward mobility it confers on participants depends to a large degree on the educational and economic assets of students prior to entering distance education; these assets are largely a function of the social class origins of students.
Thus, students of high socio-economic status families are better prepared to reap the benefits of distance education, as compared to their working class peers. In this respect, distance education differs little from conventional education. A notable exception is a substantial minority of distance education students who, regardless of socio-economic origin, have delayed their entry into post-secondary education. For these people distance education does provide a vitally needed route to upward social mobility.

The geographic impact of distance education on educational opportunity also differs by social class. The very prominent contingent of distance education students who were simultaneously of affluent socio-economic origins, had little problem in accessing conventional educational facilities, and lived in metropolitan areas is revealing. To these people distance education simply adds another layer of educational opportunity onto their already privileged social and geographic situation.
10.1 Regional Disparities and Distance Education

It has been shown in chapters 4-6 that all regions of British Columbia do not enjoy equal access to educational opportunity. Residents of the metropolitan Lower Mainland, especially those of high socio-economic status, have generally better access to higher education in three ways:

1. closer spatial proximity to major post-secondary facilities;
2. more cultural capital in terms of occupational status and educational credentials;
3. greater economic capital, reflected in higher incomes, lower unemployment, and higher property values.

Thus middle and upper middle class metropolitan residents possess locational, cultural and economic advantages that facilitate their access to and effective use of higher educational opportunities.

In theory, distance education should at least partially correct regional disparity in access to education by providing new opportunities to residents of the non-metropolitan regions, thereby producing a more geographically equitable distribution of opportunities for upward social mobility. However, this socially equitable effect of distance education may be weakened if the participation rate of the metropolitan population in
distance education is higher than that of the non-metropolitan population, or if the profile characteristics of metropolitan distance education students are such that they are predisposed toward greater upward social mobility than is the case for non-metropolitan distance education students.

Profile characteristics of distance education survey respondents were cross-tabulated by the British Columbia college regions to see if there were any statistically significant regional differences in student traits that could suggest greater potential benefits from distance education accruing to some regions rather than to others. Particular attention was paid to contrasts in relative socio-economic or other advantages of metropolitan as opposed to non-metropolitan students.

10.2 Student Goals and Expectations

The only indicator of student goals for which there was a statistically significant variation by college region at the 95% confidence level was the highest education achievement expected by distance education students. In order to simplify the pattern of survey responses with respect to this variable, the five college regions located in the metropolitan southwest corner of British Columbia were classified as metropolitan, and the remaining ten college regions were classified as non-metropolitan.
Table 10.1: Highest Expected Education - Metro Versus Non-Metropolitan College Regions of British Columbia

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Metro</th>
<th>Non-Metro</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grade 12 or less</td>
<td>5.3%</td>
<td>7.4%</td>
<td>6.8%</td>
</tr>
<tr>
<td>2. Some university</td>
<td>16.0%</td>
<td>20.7%</td>
<td>18.6%</td>
</tr>
<tr>
<td>3. Bachelor degree</td>
<td>17.9%</td>
<td>15.7%</td>
<td>16.7%</td>
</tr>
<tr>
<td>4. Post-graduate degree</td>
<td>30.2%</td>
<td>15.7%</td>
<td>21.0%</td>
</tr>
<tr>
<td>5. Technical</td>
<td>10.1%</td>
<td>14.8%</td>
<td>13.7%</td>
</tr>
<tr>
<td>6. Vocational</td>
<td>5.6%</td>
<td>9.6%</td>
<td>7.6%</td>
</tr>
<tr>
<td>7. Business</td>
<td>1.6%</td>
<td>3.3%</td>
<td>2.6%</td>
</tr>
<tr>
<td>8. No idea</td>
<td>13.3%</td>
<td>12.8%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: Metropolitan Regions = Vancouver, Douglas, Kwantlen, Capilano, Camosun.
Non-Metropolitan Regions = Malaspina, North Island, Fraser Valley, Okanagan, Selkirk, East Kootenay, Cariboo, New Caledonia, Northwest, Northern Lights.

As can be seen from Table 10.1 metropolitan distance education students were more inclined than non-metropolitan students to expect to obtain a university degree. In the case of the post-graduate degree, the percentage of metropolitan distance education students expecting to achieve this education level was double that of non-metropolitan students. The percentage of respondents expecting to achieve a Bachelor degree was highest in the Capilano College region (27.9%), while the highest expectation of a post-graduate degree was in the Douglas College region (44.6%). The lowest expectation levels for the Bachelor and post-graduate achievement levels were, respectively, in the North Island (5.4%), and Northern Lights (11.1%) college regions.
Non-metropolitan survey respondents as a group had proportionally more frequent expectations of achieving educational credentials that were less advanced in terms of extended university studies, as compared to metropolitan respondents. Non-metropolitan regions also had a higher proportion of distance education students expecting to obtain technical, vocational, or business training. The college region with the highest percentages of distance education students expecting to achieve 'Grade 12 or less' (11.1%) or 'Vocational training' (19.4%) respectively, was Northern Lights. The region with the greatest percentage of respondents expecting to obtain technical training (22.5%), was Selkirk.

These findings support the hypothesis that metropolitan distance education students are more likely than non-metropolitan distance education students to be upwardly mobile in terms of the expected outcomes of participation in the education system. To the extent that access to positions in the upper echelons of the social hierarchy require a university education at the Bachelor degree level or higher it appears that distance education offers greater relative potential benefits to metropolitan than to non-metropolitan students.

10.3 **Personal Traits**

Participation in distance education was found to vary systematically by gender. In general, females were more numerous
than males. Females in metropolitan college regions were relatively more numerous than in non-metropolitan regions. Conversely, males were relatively more numerous in non-metropolitan as compared to metropolitan regions. These findings are illustrated in Table 10.2.

It was apparent that while distance education provided greater effective access to higher education for women than for men, metropolitan women were more likely than non-metropolitan women to participate in distance education opportunities. Conversely, the position of non-metropolitan men was more favourable than that of metropolitan men with regard to participation in distance education. The reasons for the situation can only be guessed at. Presumably, there are cultural differences between metropolitan and non-metropolitan regions that make it more acceptable, desirable or necessary for metropolitan women to obtain post-secondary credentials than is the case for non-metropolitan women. It could also be that men in metropolitan areas find it less necessary to avail themselves of distance education opportunities, given the high relative accessibility of campus-based metropolitan post-secondary institutions.

If the goal of increasing social equity is to be well served by distance education then this form of education should create educational opportunities for people whose location and/or family circumstances hinder them from attending campus-based programs. In particular, those who bear the responsibility of
Table 10.2: Participation in Distance Education by Region and Gender - Metropolitan Versus Non-metropolitan

<table>
<thead>
<tr>
<th>Gender</th>
<th>Metro</th>
<th>Non-metro</th>
<th>All Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Male</td>
<td>40.4%</td>
<td>47.9%</td>
<td>46.4%</td>
</tr>
<tr>
<td>2. Female</td>
<td>59.6%</td>
<td>52.1%</td>
<td>53.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

caring for children or other financially dependent family members should benefit from the use of distance education as a means of increasing their educational credentials while meeting their family obligations.

It is evident from Table 10.3 that metropolitan distance education students were as a group, much less subject to the responsibility of caring for financially dependent family members, compared to their non-metropolitan peers. The fact that a substantially larger proportion of non-metropolitan distance education students had up to 3 financial dependents, while (42.4% vs. 25.7%) of metropolitan students had no dependents, indicates that distance education has significantly greater potential positive impact on social equity in hinterland areas than it does in the metropolis. In hinterland regions distance education appears to be relatively more effective in providing second chance learning opportunities for adults with family responsibilities.
### Table 10.3: Number of Financial Dependents of Distance Education Students - Metropolis Versus Hinterland

<table>
<thead>
<tr>
<th>Financial Dependents</th>
<th>Metro</th>
<th>Non-Metro</th>
<th>All Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>42.4%</td>
<td>25.7%</td>
<td>32.8%</td>
</tr>
<tr>
<td>2. One</td>
<td>15.2%</td>
<td>21.1%</td>
<td>18.5%</td>
</tr>
<tr>
<td>3. Two or Three</td>
<td>33.6%</td>
<td>45.1%</td>
<td>40.5%</td>
</tr>
<tr>
<td>4. Four or more</td>
<td>8.2%</td>
<td>8.0%</td>
<td>8.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

#### 10.4 Educational Traits

In order to achieve the purpose of increasing and/or equalizing educational opportunity in British Columbia, distance education should be seen by hinterland residents as an effective alternative to conventional, campus-based learning systems. If distance education were seen by non-metropolitan people to be relatively more effective than regular education programs, then its prospects as a policy instrument for re-distributing higher education opportunity would be promising indeed. As only 10.4% of survey respondents perceived distance education to be more effective than conventional education, and as there were no appreciable differences between metropolitan and non-metropolitan views on this question, it would appear that distance education does not have any appeal as a learning system that is particularly suited to the needs of non-metropolitan residents of British Columbia.
10.5 Perceptual Traits

Distance education may serve different purposes in metropolitan versus non-metropolitan regions, given the relative differences in access to post-secondary facilities within these two respective geographic zones. If there is a distinction to be made between the role of distance education in metropolitan versus non-metropolitan regions, respectively, this would be reflected in different motivational patterns of metropolitan and hinterland distance education students.

Table 10.4 illustrates the motivational differences between metropolitan and non-metropolitan distance education students. Metropolitan students were relatively more inclined toward personal priorities that emphasized the pursuit of education either for the sake of acquiring credentials or for the seemingly esoteric reason of personal development. Hinterland students, on the other hand, appeared to be somewhat more pragmatic and materialistic in their reasons for participating in distance education, showing a comparatively greater interest in increased income and job mobility. It would seem from these survey results that hinterland residents are more motivated by purely economic interests, while metropolitan residents are more focused on personal and cultural objectives. It may also be that hinterlands are looking for a more immediate material pay-off from distance education, while metropolitan students can better afford to postpone the immediate material benefits of an
Table 10.4: Reasons for Taking Distance Education Courses  
- Metropolitan Versus Non-Metro Students

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Metropolitan</th>
<th>Non-Metro</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increase education level</td>
<td>28.4%</td>
<td>23.2%</td>
<td>24.6%</td>
</tr>
<tr>
<td>2. Prepare for job</td>
<td>19.9%</td>
<td>17.5%</td>
<td>18.6%</td>
</tr>
<tr>
<td>3. Increase income</td>
<td>2.5%</td>
<td>7.4%</td>
<td>6.2%</td>
</tr>
<tr>
<td>4. More job mobility</td>
<td>19.2%</td>
<td>28.8%</td>
<td>25.7%</td>
</tr>
<tr>
<td>5. Personal development</td>
<td>30.0%</td>
<td>23.0%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

It is interesting to compare the motivational patterns of distance education students with their expectations of the long-run impact that distance education will have on their careers. In effect, the expected long-run career impact is a measure of expected long-run social mobility. If there are significant regional differences in the expected long-term career effects of distance education this would indicate regional differences in potential social mobility accruing from participation in distance education. It would also indicate distinctive regional patterns of aspiration with regard to social mobility.
<table>
<thead>
<tr>
<th>Expected Long-Term Impact</th>
<th>Metro</th>
<th>Non-Metro</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No effect</td>
<td>16.4%</td>
<td>8.1%</td>
<td>10.8%</td>
</tr>
<tr>
<td>2. Occupational mobility</td>
<td>37.5%</td>
<td>53.8%</td>
<td>49.6%</td>
</tr>
<tr>
<td>3. Increase income</td>
<td>1.2%</td>
<td>5.5%</td>
<td>4.5%</td>
</tr>
<tr>
<td>4. Increase access to higher ed.</td>
<td>29.3%</td>
<td>20.3%</td>
<td>22.0%</td>
</tr>
<tr>
<td>5. More self confidence</td>
<td>12.8%</td>
<td>10.3%</td>
<td>10.7%</td>
</tr>
<tr>
<td>6. Unknown</td>
<td>2.6%</td>
<td>2.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

While occupational mobility was the most prevalent expected career impact of distance education, Table 10.5 shows that non-metropolitan respondents were substantially more disposed toward this view than were their metropolitan counterparts. Metropolitan distance education students, on the other hand, were twice as likely to see distance education as having no long-term career effects, but they were significantly more susceptible to see increased access to higher education as a result of distance education, and less prone to perceive increased income as a result. Again, it would appear that hinterland respondents had more pragmatic and materialistic view of the role of distance education, while metropolitan respondents valued distance education for its perceived personal and/or cultural benefits.
10.6 Socio-Economic Traits

If different social classes are not uniformly distributed over and within all regions, then the potential regional impact of distance education on access to educational opportunity is compounded by its socio-economic impact. Specifically, if metropolitan participants in distance education are mainly of the affluent social classes while hinterland participants are of evenly mixed socio-economic backgrounds then distance education may serve to increase the geographic concentration of cultural capital in the metropolis, thus aggravating inter-regional socio-economic disparities. Furthermore, if in all regions the main group of participants in distance education is of upper middle class social status then distance education may produce the effect of widening social-class disparities in all regions; this would, in effect reduce social equity in effective access to opportunities for higher education. The regional variation in socio-economic traits of distance education students is thus a useful indication of whether distance education has the effect of increasing or decreasing geographic and social class disparities in educational opportunity.

Socio-economic traits of distance education students in British Columbia were cross-tabulated by college region to identify any statistically significant contrasts between metropolitan and hinterland regions. In addition, this procedure made it possible to identify individual college regions where
distance education students were consistently characterized by distinctive social class traits.

The only noticeable regional differences with regard to the occupational status of distance education students were with respect to the occupations of 'homemaker' and 'employed part-time', respectively. The percentage of metropolitan survey respondents who were employed part-time was double that of hinterland respondents, (28.2% metropolitan vs. 15.9% hinterland). This was probably a reflection of a more diverse metropolitan job market that allows more chances for part-time work. By contrast, the percentage of hinterland respondents who were homemakers (27.1%) was almost twice that for metropolitan respondents (15.4%). This result indicated that in the case of women, distance education was potentially a more powerful means of redressing socio-economic inequities in hinterland regions than in the metropolis.

Perhaps the most expressive indicator of the social class origins of students is the occupational status of their fathers. Table 10.6 provides a detailed regional breakdown of this variable for distance education students that were surveyed. In general, there was a greater incidence of students with fathers of low or medium status in non-metropolitan than in metropolitan regions. Conversely, the percentage of students with high status fathers was greater for metropolitan than for non-metropolitan regions. The region with the highest percentage of low status fathers was North Island, while the regions with the highest
Table 10.6: Father's Occupational Status by College Region for Distance Education Students

<table>
<thead>
<tr>
<th>Region</th>
<th>Low Status</th>
<th>Medium Status</th>
<th>High Status</th>
<th>Unknown Status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vancouver</td>
<td>19.4%</td>
<td>30.1%</td>
<td>45.6%</td>
<td>4.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Douglas</td>
<td>26.6%</td>
<td>32.8%</td>
<td>37.5%</td>
<td>3.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. Kwantlen</td>
<td>16.5%</td>
<td>50.6%</td>
<td>25.3%</td>
<td>7.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>4. Capilano</td>
<td>19.5%</td>
<td>29.3%</td>
<td>46.3%</td>
<td>4.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>5. Camosun</td>
<td>20.3%</td>
<td>39.1%</td>
<td>30.4%</td>
<td>10.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>6. Malaspina</td>
<td>33.3%</td>
<td>47.9%</td>
<td>14.6%</td>
<td>4.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>7. North Isl.</td>
<td>38.9%</td>
<td>41.7%</td>
<td>16.7%</td>
<td>2.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>8. Fraser Valley</td>
<td>18.8%</td>
<td>41.7%</td>
<td>33.3%</td>
<td>6.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>9. Okanagan</td>
<td>25.3%</td>
<td>55.8%</td>
<td>16.8%</td>
<td>2.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>10. Selkirk</td>
<td>31.0%</td>
<td>32.4%</td>
<td>28.2%</td>
<td>8.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>11. East Kootenay</td>
<td>21.5%</td>
<td>44.3%</td>
<td>26.6%</td>
<td>7.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>12. Cariboo</td>
<td>31.3%</td>
<td>44.6%</td>
<td>20.5%</td>
<td>3.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>13. New Caledonia</td>
<td>20.5%</td>
<td>45.5%</td>
<td>29.5%</td>
<td>4.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>14. Northwest Lights</td>
<td>31.5%</td>
<td>31.5%</td>
<td>31.5%</td>
<td>5.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>15. Northern B.C.</td>
<td>16.1%</td>
<td>61.3%</td>
<td>19.4%</td>
<td>3.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>16. All Students</td>
<td>24.8%</td>
<td>35.9%</td>
<td>35.9%</td>
<td>3.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>17. All Metro</td>
<td>20.5%</td>
<td>36.4%</td>
<td>37.0%</td>
<td>6.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>18. Non-Metro</td>
<td>26.8%</td>
<td>44.7%</td>
<td>23.7%</td>
<td>4.8%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

percentage of high status fathers were Vancouver and Capilano.

Not all regions however, conformed to a metropolis versus hinterland dichotomy. Douglas region, for example, exceeded the provincial norm for low status fathers, while the provincial norm for high status fathers was exceeded by the Fraser Valley, New Caledonia, and Northwest college regions. Thus, while this social class trait was spatially polarized along metropolis-hinterland lines, there were local anomalies. This also proved to be the case for other social class traits.
Table 10.7: Family Income of Distance Education Students - Metropolitan Versus Non-Metropolitan

<table>
<thead>
<tr>
<th>Family Income Level</th>
<th>Metropolitan</th>
<th>Non-Metropolitan</th>
<th>All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low</td>
<td>12.9%</td>
<td>13.6%</td>
<td>13.0%</td>
</tr>
<tr>
<td>2. Low medium</td>
<td>11.3%</td>
<td>15.6%</td>
<td>13.7%</td>
</tr>
<tr>
<td>3. High medium</td>
<td>29.7%</td>
<td>31.8%</td>
<td>31.9%</td>
</tr>
<tr>
<td>4. High</td>
<td>33.2%</td>
<td>33.1%</td>
<td>33.0%</td>
</tr>
<tr>
<td>5. Unknown</td>
<td>12.8%</td>
<td>5.9%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Total</td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

The regional distribution of family income levels of distance education students (Table 10.7) indicated that low family incomes were slightly more prevalent in non-metropolitan than in metropolitan regions. However, incomes in the high medium range were proportionally more frequent in non-metropolitan regions, while the incidence of high family incomes was identical for metropolitan and non-metropolitan regions. There was thus, no clear-cut polarization of income levels between metropolis and hinterland regions. Indeed, the percentage of low family incomes in the Douglas region (8.3%) exceed most non-metropolitan values, while the highest percentages of high income families were found in the hinterland regions of Fraser Valley (39.6%), East Kootenay (39.5%), New Caledonia (39.6%), and Northwest (42.7%).

The above survey results revealed that in both metropolitan and non-metropolitan regions distance education students were predominantly from upper middle and high income families. This being the case, the socio-economic benefits accruing from participation in distance education would flow
disproportionately to people of affluent social-class origin. The long-run result of this situation is probably that in most regions, those social class differences that are based on an uneven distribution of both income and educational credentials will be reinforced as the relative advantages of the privileged social classes are strengthened through the effects of distance education.

10.7 Locational Traits

Distance education should be ideally suited for providing access to higher education for those people whose access is hindered due to locational disadvantages. Thus, it is to be expected that residents of hinterland regions will benefit proportionally more than metropolitan residents from distance education, due to their greater spatial dispersion with respect to higher education facilities. This expectation was tested by asking survey respondents about the physical accessibility of higher education facilities and services in their home communities and then cross-tabulating survey responses against college regions.

It is clear from Table 10.8 that for a large majority of distance education students, the physical distance to the nearest post-secondary facility was not a serious obstacle to the pursuit of higher education. However, it was also evident that post-secondary facilities were somewhat more accessible to
Table 10.8: Difficulty of Arranging Transportation to Attend Classes in Nearest Town by College Region

<table>
<thead>
<tr>
<th>College Region</th>
<th>Not Difficult</th>
<th>Difficult</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vancouver</td>
<td>72.2%</td>
<td>16.7%</td>
<td>11.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Douglas</td>
<td>75.8%</td>
<td>19.7%</td>
<td>4.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. Kwantlen</td>
<td>84.9%</td>
<td>11.6%</td>
<td>3.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>4. Capilano</td>
<td>58.1%</td>
<td>37.2%</td>
<td>4.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>5. Camosun</td>
<td>78.7%</td>
<td>21.3%</td>
<td>Nil</td>
<td>100.0%</td>
</tr>
<tr>
<td>6. Malaspina</td>
<td>86.0%</td>
<td>14.0%</td>
<td>Nil</td>
<td>100.0%</td>
</tr>
<tr>
<td>7. North Island</td>
<td>51.3%</td>
<td>43.6%</td>
<td>5.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>8. Fraser Valley</td>
<td>78.4%</td>
<td>17.6%</td>
<td>3.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>9. Okanagan</td>
<td>69.7%</td>
<td>25.3%</td>
<td>5.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>10. Selkirk</td>
<td>75.9%</td>
<td>21.5%</td>
<td>2.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>11. East Kootenay</td>
<td>67.8%</td>
<td>25.3%</td>
<td>6.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>12. Cariboo</td>
<td>67.5%</td>
<td>27.4%</td>
<td>5.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>13. New Caledonia</td>
<td>64.2%</td>
<td>28.4%</td>
<td>7.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>14. Northwest</td>
<td>61.3%</td>
<td>33.8%</td>
<td>5.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>15. Northern Lights</td>
<td>55.6%</td>
<td>38.9%</td>
<td>5.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>16. Outside B.C.</td>
<td>70.2%</td>
<td>26.7%</td>
<td>3.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>17. Non-Metro</td>
<td>67.8%</td>
<td>27.6%</td>
<td>4.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>18. Metro</td>
<td>73.9%</td>
<td>21.3%</td>
<td>4.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>19. All Students</td>
<td>70.7%</td>
<td>24.5%</td>
<td>4.8%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

As can be seen from Table 10.9, a larger percentage of metropolitan than of non-metropolitan distance education students felt that their area of residence was well-served in terms of adult education opportunities. When Capilano region was excluded from the metropolitan group for the reason described...
earlier, this resulted in the following changes for the metropolitan group: Good = 83.0%; Bad = 11.4%. Thus, while a large majority of distance education survey respondents felt their communities were well-served by the post-secondary system, there were nevertheless, substantial differences in the quality of service that favoured metropolitan over non-metropolitan locations. This finding was reinforced by the fact that 18.7% of non-metropolitan survey respondents were found to live more than 10 km. from the nearest post-secondary facility, while the corresponding percentage for metropolitan respondents was only 6.2%.

The survey findings clearly indicated that metropolitan residents enjoy a relative locational advantage with respect to post-secondary facilities as compared to non-metropolitan residents. Among the metropolitan colleges, students of the Capilano region had the least favourable locational situation, due to the eccentric geography of the Capilano service area. The least well served region at the provincial level in terms of spatial access to higher education was the Northern Lights region. The North Island region also was particularly disadvantaged due to its remote location. In general, the college

<table>
<thead>
<tr>
<th>Quality of Service</th>
<th>Metro</th>
<th>Non-Metro</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Good</td>
<td>78.6%</td>
<td>67.0%</td>
<td>71.0%</td>
</tr>
<tr>
<td>2. Bad</td>
<td>14.5%</td>
<td>27.2%</td>
<td>23.3%</td>
</tr>
<tr>
<td>3. Unknown</td>
<td>6.9%</td>
<td>5.8%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>
regions where spatial access to post-secondary education was least favourable were those in the central and northern part of the province, i.e. Cariboo, New Caledonia, Northwest, and Northern Lights.

The findings described in this chapter confirm that the geographic distribution of effective educational opportunity among distance education students was similar to that of other sub-populations within British Columbia. Metropolitan distance education students enjoyed substantial advantages over non-metropolitan students in terms of access to higher education and potential upward educational mobility. However, it is interesting to note that the socio-economic status of distance education students was uniformly upper middle class, regardless of whether they lived in metropolitan or non-metropolitan locations. This contrasted sharply with the geographic variation in socio-economic status of the general population, revealed in chapters 4 and 5, in which the more affluent socio-economic classes were shown to be relatively concentrated in metropolitan areas.

10.8 Summary

This chapter has made explicit comparisons of metropolitan and non-metropolitan college regions to see whether the metropolis - hinterland concept is applicable to the distribution of distance education opportunity in British
Columbia. On the basis of student aspirations, metropolitan distance education students are more upwardly mobile than their non-metropolitan peers. In a similar vein, metropolitan women were more inclined than non-metropolitan women to take advantage of distance education. By contrast, male participation in distance education was relatively greater in hinterland regions. The fact that metropolitan open learning students have fewer family responsibilities indicates that distance education serves a more privileged clientele in metropolitan areas than in hinterland British Columbia.

There are interesting perceptual comparisons to be made between metropolitan and non-metropolitan distance education students. Firstly, distance education is not perceived as an especially effective mode of education by hinterland residents, notwithstanding its potential usefulness to them. Secondly, hinterlanders see the main benefit from distance education as being short-term economic gain, while metropolitan people are more likely to see distance education as a way of reaching long-term personal and/or cultural objectives. This leaves the impression that hinterlanders turn to distance education out of immediate economic necessity while metropolitan residents are more concerned with acquiring cultural capital per se.

In general, a majority of distance education students are from relatively privileged socio-economic backgrounds, regardless of where they live. Thus, distance education is more likely to aggravate than to diminish social class differences in
educational opportunity and upward mobility. In addition, a large majority of distance education students already enjoy good access to post-secondary facilities, and this is especially true for metropolitan residents. It is therefore clear that the bulk of participants in distance education are of privileged backgrounds, in both a socio-economic and geographic sense.
If distance education is to correct imbalances in the distribution of educational opportunity in British Columbia then it should be possible to show that distance education students are distinct from conventional students and from society in general. Distance education students, if they are a disadvantaged social group, should be shown to have socio-economic, locational and/or personal traits that could hinder their participation in conventional campus-based education programs, thus making distance education a necessary option for "second chance" educational opportunities. In order to establish in what ways distance education students are distinct from the population of non-distance education students and from the population-at-large, an attempt was made to compare profile traits of distance education students with those of other populations in British Columbia.

The scope of these comparisons was necessarily limited by the availability of comparable data. Therefore, the results of this exercise were somewhat tentative and incomplete. Several data bases on other social groups were examined (See Appendix 1.), including:

1. census data on the general population;
2. survey data on Grade 12 students in British Columbia;
3. survey data on college and university students in British
Columbia;
4. survey data on a geographically disadvantaged regional population (Sunshine Coast/Bowen Island).

Only variables that were considered relevant to effective access to higher education were considered.

11.1 Census Data

Because the census collects data through the use of an elaborate distribution and data gathering system it generates results that are very comprehensive and detailed. This was much more difficult to achieve in the case of the survey that was conducted of distance education students, because the survey depended on a mail-out of self-administered questionnaires that had to be returned by mail on a voluntary basis. Therefore, the distance education survey did not produce a data base that was as extensive or as detailed as the 1981 census. Nevertheless, it was possible to make approximate comparisons of several variables.

The relative scarcity of 1981 census data in a format directly comparable to the distance education survey results limited the choice of variables to be compared. Five census variables were selected:
1. under-educated adults = adults with Grade 8 or less;
2. highly-educated adults = adults with a post-secondary degree, certificate, or diploma;
3. population with a mother tongue other than English;
4. average personal income;
5. family income.
These were the census variables most closely comparable to
distance education survey results.

11.1.1 Education Achievement

It has been shown elsewhere (Brown, D. and Poiker, T. K., 1982)
that there is a positive association between the respective
academic achievement of parents and children. In general,
students whose parents have high educational credentials tend to
be high achievers, whereas the converse is true for children
whose parents have low credentials. Moreover, the educational
credentials of parents provide indicators of the socio-economic
status of the family. Families in which parents have high
educational credentials usually enjoy a higher socio-economic
status than families in which parents have low credentials.

In order to judge whether distance education students were
advantaged or disadvantaged in their family backgrounds compared
to the general population, the educational credentials of the
students' parents were compared with those of the adult
population in the 15 college regions of British Columbia. The
five college regions in the urbanized southwest corner of the
province were classified as metropolitan for purposes of this
comparison. Separate tabulations were done for highly educated
fathers, mothers, and the mean aggregate percentage of highly
Table 11.1: Percentage of Distance Education Students With Highly Educated Parents, Compared to General Adult Population

<table>
<thead>
<tr>
<th>College Region</th>
<th>Fathers</th>
<th>Mothers</th>
<th>Mean %</th>
<th>1981 Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver</td>
<td>62.0</td>
<td>58.3</td>
<td>60.2</td>
<td>45.5</td>
</tr>
<tr>
<td>Douglas</td>
<td>64.5</td>
<td>54.0</td>
<td>59.3</td>
<td>41.5</td>
</tr>
<tr>
<td>Kwantlen'</td>
<td>58.8</td>
<td>50.0</td>
<td>54.4</td>
<td>41.5</td>
</tr>
<tr>
<td>Capilano</td>
<td>64.3</td>
<td>61.9</td>
<td>63.1</td>
<td>53.8</td>
</tr>
<tr>
<td>Camosun</td>
<td>53.3</td>
<td>54.1</td>
<td>53.7</td>
<td>45.4</td>
</tr>
<tr>
<td>Malaspina</td>
<td>53.1</td>
<td>46.9</td>
<td>50.0</td>
<td>36.5</td>
</tr>
<tr>
<td>North Island</td>
<td>62.2</td>
<td>62.9</td>
<td>62.6</td>
<td>35.9</td>
</tr>
<tr>
<td>Fraser Valley</td>
<td>61.5</td>
<td>51.9</td>
<td>56.7</td>
<td>34.7</td>
</tr>
<tr>
<td>Okanagan</td>
<td>59.2</td>
<td>56.1</td>
<td>57.7</td>
<td>35.3</td>
</tr>
<tr>
<td>Selkirk</td>
<td>61.5</td>
<td>50.6</td>
<td>56.1</td>
<td>37.9</td>
</tr>
<tr>
<td>East Kootenay</td>
<td>59.8</td>
<td>51.9</td>
<td>55.9</td>
<td>36.5</td>
</tr>
<tr>
<td>Cariboo</td>
<td>53.8</td>
<td>53.0</td>
<td>53.4</td>
<td>34.7</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>55.4</td>
<td>58.1</td>
<td>56.8</td>
<td>34.2</td>
</tr>
<tr>
<td>Northwest</td>
<td>57.9</td>
<td>52.0</td>
<td>55.0</td>
<td>35.7</td>
</tr>
<tr>
<td>Northern Lights</td>
<td>54.5</td>
<td>70.6</td>
<td>62.6</td>
<td>33.4</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>60.2</td>
<td>55.3</td>
<td>57.8</td>
<td>45.5</td>
</tr>
<tr>
<td>Non-Metro.</td>
<td>57.7</td>
<td>54.4</td>
<td>56.1</td>
<td>35.5</td>
</tr>
<tr>
<td>All Students</td>
<td>59.0</td>
<td>54.9</td>
<td>57.0</td>
<td>40.8</td>
</tr>
</tbody>
</table>

It was clear that, in general, a larger percentage of both fathers and mothers of distance education students were highly educated than was the case for the population at large; this was true for all regions. In most regions there was a higher percentage of highly educated fathers than of mothers. It was also interesting to note that while in the general population there was a higher concentration of high educational credentials in metropolitan British Columbia than in non-metropolitan regions, there was only a slight difference in this regard for parents of distance education students. The implications of this.
The evidence presented in Table 11.1 indicates that distance education students were substantially more privileged than the general population in terms of the educational credentials of their parents. It was also evident that non-metropolitan distance education students were not significantly disadvantaged in this regard, compared to metropolitan students. Thus, in both metropolis and hinterland the socio-economic background of distance education students was uniformly more privileged than that of the general population.

Table 11.2 shows that the percentage of distance education students with under-educated parents (Grade 8 or less) was greater than for the population as a whole. There was, however, more inter-regional variation than what occurred in the case of highly educated parents. In general, there were proportionally fewer under-educated mothers than fathers. There was a gap between metropolitan and non-metropolitan regions, with a lower percentage of under-educated adults in metropolitan regions. However, this gap was only slight for the parents of distance education students, but quite substantial for the general population.

Table 11.2 demonstrates a paradoxical polarization of distance education students' backgrounds. Even though a higher percentage of distance education students were of more privileged socioeconomic backgrounds than the general
Table 11.2: Percentage of Distance Education Students With Under-Educated Parents Compared to General Adult Population

<table>
<thead>
<tr>
<th>College Region</th>
<th>Fathers %</th>
<th>Mothers %</th>
<th>Mean %</th>
<th>1981 Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver</td>
<td>16.7</td>
<td>13.0</td>
<td>14.9</td>
<td>17.4</td>
</tr>
<tr>
<td>Douglas</td>
<td>14.5</td>
<td>11.1</td>
<td>12.8</td>
<td>12.1</td>
</tr>
<tr>
<td>Kwantlen</td>
<td>17.5</td>
<td>15.0</td>
<td>16.3</td>
<td>11.6</td>
</tr>
<tr>
<td>Capilano</td>
<td>9.5</td>
<td>9.5</td>
<td>9.5</td>
<td>6.7</td>
</tr>
<tr>
<td>Camosun</td>
<td>33.3</td>
<td>14.9</td>
<td>24.1</td>
<td>10.2</td>
</tr>
<tr>
<td>Malaspina</td>
<td>22.4</td>
<td>10.2</td>
<td>16.3</td>
<td>13.8</td>
</tr>
<tr>
<td>North Island</td>
<td>16.2</td>
<td>11.4</td>
<td>13.8</td>
<td>14.3</td>
</tr>
<tr>
<td>Fraser Valley</td>
<td>17.3</td>
<td>21.2</td>
<td>19.3</td>
<td>18.8</td>
</tr>
<tr>
<td>Okanagan</td>
<td>14.3</td>
<td>12.2</td>
<td>13.3</td>
<td>18.5</td>
</tr>
<tr>
<td>Selkirk</td>
<td>23.1</td>
<td>13.0</td>
<td>18.1</td>
<td>19.1</td>
</tr>
<tr>
<td>East Kootenay</td>
<td>24.1</td>
<td>16.0</td>
<td>20.1</td>
<td>16.1</td>
</tr>
<tr>
<td>Cariboo</td>
<td>27.4</td>
<td>16.2</td>
<td>21.7</td>
<td>16.1</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>21.7</td>
<td>17.2</td>
<td>19.5</td>
<td>17.3</td>
</tr>
<tr>
<td>Northwest</td>
<td>28.9</td>
<td>18.7</td>
<td>23.8</td>
<td>17.5</td>
</tr>
<tr>
<td>Northern Lights</td>
<td>21.2</td>
<td>8.8</td>
<td>15.0</td>
<td>18.2</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>19.1</td>
<td>13.1</td>
<td>16.1</td>
<td>11.6</td>
</tr>
<tr>
<td>Non-Metro.</td>
<td>22.3</td>
<td>15.0</td>
<td>18.7</td>
<td>17.0</td>
</tr>
<tr>
<td>All Students</td>
<td>20.7</td>
<td>14.1</td>
<td>17.4</td>
<td>14.4</td>
</tr>
</tbody>
</table>

population, there was also a higher percentage of distance education students from under-privileged backgrounds. In addition there was less metropolitan/ non-metropolitan regional disparity among distance education students than that in the provincial population. In other words, a majority of distance education students were more privileged than the general population, while at the same time a minority of distance education students were more under-privileged than the general population.

It is evident from Table 11.3 that, like their parents, distance education students were collectively more highly educated than the general adult population. This was true in both metropolitan and non-metropolitan regions. It is also clear...
from Table 11.3 that the incidence of high educational credentials, both for distance education students and for the general population was greater in metropolitan than in non-metropolitan regions. Thus, while distance education students were more privileged than the general population, there was nevertheless an imbalance in the distribution of educational credentials among these students in favour of those living in metropolitan areas.

There was a striking similarity in the distribution of low educational credentials among distance education students as compared to the adult population at large, as shown in Table 11.4. For both groups there was a higher percentage of non-metropolitan people with low credentials, versus metropolitan residents. It must, however, be recognized that the education categories being compared were not identical. This was due to a difference in questionnaire design between the distance education survey and the 1981 census. Nevertheless, Table 11.4 suggests that with respect to low educational credentials, distance education students were no better or worse off than the general adult population.
Table 11.4: Distribution of Low Educational Credentials Among Distance Education Students Compared to General Adult Population

<table>
<thead>
<tr>
<th></th>
<th>% Distance Education Students with Grade 8-11</th>
<th>% 1981 Adult Population with Grade 8 or less</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan</td>
<td>11.8</td>
<td>11.6</td>
</tr>
<tr>
<td>Non-Metropolitan</td>
<td>16.2</td>
<td>17.0</td>
</tr>
<tr>
<td>Total Population</td>
<td>14.5</td>
<td>14.4</td>
</tr>
</tbody>
</table>

11.1.2 Other Socio-Demographic Variables

There were two other census variables that could be compared to the results from the survey of distance education students. These were:

* the use of a language other than English;
* average income.

These were not exact comparisons however, as the survey did not generate categories that were identical to those of the census and that were available for college regions.

Affiliation with a Non-English language group has been identified by education researchers and planners as a potential hinderance to participation in higher education due to both cultural and socio-economic barriers to opportunity that often confront ethnic minorities and immigrants. As Table 11.5 illustrates, the regional distribution of non-anglophone distance education students was similar to that of non-anglophones in the general population. In both populations there was a higher concentration of non-anglophones in metropolitan than in non-metropolitan regions. However, in the
Table 11.5: Non-Anglophone Distance Education Students Compared to the General Population

<table>
<thead>
<tr>
<th>Non-Anglophone Distance Education Students (Main Language Spoken)</th>
<th>1981 Census Non-Anglophones (Mother Tongue)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan</td>
<td>7.3%</td>
</tr>
<tr>
<td>Non-Metropolitan</td>
<td>3.5%</td>
</tr>
<tr>
<td>All Students</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

case of the general population the provincial percentage of non-anglophones was almost identical to that of the metropolitan Southwest, whereas in the distance education student population the provincial percentage was lower than the metropolitan percentages. In both populations, Vancouver was the region with the highest concentration of non-anglophones. If membership in a linguistic minority is indeed a hinderance to participation in higher education it would appear that in relative terms distance education is more effective in the metropolis than in the hinterland as an access route to higher education for minority groups. However, in an absolute sense distance education was not effective because the participation of non-anglophones was much smaller than what would be expected on the basis of their representation in the general population.

Comparisons of income between distance education students and the general population were somewhat more problematic, given the different respective income categories generated by the survey of distance education students and the 1981 census. The survey responses permitted the identification of both family and personal income by income groups, whereas the census income data
that were available by college region showed average personal income of income earners.

Nevertheless, some interesting rough comparisons were possible. The modal annual family income for distance education students (i.e. most frequently cited overall and most frequently cited in 7 of 15 college regions) was $42,000. In all, 73.1% of distance education students indicated their annual family incomes were $18,000 or more. However, the provincial average income as per the 1981 census was only $14,243. This suggests that most distance education students were of families with higher than average incomes.

However, if it were assumed that a majority of families in the general population had two income earners, the estimated provincial average annual family income on that basis would be equal to the sum of average male income ($18,529) and average female income ($8,180), i.e. $26,709 for a majority of British Columbia families. As 45% of distance education students had annual family incomes of $30,000 or more, and another 15.5% had family incomes in the $24,000 to $29,999 range it was apparent that distance education students were no worse off as a group than the general population and, in purely economic terms as reflected in family income, were probably better off than the general population. In any case, it was clear that distance education students did not constitute an economically disadvantaged group.
When attention was switched to the personal incomes of individuals, the socio-economic status of distance education students as individuals appeared somewhat less favourable. In 11 of 15 regions the modal income of distance education students was under $6,000. This indicated that a large proportion of distance education students, although of middle class or upper middle class socioeconomic origins, were individuals who were probably at least partially financially dependent on other family members. In all, 39.3% of distance education students reported annual personal incomes of less than $12,000, while 49.9% reported annual personal incomes of less than $18,000. A total of 43.9% of distance education students reported personal incomes of $18,000 or more. Thus, it appeared that a large minority of distance education students were not the main income earners in their families. However, taking into consideration both family and personal incomes these students appeared as a group to be at least as affluent as, and probably more affluent than, average British Columbia residents.

11.2 Grade 12 Students

Another approach to distinguishing distance education students from conventional students was to compare the characteristics of the former with Grade 12 students attending public secondary schools. The purpose in making this comparison was to search for student traits that would indicate whether distance education students were relatively less advantaged
and/or less socially mobile than the population of students that is normally eligible to participate in post-secondary education. If distance education students were found to be relatively disadvantaged then it could be inferred that distance education redistributes opportunities for education and upward social mobility in favour of greater social equality. However, if distance education students were found to be relatively privileged compared to Grade 12 students, then distance education could be said to aggravate existing social inequalities.

A caveat is in order when making such comparisons. Although distance education has traditionally been used via correspondence courses to service geographically dispersed students at the K-12 level, the major distance education institutions in British Columbia in recent years have been designed primarily to serve the needs of the adult population along similar lines as the Open University concept in Great Britain. Therefore, it could be expected that there would be differences in student profile traits between the school-based Grade 12 population and the distance education student population of British Columbia that are based on inter-generational rather than socio-economic differences, given that there is a substantially larger number of mature students enrolled in distance education institutions than in secondary schools.
11.2.1 Student Goals

The distribution of benefits from distance education opportunities as compared to the conventional education system revealed in the anticipated outcomes of students with regard to their future education and careers. The educational and occupational goals of students indicated their potential upward social mobility, given that certain educational and career choices are more likely than others to be associated in the long run with high income and social status.

Table 11.6 indicated that there was little difference in the respective participation rates of Grade 12 and distance education students in university education. However, distance education students were substantially more inclined than Grade 12 students to opt for career or technical training, while Grade 12 students showed a greater comparative preference for vocational training. To the extent that career/technical education confers greater potential income and career development than does vocational training, distance education students appeared to have greater potential upward social mobility than Grade 12 students.

Table 11.7 confirms that distance education students had greater potential upward social mobility in the sense of having higher socio-economic aspirations than Grade 12 students. None of the distance education students surveyed chose occupations usually associated with low educational credentials, while 16.4%
Table 11.6: First Choice Programs for Future Education
Grade 12 Versus Distance Education Students

<table>
<thead>
<tr>
<th>Program</th>
<th>Grade 12 Students</th>
<th>Distance Education Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>55.5%</td>
<td>57.1%</td>
</tr>
<tr>
<td>Career/Technical</td>
<td>26.3%</td>
<td>35.1%</td>
</tr>
<tr>
<td>Vocational</td>
<td>15.4%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Adult Basic Ed. via O.L.I.</td>
<td>0.4%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Private Institutions</td>
<td>2.3%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 11.7: Desired Occupational Status of Grade 12
Versus Distance Education Students

<table>
<thead>
<tr>
<th>Occupational Status</th>
<th>Grade 12 Students</th>
<th>Distance Education Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Education Reg'd</td>
<td>16.4%</td>
<td>nil</td>
</tr>
<tr>
<td>Medium Education Reg'd</td>
<td>42.9%</td>
<td>45.8%</td>
</tr>
<tr>
<td>High Education Reg'd</td>
<td>33.6%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Other</td>
<td>7.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

of Grade 12 students chose these occupations. Half of distance education students surveyed chose high status occupations while only 1/3 of Grade 12 students chose such occupations.

Table 11.8 shows that distance education students definitely had higher aspirations than Grade 12 students in terms of long-term academic achievement. Almost half of Grade 12 students surveyed did not expect to go beyond Grade 12, while the equivalent proportion of distance education students was only 6.8%. Distance education students were twice as likely as Grade 12 students to expect to achieve a Bachelor or Post-Graduate degree, and they were three times as likely to aspire to technical training. Even allowing for the fact that many
Table 11.8: Highest Expected Educational Achievement of Grade 12 Versus Distance Education Students

<table>
<thead>
<tr>
<th>Achievement Level</th>
<th>Grade 12 Students</th>
<th>Distance Education Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 12 or less</td>
<td>48.9%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Some university</td>
<td>17.1%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>8.5%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>11.3%</td>
<td>21.0%</td>
</tr>
<tr>
<td>Technical training</td>
<td>4.5%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Vocational training</td>
<td>9.6%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Business training</td>
<td>nil</td>
<td>2.6%</td>
</tr>
<tr>
<td>No idea</td>
<td>nil</td>
<td>12.9%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

distance education students were mature adults at a different stage in their life cycle than Grade 12 students, it was clear that distance education students as a group were much more ambitious regarding academic achievement as compared to Grade 12 students. As Grade 12 is the principal educational trait of those eligible for access to post-secondary education, and it is also the most commonly held educational credential in the general adult population, it is plausible to infer that distance education students had a substantially higher level of upward social mobility, based on their educational aspirations, than the general adult population.

11.2.2 Personal and Educational Traits

It is interesting to speculate on whether distance education students may have some personal or educational characteristics in their individual backgrounds that might predispose them toward academic achievement and/or upward social mobility. To assess this question distance education students were compared
to Grade 12 students with respect to a number of individual profile traits, including:

1. gender;
2. age order among siblings;
3. use of English as main home language;
4. academic achievement in secondary school.

Exact comparisons were not possible in the case of age order, due to non-identical question wordings on the two surveys (See Appendices 2,3). However, the percentage of oldest children was comparable.

The questions being addressed through these comparisons were the following:

1. Does distance education encourage greater than average participation of women in the education system?
2. Are oldest children more likely than other sibling categories to participate in distance education as compared to education in general?
3. Are anglophones more heavily represented among distance education students than in the general population of those eligible to participate in higher education?
4. Are distance education students higher-than-average educational achievers prior to entering distance education?

Answers to these questions could provide insight into the particular types of students that are attracted to distance education.
As regards gender and age order there were only slight differences between Grade 12 students and distance education students. The percentage of females was only slightly larger among distance education students (53.5%) than among Grade 12 students (51.2%). Thus, the evidence was inconclusive regarding female participation in distance education versus schooling in general. Age-order differences were somewhat greater. Thirty-six percent of distance education students, versus 32.0% of Grade 12 students were oldest children. However, this difference was not large enough to indicate a fundamental dissimilarity between the two groups.

The language affiliation of students offered more promise as a criterion for distinguishing distance education students from the general population. Among distance education students 95% used English as their main home language, while the equivalent figure for Grade 12 students was only 85%. There are thus, substantive grounds for concluding the distance education is of proportionally greater benefit to anglophones as opposed to non-anglophones. As non-anglophones may often belong to socio-economically disadvantaged minorities (e.g. native Indians, immigrants) it is logically probable that distance education reinforces those socio-economic disparities that are based on ethnic affiliation. In other words, as an educational medium, distance education is designed to be more effectively accessible to members of mainstream society than to ethnic minorities.
As shown in Table 11.9, distance education students were high academic achievers in secondary school compared to Grade 12 students. Over half of all distance education students achieved either an A or B overall average grade, while the corresponding proportion of Grade 12 students was only 38%. This finding lends credence to the assertion that distance education is especially well-suited to the interests and abilities of individuals who are high academic achievers. To the extent that academic achievement is linked to the achievement of socio-economic status distance education would tend to widen socio-economic disparities among academic achievers and non-achievers.

11.2.3 Perceptual Traits

Yet another approach to clearly distinguishing distance education students from the adult population-at-large is to compare their perceptions of the financial feasibility of obtaining an education, and their motives for pursuing higher education credentials, with those of Grade 12 students. The two student groups were compared with respect to four traits:
1. awareness of provincial government student financial aid;
2. confidence in their ability to finance future education;
3. personal motives in pursuing an education;
4. reasons for choosing distance education as a learning mode.

These comparisons were intended to reveal any noticeable behavioural differences.

On the basis of survey responses it appeared that distance education students were better informed than Grade 12 students about government financial aid. Of Grade 12 students surveyed, 78% reported they were not well-informed of government student aid; this was the case for only 70% of distance education students. However, in spite of their higher level of information about financial aid, distance education students were less confident than Grade 12 students of being able to finance their future education, as shown in Table 11.10.

This comparative lack of confidence of distance education students about the affordability of future education probably reflects differences between mature distance education students and Grade 12 students in secondary schools, namely:

* Mature distance education students being better informed of financial constraints may be more realistic in their judgement.

* Mature distance education students are more likely to have other financial obligations to meet besides their own education costs (e.g. mortgage payments, children, etc.).

It may also be that Grade 12 students have higher expectations
Table 11.10: Confidence Regarding Funds for Future Education - Grade 12 Versus Distance Education Students

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>Grade 12 Students</th>
<th>Distance Education Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confident</td>
<td>76.1%</td>
<td>56.8%</td>
</tr>
<tr>
<td>Unsure</td>
<td>14.1%</td>
<td>26.1%</td>
</tr>
<tr>
<td>Not confident</td>
<td>10.0%</td>
<td>17.1%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

of financial support from their parents and families.

There were also substantial differences in the educational goals of distance education students and Grade 12 students, as reflected in the percentage of students selecting a given goal as their most important purpose in seeking a higher education. These percentages were converted to rankings and the results are displayed in Table 11.11. Although the question format for educational goals was not identical for the two surveys, it was nevertheless a close enough match to permit comparisons.

As shown in Table 11.11, the three most important goals of distance education students were job mobility, personal development, and increased educational credentials, in order of importance. For Grade 12 students, on the other hand, the three most important educational goals were preparation for job/career, increased income, and increased educational credentials. It appears from these findings that distance education students were comparatively more interested in the positional and psychological benefits from participating in education, whereas Grade 12 students had more immediate,
Table 17.11: Rankings of Educational Goals of Grade 12 Versus Distance Education Students

<table>
<thead>
<tr>
<th>Educational Goals</th>
<th>Grade 12 Students</th>
<th>Distance Education Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prep. for job/career</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2. Increased income</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>3. Increased Ed. level</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4. Personal development</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5. Job mobility</td>
<td>N/A</td>
<td>1</td>
</tr>
<tr>
<td>6. Social skills/recreation</td>
<td>5</td>
<td>N/A</td>
</tr>
</tbody>
</table>

material and pragmatic concerns.

These differences were further clarified when students in both groups were asked if they would opt for distance education courses in the future and, if so, why. The two most frequent reasons given by Grade 12 students for using distance education were, in order of importance, 'greater personal independence' and 'job/family responsibilities'. The same two reasons were chosen by distance education students, but in reverse order of importance. It was apparent that for distance education students responsibilities deriving from career and/or family required that education per se be considered as a matter of second priority.

11.2.4 Socio-Economic Traits

Comparisons of socio-economic traits between Grade 12 students and distance education students were made to determine whether the socio-economic status of distance education students was better or worse than that of the general adult population normally eligible for entry into post-secondary education. These
comparisons were not limited to the status of individuals, but also encompassed the students' family backgrounds. The following socio-economic traits were included in the comparisons:

1. whether students had applied for government financial assistance;
2. the students' main source of financial support;
3. the education level of the students' parents;
4. the occupational status of the students' parents;
5. family income

Identical response categories on the two surveys permitted exact comparisons for these variables.

Table 11.12 shows that although distance education students were better informed about government financial aid, they were substantially less dependent than Grade 12 students on it. Over 55% of distance education students had not applied for financial aid, while the same was true for only 38.7% of Grade 12 students. The reasons for this were not immediately apparent in Table 10.12. However, responses to a question on the students' main sources of financial support indicated that 48.8% of distance education students derived income from a full-time job, versus only 14.8% of Grade 12 students. Grade 12 students, for their part, were relatively more dependent on direct family support (35.6% vs. 23.4% of distance education students), and on summer work (20.9% vs. 2.4% of distance education students). It was therefore clear that distance education students enjoyed a higher degree of financial independence than did Grade 12 students.
Table 11.12: Application for Government Financial Assistance - Grade 12 Versus Distance Education Students

<table>
<thead>
<tr>
<th>Action Re. Application</th>
<th>Grade 12 Students</th>
<th>Distance Education Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Yes</td>
<td>19.9%</td>
<td>15.8%</td>
</tr>
<tr>
<td>2. No</td>
<td>38.7%</td>
<td>55.6%</td>
</tr>
<tr>
<td>3. Program unknown</td>
<td>36.4%</td>
<td>25.3%</td>
</tr>
<tr>
<td>4. Other</td>
<td>5.0%</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

students. This was consistent with their use of distance education as a second chance educational opportunity.

Comparisons of the respective educational credentials of parents of distance education students and Grade 12 students indicated that there were virtually no differences. The same could be said of the occupational status of the students' fathers; distance education students were slightly more prone to have low status fathers (24.5% vs. 20.1% of Grade 12 students), but otherwise the two groups were very similar. However, in the case of the occupational status of students' mothers the two student groups were quite different, as shown in Table 11.13.

It was apparent that the mothers of distance education students were of substantially lower occupational status than were the mothers of Grade 12 students, as reflected in the level of skill and/or educational credentials normally associated with their occupations. This raised an interesting question, namely the following:

* Could there be a link between having a parent of low occupational status and the necessity of avoiding or
Table 11.13: Mothers' Occupational Status - Grade 12
Versus Distance Education Students

<table>
<thead>
<tr>
<th>Occupational Status</th>
<th>Grade 12 Students</th>
<th>Distance Education Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low ed. req'd.</td>
<td>58.6%</td>
<td>71.8%</td>
</tr>
<tr>
<td>2. Med. ed. req'd.</td>
<td>18.0%</td>
<td>12.4%</td>
</tr>
<tr>
<td>3. High ed. req'd.</td>
<td>13.6%</td>
<td>11.0%</td>
</tr>
<tr>
<td>4. Other</td>
<td>9.8%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

postponing entry into a conventional education program (i.e. substituting distance education for conventional learning)? This could be the case if the socio-economic status of the family were below average due to a lower-than-average income earning potential of one parent during the child rearing years of the family cycle. Such an hypothesis would have to be verified by in-depth, detailed case studies. Given time constraints on the present study, it was not possible to gather detailed data on the family histories of individual distance education students.

It appeared, as shown in Table 11.14, that distance education students generally tended to be of homes with higher family incomes as compared to those of Grade 12 students. However, this finding is somewhat tentative due to the large percentage of Grade 12 students who either could not or would not reveal their family incomes. With this single qualification, and in the light of previously cited comparisons in family incomes of distance education students versus 1981 census data, it was concluded that distance education students were better
Table 11.14: Family Income of Grade 12 Versus Distance Education Students

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Grade 12 Students</th>
<th>Distance Education Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low</td>
<td>12.0%</td>
<td>13.0%</td>
</tr>
<tr>
<td>2. Low medium</td>
<td>8.7%</td>
<td>13.7%</td>
</tr>
<tr>
<td>3. High medium</td>
<td>20.2%</td>
<td>31.9%</td>
</tr>
<tr>
<td>4. High</td>
<td>24.1%</td>
<td>33.0%</td>
</tr>
<tr>
<td>5. Unknown</td>
<td>35.0%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

off financially than the general population of adults eligible to participate in higher education.

11.2.5 Locational Traits

Due to restrictions in questionnaire design it was not possible to generate an extensive set of locational comparisons between distance education students and Grade 12 students. It was, however, possible to compare the two student groups as to their relative spatial mobility and as to their living experience in various types of communities defined by rural/urban categories. The underlying questions being addressed by these comparisons were:

1. If distance education students have opted for an unconventional learning system, and if they are more upwardly mobile in a social sense, are they also more flexible/mobile in their patterns of residential location?

2. Is distance education more likely to attract students who have lived in metropolitan or large urban centres rather than small town or rural residents?
These questions were based on the premise that geographically mobile and/or urban people are more receptive to innovative teaching methods such as distance education.

As can be seen in Table 11.15, distance education students were more mobile in every category of residential moves except for international moves. This confirms the expectation that distance education students were from more spatially mobile residential backgrounds. It could be that such people are field-independent learners, or that because of their relative residential transiency they find dependence on facility-based education to be impractical.

Table 11.16 shows that distance education students were more likely than Grade 12 students to have lived for extended periods of time in metropolitan, small town or rural locations. This indicated that distance education had its main impact on metropolitan and peripheral locations rather than on large towns. This was presumably due to the presence of community colleges in major regional towns, providing an attractive and easily accessible alternative to distance education. However, it is worth emphasizing that these findings substantiate the view that distance education provided substantially more effective educational opportunities to metropolitan locations than to any other areas of British Columbia.
Table 11.15: Frequency of Residential Moves, 1975-81
Grade 12 Students Versus Distance Education Students

<table>
<thead>
<tr>
<th>Types of Moves</th>
<th>Number of Moves</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Local</td>
<td></td>
</tr>
<tr>
<td>a) Gr. 12 Students</td>
<td>20.6%</td>
</tr>
<tr>
<td>b) Distance Ed.</td>
<td>22.4%</td>
</tr>
<tr>
<td>Within B.C.</td>
<td></td>
</tr>
<tr>
<td>a) Gr. 12 Students</td>
<td>13.1%</td>
</tr>
<tr>
<td>b) Distance Ed.</td>
<td>18.4%</td>
</tr>
<tr>
<td>Interprovincial</td>
<td></td>
</tr>
<tr>
<td>a) Gr. 12 Students</td>
<td>8.6%</td>
</tr>
<tr>
<td>b) Distance Ed.</td>
<td>13.0%</td>
</tr>
<tr>
<td>International</td>
<td></td>
</tr>
<tr>
<td>a) Gr. 12 Students</td>
<td>5.6%</td>
</tr>
<tr>
<td>b) Distance Ed.</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

Table 11.16: Period of Residence by Urban/Rural Location, Gr.12 Versus Distance Education Students

<table>
<thead>
<tr>
<th>Location</th>
<th>Period of Residence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Under</td>
</tr>
<tr>
<td></td>
<td>Never</td>
</tr>
<tr>
<td>Metropolitan</td>
<td></td>
</tr>
<tr>
<td>a) Gr. 12</td>
<td>42.7%</td>
</tr>
<tr>
<td>b) Distance Ed.</td>
<td>21.2%</td>
</tr>
<tr>
<td>Regional Centres</td>
<td></td>
</tr>
<tr>
<td>a) Gr. 12</td>
<td>41.7%</td>
</tr>
<tr>
<td>b) Distance Ed.</td>
<td>47.1%</td>
</tr>
<tr>
<td>Small Towns</td>
<td></td>
</tr>
<tr>
<td>a) Gr. 12</td>
<td>40.1%</td>
</tr>
<tr>
<td>b) Distance Ed.</td>
<td>29.4%</td>
</tr>
<tr>
<td>Rural Areas</td>
<td></td>
</tr>
<tr>
<td>a) Gr. 12</td>
<td>71.0%</td>
</tr>
<tr>
<td>b) Distance Ed.</td>
<td>59.5%</td>
</tr>
</tbody>
</table>

11.3 University and College Students
Another way of distinguishing distance education students from the general population was to compare them to university and college students. This was done by reference to two 1982 studies published by the B.C. Post-Secondary Education Enrollment Forecasting Committee (Weldon, 1982; Weldon, 1983). Because the respective survey questionnaires from the studies of university, college, and distance education students were not identical it was not possible to make exact comparisons over the full range of variables collected. However, it was possible to make approximate comparisons for a number of variables. The student traits thus compared were classified into two broad groups:
1. personal/educational;
2. socio-economic/geographic.

The purpose of these comparisons was to identify any student traits that clearly set distance education students apart as a distinct socio-demographic group, especially with regard to variables that could influence their relative access to higher education opportunities.

11.3.1 Personal and Educational Traits

The particular traits selected for comparison in this category were as follows:
* personal: age, sex, marital status, number of financial dependents;
* educational: highest educational credential, educational goals.
Response categories from the different survey questionnaires were not exactly comparable in all cases.

Even though the three survey questionnaires were not perfectly matched as to age categories it was clear, as illustrated in Table 11.17, that distance education students were substantially older than either university or college students. This finding substantiated the concept of distance education as being primarily a second chance educational opportunity for mature adults. There were, however, virtually no differences in the gender composition of the three student groups. In all three, slightly over half were female. Thus, distance education did not appear to afford any special educational opportunity to women, compared to other forms of higher education.

In keeping with their more advanced age, a much higher percentage of distance education students were married, as compared to university or college students, as shown in Table 11.18. It was also evident that a very large proportion of distance education students had family responsibilities, as indicated by the number of financial dependents in their families (Table 11.19). By contrast, 85.5% of university students and 79.1% of college students had no dependents. On the basis of evidence presented here, it seems that distance education is best suited to mature married adults who are raising families.
Table 11.17: Age of Students by Type of Institution

<table>
<thead>
<tr>
<th>Institution</th>
<th>Percent of Respondents by Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24yrs. or Less</td>
</tr>
<tr>
<td>1. University</td>
<td>62.7%</td>
</tr>
<tr>
<td>2. College</td>
<td>75.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>25yrs. or Less</th>
<th>26yrs. or More</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Distance Ed.</td>
<td>30.5%</td>
<td>69.5%</td>
</tr>
</tbody>
</table>

Table 11.18: Marital Status by Type of Institution

<table>
<thead>
<tr>
<th>Institution</th>
<th>Married/</th>
<th>Divorced/</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single</td>
<td>Common-law</td>
</tr>
<tr>
<td>University</td>
<td>69.4%</td>
<td>23.8%</td>
</tr>
<tr>
<td>College</td>
<td>73.4%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Distance Ed.</td>
<td>31.9%</td>
<td>60.0%</td>
</tr>
</tbody>
</table>

Table 11.19: Financial Dependents of Students, by Type of Institution

<table>
<thead>
<tr>
<th># of Dependents</th>
<th>University Students</th>
<th>College Students</th>
<th>Distance Ed. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>85.5%</td>
<td>79.1%</td>
<td>32.8%</td>
</tr>
<tr>
<td>1</td>
<td>4.8%</td>
<td>8.9%</td>
<td>18.5%</td>
</tr>
<tr>
<td>2</td>
<td>5.5%</td>
<td>7.5%</td>
<td>23.7%</td>
</tr>
<tr>
<td>3</td>
<td>2.7%</td>
<td>3.0%</td>
<td>16.8%</td>
</tr>
<tr>
<td>4 or more</td>
<td>1.4%</td>
<td>1.5%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Although the three student groups were not surveyed with identical questionnaires it was possible to make approximate comparisons of their educational credentials and their educational goals. In the case of educational credentials there was no information available for college students. The purpose of these comparisons was to identify any distinctive advantages and/or social aspirations that would set distance education
students apart from other adult students.

Despite the lack of complete information on student educational credentials, it was nevertheless clear from Table 11.20, that distance education students were distinctly disadvantaged with respect to prior educational credentials, compared to university students. This was especially true for secondary education, and for post-secondary education at the Bachelor level. It appeared that participants in distance education came from more diverse educational backgrounds than was the case for university students.

Table 11.21 shows that distance education students also had more diverse educational goals than either university or college students. Distance education students were revealed to be more concerned with improved job mobility and/or earning power in their present careers than either of the other two groups. University students were heavily interested in career preparation or development, and in personal development, while college students were mainly interested in upgrading their educational credentials.

11.3.2 Socio-Economic and Geographic Traits

Socio-economic and geographic traits that were comparable for the three student groups included the following:
* socio-economic: gross family income, unemployment, main source of funds;
* geographic: size of community lived in longest.
Table 11.20: Highest Educational Credentials by Type of Institution Attended

<table>
<thead>
<tr>
<th>Institution</th>
<th>Secondary</th>
<th>Bachelor</th>
<th>Post-Graduate</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>76.4%</td>
<td>19.3%</td>
<td>4.3%</td>
<td>N/A</td>
<td>100.0%</td>
</tr>
<tr>
<td>College</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>100.0%</td>
</tr>
<tr>
<td>Distance Ed.</td>
<td>41.0%</td>
<td>7.5%</td>
<td>1.3%</td>
<td>50.2%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 11.21: Student Educational Goals by Type of Institution Attended

<table>
<thead>
<tr>
<th>Goals</th>
<th>University Students</th>
<th>College Students</th>
<th>Distance Ed. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prepare for job/career</td>
<td>32.4%</td>
<td>12.3%</td>
<td>18.6%</td>
</tr>
<tr>
<td>2. Job mobility or earning power</td>
<td>20.6%</td>
<td>7.7%</td>
<td>31.9%</td>
</tr>
<tr>
<td>3. Educational credentials</td>
<td>8.2%</td>
<td>71.2%</td>
<td>23.7%</td>
</tr>
<tr>
<td>4. Personal development</td>
<td>36.7%</td>
<td>5.7%</td>
<td>24.7%</td>
</tr>
<tr>
<td>5. Other</td>
<td>2.1%</td>
<td>3.1%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Data for university and college students were somewhat fragmentary, given the differences in the questionnaire design for those surveys. Nevertheless, some interesting partial comparisons were possible.

Table 11.22 reflects substantial family income differences between university and distance education students at the low and high extremes of the income scale. It was apparent that a much larger percentage of university students than of distance education students were in the very low family income category. On the other hand, a large percentage of distance education students had family incomes of $30,000 or more. There was a large discrepancy between the two groups. This discrepancy could
Table 11.22: Gross Family Income of Students by Type of Institution Attended

<table>
<thead>
<tr>
<th>Income Level</th>
<th>University Students</th>
<th>College Students</th>
<th>Distance Ed. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Under $6,000</td>
<td>53.0%</td>
<td>N/A</td>
<td>2.6%</td>
</tr>
<tr>
<td>2. $6,000 to $29,999</td>
<td>32.8%</td>
<td>N/A</td>
<td>40.8%</td>
</tr>
<tr>
<td>3. $3,000 or more</td>
<td>14.3%</td>
<td>N/A</td>
<td>48.2%</td>
</tr>
<tr>
<td>4. No info.</td>
<td>N/A</td>
<td>N/A</td>
<td>8.4%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>N/A</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

be explained in the following ways:

1. University students were mainly young, single persons without careers that would generate much income.

2. There were differences in the wording of questions on family income on the two respective surveys that may have generated a different understanding of the question as regards to the definition of immediate family.

3. University students may see themselves as being distinct household units even though they draw substantial income support from their parents' households.

4. There is a substantial age difference between most distance education students and other post-secondary students that accounts for socio-economic differences based on different stages in the life cycle between mature distance education students and younger college/university students.

In spite of these qualifications it seemed apparent that distance education students had direct access to more family income than was the case for university students. It also was found that 19.8% of university students defined themselves as
unemployed, versus only 11.4% of distance education students.

It is clear from Table 11.23 that the funding sources of university and college students were much more diversified than those of distance education students. However, distance education students appeared to be much more financially self-sufficient than either of the other two groups. Almost half of distance education students were self-supporting from full-time work, while the main funding sources for university and college students respectively, were summer work (27.5%) and direct support from spouse or family (31.9%). Seen in the light of comparative data on family income and unemployment these findings strongly indicated that distance education students were more financially secure and independent than either university or college students.

Table 11.24 shows that, while distance education students were largely metropolitan residents in terms of their previous living experience, university students were comparatively much more urban in their residential backgrounds. The relatively low percentage of distance education students whose living experience was based in large towns suggests that the community colleges located in the major regional centres of British Columbia provided an attractive alternative to distance education. The greatest single non-metropolitan group of participants in distance education consisted of residents of small towns.
Table 11.23: Main Source of Funds for Students by Type of Institution Attended

<table>
<thead>
<tr>
<th>Source</th>
<th>University Students</th>
<th>College Students</th>
<th>Distance Ed. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Spouse/family</td>
<td>14.0%</td>
<td>31.9%</td>
<td>23.4%</td>
</tr>
<tr>
<td>2. Full-time work</td>
<td>7.4%</td>
<td>5.6%</td>
<td>48.8%</td>
</tr>
<tr>
<td>3. Part-time work</td>
<td>12.2%</td>
<td>9.2%</td>
<td>5.7%</td>
</tr>
<tr>
<td>4. Summer work</td>
<td>27.5%</td>
<td>12.4%</td>
<td>2.4%</td>
</tr>
<tr>
<td>5. Personal savings</td>
<td>15.0%</td>
<td>12.6%</td>
<td>6.0%</td>
</tr>
<tr>
<td>6. Government</td>
<td>11.9%</td>
<td>10.3%</td>
<td>3.9%</td>
</tr>
<tr>
<td>7. Bursary/ scholarships</td>
<td>5.7%</td>
<td>2.9%</td>
<td>0.7%</td>
</tr>
<tr>
<td>8. Loans (non-gov't)</td>
<td>2.2%</td>
<td>N/A</td>
<td>1.2%</td>
</tr>
<tr>
<td>9. Other</td>
<td>4.0%</td>
<td>15.2%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 11.24: Size of Community Lived in Longest by Type of Institution Attended

<table>
<thead>
<tr>
<th>Institution</th>
<th>Metro.</th>
<th>Large Town</th>
<th>Small Town</th>
<th>Rural Area</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. University</td>
<td>45.5%</td>
<td>39.7%</td>
<td>10.9%</td>
<td>3.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. College</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3. Distance Ed.</td>
<td>40.3%</td>
<td>17.1%</td>
<td>34.2%</td>
<td>12.1%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

11.4 A Geographically Disadvantaged Regional Population

In theory, distance education should make higher education more accessible to people in geographically remote locations. It would therefore be useful to possess a body of information on the socio-economic traits, education needs, and spatial behaviour of such people. Such information could help to define the limits of the relevance of distance education to the needs and preferences of hinterland populations. A 1979 study of (Wilson, 1979) the population of the Sunshine Coast and Bowen Island region provided some interesting data in this regard.
The study was carried out as an education needs assessment for Capilano College. The College has a service region which includes both metropolitan (North Vancouver, West Vancouver) and hinterland areas (Howe Sound-Pemberton, Sunshine Coast-Bowen Island) areas. The purpose of the study was to provide an information base from which the College could plan for future de-centralization and expansion of its programs into the geographically remote portions of its service regions. The Sunshine Coast/Bowen Island areas are particularly disadvantaged from a spatial access viewpoint in that the College is accessible to them only via ferry connections and/or seasonally unreliable road conditions.

The methodology of the study consisted of three mutually complementary surveys aimed at three resident populations of the Sunshine Coast/Bowen Island areas: The general public, senior secondary students, and employers. The survey of the general public was conducted through a questionnaire distributed in a free local newspaper, supplemented by volunteer interviewers. Secondary students were surveyed at schools and employers were interviewed. These surveys were designed to reveal three main types of information:

1. the type of education in demand;
2. the constraints of time and place affecting educational decisions;
3. the salient characteristics of the client population.
The information produced by these surveys was not directly comparable to other surveys that have been mentioned in this thesis. This was due to differences in questionnaire design. Nevertheless, some broad general comparisons were implicit in the findings. This research provided an interesting case study that offered insights into the traits, needs, and perceptions of a geographically disadvantaged regional population. The following summary will be confined mainly to conditions affecting education decisions.

11.4.1 The General Public

Survey respondents were asked to identify the importance they attached to various factors affecting their decision on whether to enroll in courses. The four leading factors identified as very important were:

1. type of course offered (52.5% of respondents);
2. location of course (45.2% of respondents);
3. scheduling of the course(s) (37.4% of respondents);
4. family/job responsibilities (34.2% of respondents).

It was interesting to note that the location of a course was ranked very high as a decision factor, second only to the content of the course itself.

A similar approach was used to identify the leading motivational factors cited as reasons for participation in higher education. These were:

1. personal development (74%);
2. desire to be a more well-informed citizen (38%);  
3. improvement of educational credentials (35%);  
4. preparation for a job or career (35%).

It was evident that education was seen as having its own intrinsic value, in addition to whatever materialist benefits were perceived.

Survey respondents were also asked to identify elements of time, place and teaching method that could affect their decision to participate in college programs. The most popular preference of time for holding classes (54.3% of respondents) was for evening weekday sessions. The most widely accepted maximum time and distance for travelling to classes were, respectively, 45 minutes and 30 miles. Facility-based classes were more than twice as attractive as distance education learning methods. These findings demonstrated that a very substantial proportion of the population was potentially interested in further education provided that courses were available outside normal working hours, within convenient commuting distance, and through a conventional classroom-based teaching format. It did not appear there was a large potential market for distance education, given the relatively weak interest expressed in this method of learning.
11.4.2 Employers

Half of employers surveyed said they found procurement of skilled personnel difficult or very difficult. The most prevalent way of encouraging employees to increase their educational/skills credentials was through on-the-job training, though some limited use was also made of financial inducements and government programs. The two most important factors thought to affect the feasibility of adult education/upgrading were course scheduling and travel time/distance. In this perspective, it would appear there was a potential role for distance education given its relative flexibility in the time/place constraints of program delivery.

11.4.3 Senior Secondary Students

Over two-thirds of all secondary students surveyed expected to continue their education beyond Grade 12 and they showed a strong preference for university education over other forms of post-secondary education. The students identified 5 leading factors affecting their eventual decision to take college courses that may become available in their home area they were, in order of importance:

1. type of courses offered;
2. number of courses in the student's field of interest;
3. availability of part-time work;
4. transferability of course credits;
5. location of course (commuting distance).
There was, in general, a heavy commitment of students to move away from their home region, with under 20% intending to stay. However, about 41% of students said they would stay in their home communities if the post-secondary program of their choice were made available there.

Given the relatively large potential interests in remaining in their home region it was a matter of some interest that other conditions affecting the students' decisions be identified. Unlike the general public, secondary students were more flexible in their perception of acceptable time/distance constraints; the most popular acceptable limits were the same as for the general public, i.e. 45 minutes or 30 kilometres, but a substantially larger percentage of respondents accepted these limits as compared to the general public. These students showed very little interest in distance education or part-time study, however. On this basis it seems evident they were pre-disposed toward outmigration to conventional post-secondary facilities, rather than taking advantage of any distance education or part-time study opportunities in their home region.

Secondary students in the Sunshine Coast/Bowen Island region were pragmatists in the short run in that their first priority after finishing school was to find employment. However, they did seek to keep future options open, as they wanted full-time non-permanent employment. Their two main goals in pursuing post-secondary education were: increased educational status, and preparation for a job/career. They expressed very low interest
in the option of continuing to live at home, yet their economic vulnerability was revealed in the two major constraints on their decision about whether to do further education, namely: the availability of employment as an alternative, and the cost of further education.

The career choices of secondary students in relation to their parents' occupations were diverse. Approximately an equal percentage of parents' occupations were avoided as were emulated by students. Students most likely to be upwardly mobile in their career choices with regard to fathers' occupations were those whose mothers occupied high status occupations.

Thirty-one percent (versus 20% for the general population) of students indicated they would have difficulty arranging transportation to attend a course in the nearest town. Logically, these persons would be likely candidates for distance education. However, given the strong general commitment of students to out-migration and their lack of interest in distance education it is likely they were pre-disposed toward migration to major urban centres.

11.5 Summary

The purpose of Chapter 11 was to discover if distance education students are better off or worse off compared to other students, and compared to the adult population at large. If distance education students are mainly worse off, then it
follows that distance education is providing a remedy to unequal educational opportunity. Otherwise, distance education is not particularly effective in increasing social equity.

As a group, distance education students enjoy higher socio-economic status than the general population and there is less regional disparity among distance education students based on the metropolitan/non-metropolitan dichotomy. Culturally, they are more secure as well in that a much larger percentage are anglophones compared to the general population. The only comparative disadvantage of distance education students is that a slightly larger-than-average percentage of their parents are under-educated. This, however, is not a significant handicap given the small absolute size of the under-educated group.

Distance education students are more upwardly mobile, more academically capable, substantially more anglophone in ethnic origin than Grade 12 students. Although better informed of government financial aid, distance education students are less sanguine about the affordability of education, probably due to their realistic appraisal of family financial responsibilities. Nevertheless, most distance education students are of higher socio-economic status than Grade 12 students. Distance education students are also more likely than Grade 12 students to be of geographically mobile, metropolitan-based family backgrounds.

Comparing distance education students to other post-secondary students, the former are older, more likely to
have family responsibilities, more financially secure and more directly concerned with career development. University students, on the other hand, are more urban in their residential background. This suggests that distance education does have a comparatively greater impact than universities or educational opportunity in small towns and rural areas.

It must be asked, however, whether distance education is seen as an acceptable option in communities where it is most needed. The educational preferences of geographically isolated communities are pragmatic and conservative with respect to learning methods. While education is seen to have intrinsic value, scheduling of learning activities must be adapted to fit the demands of work and family life. Classroom-based learning is preferred over distance education and young people are heavily committed to out-migration as a means of achieving educational and employment objectives. This situation limits the potential use of distance education, at least until such time as this method of learning becomes widely known and accepted throughout British Columbia society.
12.1 Access to Education in a Polarized Human Landscape

Throughout the preceding chapters the relative accessibility of higher education in British Columbia has been described in terms of effective educational opportunity. This concept refers to a constellation of personal, socio-economic, cultural, and locational attributes that are consistently correlated with participation and achievement in higher education. It has been affirmed that in British Columbia effective educational opportunity is spatially and socially polarized, such that upper middle class metropolitan residents have maximal access to higher education while the rest of the human landscape comprises, to varying degrees, a human resources hinterland of substantially lower effective educational opportunity. In the context of this polarization of effective access to higher education, distance education has been presented as a potential means for mitigating disparities in educational opportunity.

Three postulates were used to describe the social and geographic dimensions of unequal educational opportunity in British Columbia, and the potential role of distance education. The first identified affluent metropolitan residents as the social group that has greatest access to higher education. The second postulate asserted that throughout the province spatial
disparities in educational opportunity were consistently linked to a geographic segregation of social classes reflected in spatial variations of both material wealth and cultural capital. The third postulate recognized that while distance education would attenuate disparities in access to education, the impact of distance education would not be uniform for all social groups and geographic areas.

The above postulates were derived from a reinterpretation of dependency theory, taking into account concepts of class conflict and social reproduction as they apply to the human landscape in British Columbia. In this perspective, emphasis was placed on the role of the education system in dispensing cultural capital among different social classes and geographic regions through the distribution of education credentials. It was projected that the distribution of education credentials would serve as a guide to the distribution of effective educational opportunity as manifested in other socio-economic conditions that influence human well-being. This proved to be the case. Thus, the model of a polarized human landscape proved well-founded as a descriptive framework.

Reduced to their essentials, the main findings of this research are as follows:

1. There is a definite polarization of effective educational opportunity in British Columbia, with sharp contrasts between metropolitan and non-metropolitan areas of the province.
2. Polarization of effective access to higher education in British Columbia is related to socio-economic class differences. At the provincial level, educational opportunity is highest for middle and upper middle class people, especially those living in the metropolitan Lower Mainland. Working class, rural residents and certain ethnic minorities (e.g. Indians) have the least effective access to higher education. Disparities of educational opportunity are associated with variations in the social class composition of residential areas, both within regions and within the major cities.

3. Distance education does not have promising potential as a means of redressing disparities in overall educational opportunity, because it is more effectively accessible to upwardly mobile, middle class urban residents than to others. It does, however provide a significant "second chance" educational opportunity to literate mature adults who would not otherwise have access to higher education, due to family, job or geographic constraints. A detailed review of findings is provided in Appendix 3.

12.2 The Spatial Polarization of Educational Opportunity

It was found that effective educational opportunity was highest in the metropolitan Lower Mainland and Greater Victoria. However, conditions were not uniform throughout this metropolitan zone. In general, conditions in Greater Victoria
were not as favourable as those in the Lower Mainland. Of the metropolitan college regions, the Capilano region ranked consistently highest with respect to indicators of effective educational opportunity, with the areas of highest socio-economic status being found in North Vancouver and West Vancouver.

Outside of the metropolitan southwest corner of British Columbia effective educational opportunity was found to be both lower and less uniform. In general, conditions in southern British Columbia were better than in the central and northern parts of the province. The Northwest and North Island college regions were consistently among the most disadvantaged regions. Those regions with the lowest level of effective educational opportunity were the most geographically peripheral in relation to major urban centres of the province.

There was remarkable consistency in the variation of effective educational opportunity across rural/urban community groups. The more urbanized a given area was the higher was its status in terms of socio-economic conditions that foster participation and achievement in higher education.

Within the major urban centres of the province there was a clearly defined and polarized spatial hierarchy of social class neighborhoods with their own distinctive levels of effective educational opportunity. There were substantial differences in effective educational opportunity between these different
residential zones. The most privileged zones coincided with upper middle class suburban neighborhoods, while the most under-privileged coincided with inner city slums. In general, highly privileged and under-privileged areas occupied opposite sides of the city in relation to the central commercial core.

The privileged metropolis of the province was shown to be a spatially discontinuous area with its nucleus on the North Shore of Burrard Inlet and fragmentary outliers being located in both Central and Suburban High Status neighborhoods in the major cities of the province. Conversely, the relatively disadvantaged human resources hinterland was found to extend into under-privileged neighborhoods of the major cities including the metropolitan region itself. Within the metropolitan southwest low effective educational opportunity was based mainly on socio-economic constraints, while in non-metropolitan regions it was based on a combination of locational and socio-economic constraints.

12.3 Social Class Disparities

There was a strikingly consistent association in British Columbia between educational credentials and other indicators of socio-economic status. In general, people with high credentials had relatively high incomes, stable employment and technical or managerial occupational roles; those with low credentials tended to have low incomes, be more subject to unemployment and to
pursue manual occupations and/or occupations with little decision-making authority.

Participation in higher education was found to be associated with socio-economic status. Participation in post-secondary education occurred comparatively frequently among members of households with high socio-economic status. People of low socio-economic origins were much less inclined to pursue post-secondary education.

Sexual stereotyping in higher education did occur to some extent and did favour males over females in terms of orientation toward more lucrative, managerial and prestigious careers. However, sexual stereotyping was not uniformly present in the populations studied.

There was a strong positive association between the spatial distribution of educational credentials and levels of socio-economic well-being. The pattern that emerged was one of spatial segregation of social classes that was predicated to a large extent on the distribution of educational credentials.

There was a noticeable link between ethnic affiliation and socio-economic status as regards people and geographic areas with relatively low effective access to higher education. In general, anglophones were firmly entrenched among the most privileged social strata and within spatial areas having high effective educational opportunity. Non-anglophones and native Indians were comparatively prominent in social strata/spatial
areas marked by low economic status and little effective access to higher education. Within Greater Vancouver, non-anglophones and native Indians were especially concentrated in the central and eastern part of the city. Within the regions of British Columbia native Indians were relatively more numerous in the central and northwestern part of the province.

12.4 The Role of Distance Education

Although distance education was found to have attracted significant participation of residents of small towns and rural areas, the single largest group of participants in distance education was comprised of metropolitan residents. Residents of large, non-metropolitan towns were not heavily represented among distance education students. Therefore, it can be concluded that the impact of distance education on geographic inequalities in access to higher education was ambivalent. There was some enhancement of effective educational opportunity for students in the most remote locations, but disparities between metropolitan and non-metropolitan locations in general seem not to have been mitigated to a very large extent. Because of the large scale participation of metropolitan residents, it could be argued that distance education reinforces regional disparities in effective educational opportunity in an absolute sense.

Although a significantly large minority of distance education students were of modest socio-economic origins, the
highest proportional participation in all regions of the province was from people of relatively affluent socio-economic status. Moreover, distance education students were found as a group to be of the more affluent social strata when compared to other students and to the general population. Therefore, it can be concluded that although distance education casts a wide net in terms of the socio-economic background of its participants, it nevertheless reinforces social class differences because of the relatively higher participation of middle and high status social classes as compared to people of underprivileged backgrounds.

Evidence from British and American research had suggested that distance education would be found to be more beneficial to women than to men, as reflected in participation levels by gender. However, there was no tangible evidence to substantiate this expectation. The gender composition of distance education students was not significantly different from other student groups.

When gender was considered in combination with socioeconomic status, however, it was found that effective educational opportunity achieved through participation in distance education varied by gender within social classes. On a proportional basis, it was found that participation in distance education was heavier for women of middle class backgrounds and men of lower socio-economic origins. Moreover, women did appear to gain greater potential social mobility than men in general, due to
the higher educational aspiration levels of women.

The impact of distance education on gender differences in effective educational opportunity also varied geographically. Distance education was found to be used relatively more by metropolitan than by non-metropolitan women. Conversely, participation in distance education was proportionally higher for non-metropolitan, as compared to metropolitan men.

The potential of distance education as a means of re-distributing effective educational opportunity was found to be limited for a number of reasons. Firstly, it was noted that distance education was an unattractive mode of learning compared to conventional classroom learning. Secondly, distance education did not attract significant participation of cultural minority groups. This suggests that distance education may be to some degree culturally incompatible with the educational needs and/or learning styles of non-anglophones. In addition, it was found that the vast majority of distance education students already lived within easy access of adult educational facilities, and therefore did not see spatial access to education as a problem. Finally, young students in communities of the geographic hinterland were found to be strongly oriented toward full-time campus-based study in an independent living environment, i.e. they were committed to out-migration from their home communities.
On the other hand, for certain categories of people distance education did provide a practical route to higher education. The majority of these people were mature, economically secure adults occupied with the pursuit of careers and/or the maintenance of families. They could only be considered as disadvantaged in logistical terms, i.e. lacking the time and/or flexibility in scheduling required to attend classroom-based learning activities. In consideration of distance education student characteristics and expressed student attitudes toward education it must be concluded that distance education did not significantly involve people of under-privileged social status. It did, however, provide educational opportunities to a minority of students confronted with the locational disadvantages of small towns and rural areas. It also facilitated inter-generational social mobility for upwardly mobile individuals whose parents were of modest socio-economic origins.

12.5 Unexpected Findings and Unanswered Questions

There were a number of anomalies and gaps in the results of this research that suggest the need for further inquiry. For example, research on distance education outside British Columbia suggests that women as a group participate more heavily than men in this form of education (McIntosh, op. cit.). This did not appear to be the case in British Columbia, at least not to a great extent. Longitudinal research on enrollment trends by gender could clarify this issue. Another issue relevant to
distance education is the question of what specifically causes students to avoid or drop out of this form of education. If tentative assumptions about the influence of social class, ethnicity, and urban-rural background on student academic skills and motivation are well-grounded, this would be revealed by studies of distance education student drop-outs and non-participants.

On the general question of educational opportunity there was an unexpectedly large gap between the respective positions of metropolitan and rural residents. It is common, though perhaps naive, to assume that social and economic opportunity is redistributed to a large degree through public sector services in the areas of social welfare, regional economic development and education. However, the consistently deprived condition of certain rural areas of British Columbia merits further attention by social researchers, as does the consistent and very substantial high status of the metropolitan Lower Mainland on most measures of social well-being.

Considering inter-regional disparities throughout the province as a whole, although metropolitan/non-metropolitan contrasts were quite consistent, the relative status of some hinterland regions in terms of social well-being and educational achievement was not always consistent. The Selkirk College region, for example, proved to have a higher-than-expected status compared to other regions, on the basis of regional economic comparisons alone. Perhaps the answer to such
inter-regional inconsistencies among hinterland regions lies in regional historical studies focusing on the evolution of cultural values and institutions. In the case of the Selkirik region, the city of Nelson traditionally has been a regionally important location for post-secondary institutions that have drawing power beyond the immediate area. These have included at various times the Kootenay School of Art, Notre Dame University, and the David Thompson University centre.

12.6 Theoretical Implications

The findings generated by this research generally support the view that there are mutually complementary strands of social theory that can be usefully juxtaposed to provide an enhanced understanding of the social processes and social structures that give rise to unequal educational opportunity between different social classes and the residential territories they occupy. In this dissertation the concepts of social reproduction, de-schooling and credentialism have been especially useful in this regard.

The problem of how to compare social theory with empirical evidence has been addressed in the present work by following an approach suggested in Chamberlin's method of multiple working hypotheses. In this approach, families of mutually consistent hypotheses were constructed around the main research questions and then subjected to testing through a number of empirical
methods, including inferential statistics and the mapping of social indicators. The purpose was not to establish universal and verifiable laws of society, but rather to seek a pluralistic, convergent form of explanation, where understanding of a problem is deepened by examining its various facets in different ways and from different viewpoints. If this process does not reveal serious mutual contradictions between hypotheses, then the hypotheses are presumed to have some basis in reality. Those hypotheses that are found to conflict with established theory, with empirical evidence, or with other hypotheses in the original set are weakened.

An attempt has been made to guide the use of empirical methods by reference to social theory, and also to combine social and spatial analysis. No extravagant claims have been made about the explanatory power of this approach, in contrast to other social scientists who sometimes claim to have discovered universalistic theories about the inner workings of society. In this respect, the present work aims to furnish no more than partial explanation that will hopefully provide a useful information base to those more interested in the elaboration of theory.

As regards the combination of social and spatial analysis alluded to above, this author does not subscribe to the notion that geographic research should be enslaved to social theory. Those who claim to have mastered social theories that supercede the need for geographic inquiry are immodest at best, and
intellectually arrogant at worst. In the research conducted as part of this dissertation, categories of spatial description (e.g. metropolis, hinterland) have been employed for the sake of convenience, and in view of relevant social theory about the part played by social class interests and social institutions in generating spatial disparities in human well-being.

Carnoy's interpretation of the concept of dependency as a form of cultural imperialism is useful as a bridge between purely technical/spatial and Marxian/structuralist interpretations of the dependency perspective. In this approach to understanding relationships of dominance and subordination between regions, spatial entities do not have a life of their own, but neither does the economic infrastructure. Carnoy stresses that, in addition to whatever social power is exerted directly through the ownership rights of social classes over economic infrastructure, dependency relationships between regions (and within regions) are also a function of control over social institutions by dominant social interest groups. Thus, the education system is an important vehicle through which social class relations, and the inter-regional relationships of dependency, may be either reproduced or transformed.

12.7 Answers to Working Hypotheses

In Chapter 3 (section 3.1) a framework of fifteen working hypotheses was established to focus the research on the three
postulates that constitute the thesis statement. These working hypotheses are not strictly verifiable in the same way as hypotheses used in inferential statistics; there is no simple, clear-cut test that would allow any one of them to be validated or refuted. The term hypothesis applies to these statements only in the generic sense, i.e. they are suppositions used as a basis for reasoning.

Notwithstanding the above qualification, it serves the consistency of this dissertation to revisit the fifteen working hypotheses, now that the research and its main results have been reported. It should be possible to assess the relative accuracy of the original working hypotheses in the light of research findings. Each of the three sets of five hypotheses will now be reviewed briefly.

1. The first family of five working hypotheses addresses the spatial polarization of educational opportunity in British Columbia.

a. The hypothesis that objective social conditions favouring participation in higher education are most pronounced in the Greater Vancouver - Victoria metropolitan region is largely supported (See sections 5.2, 6.1.), although conditions within this region are not uniform (See section 4.3.).

b. Social conditions in non-metropolitan regions of British Columbia are substantially less conducive to participation in higher education as compared to the
metropolitan southwest. There is, however, considerable inter-regional variation in non-metropolitan areas and pockets of affluence are found in these areas (See section 5.2.).

c. In general, the premise that more urbanized areas of the province enjoy better effective access to higher education than less urbanized areas is supported by the present research (section 5.1). The gap between metropolitan and rural areas is especially great, while disparities between medium-sized cities are minimal.

d. All major urban centres of British Columbia have a spatially polarized hierarchy of zones of high and low educational opportunity. This hierarchy is best described in terms of a 5-class typology of residential neighborhood types (section 4.2). The degree of polarization is greatest in Greater Vancouver and Victoria.

e. The hypothesis that the human resource metropolis and hinterland of British Columbia are spatially discontinuous and interpenetrating is supported by this research (sections 4.3, 4.4). While metropolitan affluence is highly concentrated on the north shore of Burrard Inlet, regional outliers of affluence occur as enclaves within the major cities of the province. Conversely, hinterland socio-economic conditions are reproduced in working class and slum neighborhoods within Greater Vancouver and Victoria.
2. The second set of working hypotheses deals with social class differences in educational opportunity in British Columbia.
   a. The presumed positive correlation between adult education achievement levels and indicators of social class status is substantiated by this research. Highly educated adults in British Columbia usually have relatively high incomes, employment, and highly-ranked occupational status. The converse is true for undereducated adults (See section 4.2; also Tables 5, 6, in Appendix 1).
   b. The premise that members of high social class status households in British Columbia (defined by income, occupation, and education level of household heads) participate more heavily in higher education, as compared to members of low status households, is supported by the findings of this research. This is clearly evident when spatial patterns of participation in higher education are compared to spatial patterns in the distribution of social class traits (See Chapters 4-6). It is also apparent from profile data on reference populations (Chapter 11).
   c. There is evidence of sexual stereotyping that skews educational opportunity in favour of males, although there is not a uniform pattern in this regard. Females of middle or upper middle class origin appear to be far less subject to this problem than their gender peers of low socio-economic background (See sections 8.3, 9.2.).
more research is needed on this topic, particularly on the interaction between gender, social class ethnicity, and urban-rural differences.

d. As expected, residential segregation of social classes is to a large extent reflected in the spatial pattern of educational credentials. High social status neighborhoods are generally more highly credentialed and the reverse is true for low status neighborhoods (Chapter 4). More information is needed, however, on the impact of scale on this association. The pattern of polarized social class neighborhoods is more elaborate in the metropolitan cities. As the socio-economic zones are larger in these places, it could be presumed that cultural segregation of social classes is greater in the metropolis than in smaller cities. What local effects does this have on attitudes and motivation toward higher education?

e. It was anticipated that anglophones in general have higher socio-economic status and therefore greater effective educational opportunity than non-anglophones. This is supported by the present findings (Chapters 4 - 6.). Native Indians are especially disadvantaged in this regard. There is, however, more research needed on the specific factors that promote or hinder the upward social mobility and educational achievement of particular cultural minorities.

3. A third set of five hypotheses concerns the potential of
distance education as a means of promoting greater social and spatial equity in access to higher education in British Columbia.

a. There is limited evidence of the implied benefit of distance education, i.e. the overcoming of geographic barriers to participation in higher education, being captured in British Columbia (See sections 8.7, 10.7.). On a proportional basis, hinterland regions do participate more in distance education than metropolitan areas. Nevertheless, differences in participation rates are not very substantial. Moreover, the relatively high metropolitan participation in distance education in terms of the total provincial population of distance education students indicates that the overall impact of distance education on geographic disparities is very minimal. For the large majority of distance education students, the choice of this mode of learning is related to convenience of scheduling rather than to locational disadvantage.

b. The assumption that distance education selectively benefits the advantaged social classes is supported by the findings of this dissertation (See Chapter 8, section 8.6; Chapter 9, section 9.2; Chapter 10, section 10.6, and Chapter 11, sections 11.1 – 11.3).

c. The impact of distance education on sexual inequality of access to education is negligible, as reflected in the gender composition of the distance education student
population in British Columbia (See section 8.3.).

d. The results of this research support the contention that upwardly mobile women of the middle classes and men of working class origin are the main beneficiaries of distance education. The sections of chapters 8-10 that focus on personal and socio-economic traits of distance education students provide relevant evidence on this point. There is some indication that middle class women get more long term social mobility as a group from distance education than men of working class origin, due to the higher aspiration levels of the women.

e. It is clear that distance education is currently not an effective remedy for improving effective access of disadvantaged British Columbians to higher education (Chapters 9, 11). Comparatively few rural residents, members of cultural minorities, and working class women participate in this form of learning. In effect, the pedagogical format and cognitive content of distance education seem to attract a cliental composed mainly of literate, economically secure, and culturally mainstream urban people.

In view of the above findings regarding distance education the effectiveness of this form of learning as a device for promoting social equity must be questioned. To what extent is it possible to adapt the pedagogy and curriculum of distance education to the local needs of the least advantaged elements of
society? Are the credentials dispensed by the distance education system equivalent in terms of learning experience to those available through classroom instruction, or are distance education credentials merely a validation of socio-economic status of the upwardly mobile middle class? Finally, what alternative policy options should be considered as ways of improving effective educational opportunity in British Columbia?

12.8 Policy Implications

It has been shown that despite marginal benefits accruing to some disadvantaged segments of the British Columbia population, distance education has been largely ineffective as a means of addressing socio-economic and geographic disparities in access to higher education. In fact, there is considerable evidence that the global impact of distance education on social equity has been to increase socio-economic and spatial inequalities in effective access to educational opportunities. The main social group to benefit from distance education in British Columbia has consisted of economically secure, upwardly mobile anglophones living in heavily urbanized or metropolitan areas within easy commuting distance of post-secondary facilities. Moreover, distance education has not been perceived within geographically disadvantaged regions as an attractive alternative to campus-based education programs.
Spatial and socio-economic inequalities in effective access to higher education have persisted in spite of government initiatives to expand educational opportunity through the development of the community college system and the establishment of a province-wide distance education system. This does not mean that these efforts have been futile, but rather that their success has been relative and limited. However, it does mean that the expansion of educational facilities and programs alone cannot overcome the socio-economic, cultural, and spatial barriers that block access to higher education for some disadvantaged social groups.

The problems of socio-economic and geographic disparity in effective access to higher education is compounded by student financial aid policies that have failed to recognize and respond to the disadvantages of particular social groups and regional populations. It has been shown, for example that student aid policies in British Columbia have tended to aggravate rather than compensate for regional socio-economic disparities. Moreover, distance education presents an opportunity for governments to evade their responsibilities for student financial aid, given the greater relative financial self-reliance of distance education students and their families.

Participation of disadvantaged social groups and/or geographic locations in higher education in general, and in distance education in particular, has not been as great as would be necessary if social and geographic disparities in effective
educational opportunity are to be reduced over time. Cultural minorities, economically under-privileged social classes and spatially disadvantaged communities are free in theory to participate in distance education or any other form of advanced education, but will only do so if the practical pre-conditions of their participation can be met.

This situation evokes the need for other policy measures that focus specifically on assisting disadvantaged members of society to participate in higher education, whether it be through campus-based or distance education programs. A number of policy options that need to be considered include the following:

1. relocation grants to students in geographically disadvantaged locations who cannot afford to defray the distance costs of attending a post-secondary institution;

2. bursaries designed to subsize the post-secondary education of students from low socio-economic status families;

3. outreach programs based in existing colleges and universities and designed to deliver post-secondary education programs specifically to small, geographically remote communities through a combination of on-site instruction and distance education;

4. contractual delivery by colleges, universities, and/or distance education institutions of education programs tailored specifically to meet the cultural and/or economic needs of particular client groups (e.g. employers, cultural minorities, trade unions, advocacy groups, the unemployed);
5. enrollment policies that invoke affirmative action by prescribing minimal quotas for participation by groups and/or regions that have been designated as under-privileged in terms of effective access to education;

6. the use of objective criteria (i.e. social, economic and educational indicators) to identify geographic areas (e.g. school districts) as priority locations for the expansion of educational opportunities, based on their relative lack of effective educational opportunity as compared to more privileged locations.

7. the democratization of governing bodies of post-secondary and distance education institutions through greater participation of elected community representatives and/or representatives of advocacy organizations that speak on behalf of under-privileged social groups.

8. progressive scaling of student financial aid grants and/or loans so as to compensate students in economically stagnant and/or geographically remote school districts or college regions for their relatively low level of effective educational opportunity.

The above policy options are based on a philosophy of pro-active compensation to the least advantaged members of society for their relative lack of effective educational opportunity. Higher education should not be treated in public policy as an end in itself, but rather as a means toward achieving a more equitable social order.
APPENDIX 1 - NOTES ON METHODOLOGY

Raw Data

Socio-economic indicators

Socio-economic data used in defining the human resource landscape of British Columbia (Part B) were derived from two sources:

1. a data base of 200 variables from the 1981 census, formatted by B.C. school district and supplied by the B.C. Ministry of Industry and Small Business;
2. a data base of 532 variables from the 1981 census, formatted by B.C. census tract and supplied by Statistics Canada in the form of a CANSIM User Summary Tape.

As there are 75 school districts and 370 census tracts in British Columbia these two data bases accounted for $(200 \times 75) + (532 \times 370) = 211,840$ data values in the original raw data base.

The variables in this data base covered an extremely broad spectrum of socio-demographic information on virtually all aspects of the population and living conditions that are part of the Census of Canada.

Educational Indicators

In addition to socio-economic data per se, the original data base was supplemented by a number of variables that described various conditions in the education system. The main source of these variables was the B.C. Teachers' Federation's 1981
Statistical Handbook. This is a statistical compendium of indicators describing the K-12 levels of the school system in terms of resources, classroom conditions, and educational outcomes, as well as socio-demographic factors thought to be relevant to education. The data are tabulated by school district and convey information derived from internal records of the school system, from the B.C. Ministry of Education, or from the 1981 census. Fifteen variables, considered by B.C. educators to be representative of key conditions in the education system were drawn from this source to be mapped to illustrate various features of the British Columbia human resources landscape. Several variables were also calculated from raw data (e.g. education achievement index). In addition to indicators of conditions in the K-12 school system a number of variables describing the post-secondary system in British Columbia were incorporated into the original raw data base on education. These data were found in annual publications of the Ministry of Education, commonly referred to as the "blue books" (See Bibliography). Not all such information, however, was found in these publication. Information on student financial aid, for example, was obtained directly from Ministry of Education officials. Another source of educational data, and of information on how to interpret the relative significance of such data, was found in Dickenson, et. al. (1981). This publication contains socio-demographic and educational indicators formatted by B.C. school district and by college region. More importantly, it contains an extensive review of the
literature on social indicators used in educational research and
the results of a comprehensive survey of British Columbia
educators on the perceived usefulness of a broad range of social
indicators. Reference to this information provided valuable
insight in the selection of indicators to describe the British
Columbia human resource landscape.

Survey Data
As described in Table 3.2 (p. 179) data collected on students
and potential students in British Columbia was generated from
five case studies conducted between 1979 and 1985. These case
studies took the form of surveys of the following
sub-populations:

1. a geographically peripheral regional population in the
   Sunshine Coast/Bowen Island area, surveyed in the three
   subgroups of 3,500 households, 80 employers and 544 senior
   secondary students;

2. a population of 15,531 Grade 12 students in 72 schools
   throughout the province;

3. three populations of distance education students, as
   follows:
   a. 2,500 B.C. Correspondence Branch Students;
   b. 1,776 students of the Open Learning Institute;
   c. 5,900 students of the Knowledge Network.

Results of the three surveys of distance education students
referred to above were combined into a single data base for the
purpose of statistical analysis.
Although response rates for the various sub-populations surveyed varied widely, the number of questionnaires returned was considered adequate, given that a number of these surveys were based on a mail-out, self-administered, volunteer return approach. In view of the large absolute sample size achieved (14,353 total respondents, of which 1,433 were distance education students), the information gathered can be considered representative of a broad cross-section of people who were actually or potentially concerned with the issue of access to higher education. For purposes of comparison, the above data base on British Columbia students was supplemented by data from two other surveys, one based on a random sample of 1,800 B.C. university students (Taylor and Weldon, 1982) and the other based on a survey of over 2,000 students attending four B.C. community colleges (Weldon, 1983). Although the questionnaires used for these surveys were not identical to those used in collecting data for this thesis, there was enough of an overlap to allow at least partial comparisons for some important variables.

Classification of Survey Respondents

Income Groups

In analyzing and comparing results of student surveys it was necessary to be able to stratify respondents according to their socio-economic status. This was done by dividing them into income groups as follows:
1. low = less than $18,000 per year;
2. low medium = $18,000-$23,999 per year;
3. high medium = $24,000-$35,999 per year;
4. high = $36,000 and over per year;
5. unknown.

These income categories were used to classify students according to their own personal incomes, and also to classify the income levels of the students' families.

Occupational Groups

Different levels of socio-economic status were also ascribed to student survey respondents and their families on the basis of occupational affiliation. In this case, occupations were categorized according to the extent of education/training they generally required. The three broad occupational categories and their constituent occupations were as follows:

1. occupations with low educational requirements:
   a. police/security/military occupations (policeman, soldier, prison guard, security guard, etc.);
   b. housewife/homemaker;
   c. clerical/secretary, bookkeeper, retail clerk, receptionist, administrative support staff;
   d. service occupation (barber, hairdresser/hotel/restaurant work, etc.);
   e. unskilled or semi-skilled work in factory, mill, etc. (processing/manufacturing);
   f. unskilled or semi-skilled work in farming, fishing,
mining, logging, hunting, trapping, etc. (natural resource extraction);
g. unskilled or semi-skilled work in transportation, communication and/or public works (including maintenance and janitorial work).

2. occupations with medium educational requirements:
a. skilled sales occupations (insurance, real estate, industrial and consumer goods sale);
b. artistic, literary, performing arts, sports, recreation and entertainment;
c. semi-skilled and skilled social and/or medical professions (social worker, job counsellor, mental health worker, social planner, nurse, radiologist, dental technician, etc.);
d. skilled work in farming, fishing, mining, logging, etc. (natural resource extraction);
e. farmer (own farm);
f. skilled technical work (technologist, electronic technician, computer programmer, etc.);
g. skilled work in transportation, communications, and/or public works (telephone, bus, airline, port, hydroelectric system, newspaper, T.V., radio);
h. skilled tradesperson (electrician, plumber, construction machine operator, etc.).

3. managerial, administrative, and related occupations (managers, executives, administrators, self-owned business, etc.);
4. graduate engineer/architect/city planner, (civil engineer, electrical engineer, forestry engineer, architect, etc.);
5. researcher (natural science researcher, social science researcher, etc.);
6. teaching and related occupations (elementary, high school, college, university teachers, counsellor, librarian, etc.);
7. medical doctor, dentist, lawyer, priest or minister.

Precedence for classifying occupations in this manner is found in the work of Blishen (1971). Information on the educational requirements of various occupations is published by the Government of Canada (Employment and Immigration Canada, 1986).

Classification of Spatial Units

Census Tracts and Census Metropolitan Areas

The smallest spatial unit used in this thesis for mapping social indicators was the census tract. Census tracts are small areas within major cities, having an average population of 4,000. They are defined by Statistics Canada and are used for gathering and formatting census data in large urban centres, called Census Metropolitan Areas. There are five Census Metropolitan Areas in British Columbia, each with its own distinctive number of census tracts, as follows:

1. Vancouver - 256 census tracts;
2. Victoria - 48 census tracts;
3. Kamloops - 22 census tracts;
4. Kelowna - 21 census tracts;
5. Prince George - 23 census tracts.
Within these major urban centres social indicators related to participation and achievement in education were mapped by census tracts to reveal the systematic pattern of socio-economic neighbourhood types described in Chapter 4.

School districts and college regions

The Basic local spatial unit upon which the geography of the British Columbia education system is organized is the school district. The 75 school districts of British Columbia are based on the concept of the community (or a small group of adjacent communities) as the primary geographic unit within which the administration of schools is carried out. There are 75 school districts in the province, varying widely in their respective population sizes and socio-economic status.

The post secondary system in British Columbia is organized into fifteen regions coinciding with the service areas of fifteen community colleges. College regions are aggregates of school districts. The fifteen college regions of British Columbia and their constituent numbered school districts are as follows:

1. Camosun College:
   a. 61 Greater Victoria
   b. 62 Sooke
   c. 63 Saanich
   d. 64 Gulf Islands
2. Capilano College:
   a. 44 North Vancouver
   b. 45 West Vancouver
   c. 46 Sechelt
   d. 48 Howe Sound

3. Cariboo College:
   a. 24 Kamloops
   b. 26 North Thompson
   c. 27 Cariboo Chilcotin
   d. 29 Lillooet
   e. 30 South Cariboo
   f. 31 Merritt

4. Kwantlen College:
   a. 35 Langley
   b. 36 Surrey
   c. 37 Delta
   d. 38 Richmond

5. Douglas College:
   a. 40 New Westminster
   b. 41 Burnaby
   c. 42 Maple Ridge
   d. 43 Coquitlam

6. East Kootenay College:
   a. 1 Fernie
   b. 2 Cranbrook
   c. 3 Kimberley
   d. 4 Windermere
e. 18 Golden
f. 86 Creston-Kaslo

7. Fraser Valley College:
   a. 32 Hope
   b. 33 Chilliwack
   c. 34 Abbotsford
   d. 75 Mission
   e. 76 Agassiz/Harrison

8. Mapaspina College:
   a. 47 Powell River
   b. 65 Cowichan
   c. 66 Lake Cowichan
   d. 68 Nanaimo
   e. 69 Qualicum

9. New Caledonia College:
   a. 28 Quesnel
   b. 55 Burns Lake
   c. 56 Nechako
   d. 57 Prince George

10. Northern Lights College:
    a. 59 Peace River South
    b. 60 Peace River North
    c. 81 Fort Nelson
    d. 87 Stikine

11. North Island College:
    a. 49 Central Coast
    b. 70 Alberni
c. 71 Courtenay  
d. 72 Campbell River  
e. 84 Vancouver Island West  
f. 85 Vancouver Island North  

12. Northwest College:  
a. 50 Queen Charlotte  
b. 52 Prince Rupert  
c. 54 Smithers  
d. 80 Kitimat  
e. 92 Nishga  

13. Okanagan College:  
a. 14 South Okanagan  
b. 15 Penticton  
c. 16 Kermeos  
d. 17 Princeton  
e. 19 Revelstoke  
f. 21 Armstrong  
g. 22 Vernon  
h. 23 Central Okanagan  
i. 77 Summerland  
j. 89 Shuswap  

14. Selkirk College:  
a. 7 Nelson  
b. 9 Castlegar  
c. 10 Arrow Lakes  
d. 11 Trail  
e. 12 Grand Forks  

543
In comparing socio-economic and educational data for different college regions of British Columbia it was useful to classify college regions as either metropolitan or non-metropolitan. The five college regions located in the heavily urbanized southwest corner of the province were classified as metropolitan. These were Camosun, Capilano, Kwantlen, Douglas, and Vancouver. The other college regions were classified as non-metropolitan.

School Districts and Urban-Rural Categories
For the purpose of analyzing spatial variations in socio-economic conditions at the sub-regional level throughout British Columbia, the 75 school districts of the province were sorted into four groups, based on criteria describing their respective degrees of urbanization. The four groups and the criteria defining them were as follows:

1. Rural: 27 school districts with a population of 10,000 person or less;
2. Urban 1: 22 school districts with a population between 10,000 and 30,000 persons;
3. Urban 2: 16 school districts matching the following descriptions:
   a. districts in non-metropolitan areas with more than 30,000 inhabitants;
b. districts in non-metropolitan area with more than 20,000 residents and in which a regional college is located

4. Metropolitan: 10 school districts in Vancouver or Victoria and their immediate suburbs

The criteria used to define these urban-rural categories were drawn from a previous study on participation in higher education in British Columbia (Brown and Poitier, 1982). In essence, these criteria constitute a typology of communities according to different levels of urbanization. The assumption underlying this urban-rural classification system was that socio-economic conditions would vary systematically in relation to the degree of urbanization of school districts across the four categories. If the urban-rural categories used to sort school districts were informative this would be reflected in the socio-economic traits of each group of districts being quite uniform internally, whereas the groups would be noticeably different from each other in terms of socio-economic traits. A number of statistical comparisons were made to gauge the effectiveness of the urban-rural criteria used to classify school districts. One method of assessing the effectiveness of the urban-rural classification system for school districts was to compare the number of pairs of socio-economic variables in each rural-urban group that were highly correlated. A correlation matrix was created for 34 socio-economic variables, based on unsorted 1981 census data formatted by school district. This was compared to correlation matrices for the same 34 variables sorted into the four rural-urban groups identified above. For any given pair of
variables the Pearson Product-Moment Correlation Coefficient (r) indicated the strength of the linear relationship between the variables. A strong linear correlation was defined by a value of r equal to or exceeding 0.7. The number of pairs of highly correlated variables resulting from this analysis were as follows:

- Rural: 30
- Urban 1: 23
- Urban 2: 32
- Metropolitan: 84
- Total sample (sorted): 169
- Total sample (unsorted): 28.

It was thus evident that grouping data into rural-urban classes produced an increase in the total number of highly correlated variables as compared to correlations occurring in the ungrouped data set. This exercise was helpful in identifying differences between school districts on the basis of their rural-urban status. For example, in the unsorted school districts the percentage of native Indians was not strongly correlated to any of the other socio-economic variables. However, when correlation matrices of data sorted by rural-urban category were examined the following strong correlations to this variable occurred for rural school districts:

- Households with 4-8 children at home: r = 0.8805
- Households exceeding 1 person per room: r = 0.8053
- Housing in disrepair: r = 0.8069
- Unemployment rate: r = 0.8474.
Thus, sorting the data by rural-urban group helped to reveal the seriousness of poverty among native Indians in rural school districts. Another method useful in assessing the validity of the rural-urban system for classifying school districts was the t-test. The t-test is a measure of whether the mean of a variable is significantly different for two different sets of data, at a given level of confidence (Smith, 1975, pp. 112-116). In this case, all six combinations of the four rural-urban classes were tested for 34 socio-economic variables from the 1981 census. The results of the t-tests showed which variables were significantly different for two different rural-urban groups at the 95% confidence level. The greater the number of significantly different variables for a given pair of rural-urban classes, the greater were the socio-economic differences between the two classes. Conversely, the smaller the number of significantly different variables between two rural-urban classes, the more similar the two classes were in socioeconomic terms. The results of this analysis are shown in Figure A.

Figure A shows that the metropolitan class was very distinct from other rural-urban classes. The rural class was found to be moderately different from the two urban classes, while the two urban classes were the most similar. In general, the metropolitan and rural classes were shown to be at opposite ends of the socio-economic spectrum in terms of their distinctness from other rural-urban classes.
A third method of comparison confirmed the systematic socio-economic differences that existed between the four rural-urban groups of school districts. One-way analysis of variance (ANOVA) is a method for determining whether the variance between two different samples is significantly greater than the variance within the samples themselves (ibid., p. 117). If the F statistic, an expression of the gap between these variances, is sufficiently large then there are grounds for rejecting the hypothesis that the two samples were drawn from the same parent population. ANOVA results from analyzing variances across the four rural-urban groups for 13 selected variables showed that between-group variances were consistently larger than within-group variances at the 99% confidence level. These results are summarized in Table 1.
Table 1: ANOVA for Selected Variables Over Four Rural-Urban Groups of British Columbia School Districts

<table>
<thead>
<tr>
<th>Variable</th>
<th>Between-Grp Variance</th>
<th>Within-Grp Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Immigrants</td>
<td>365.55</td>
<td>19.776</td>
</tr>
<tr>
<td>3. Under-educated adults</td>
<td>179.41</td>
<td>17.433</td>
</tr>
<tr>
<td>4. Highly-educated adults</td>
<td>214.77</td>
<td>125.223</td>
</tr>
<tr>
<td>5. Adults attending school</td>
<td>50.798</td>
<td>5.4619</td>
</tr>
<tr>
<td>7. Households with 4-8 children</td>
<td>26.160</td>
<td>10.050</td>
</tr>
<tr>
<td>8. Houses with over 1 person/room</td>
<td>64.060</td>
<td>15.713</td>
</tr>
<tr>
<td>9. Houses in disrepair</td>
<td>118.44</td>
<td>10.927</td>
</tr>
<tr>
<td>10. Per capita income</td>
<td>12,654</td>
<td>11.480</td>
</tr>
<tr>
<td>11. Primary industry workers</td>
<td>421.94</td>
<td>24.054</td>
</tr>
<tr>
<td>12. Unemployment</td>
<td>42.342</td>
<td>6.9707</td>
</tr>
<tr>
<td>13. Education Achievement Index</td>
<td>762.63</td>
<td>52.463</td>
</tr>
</tbody>
</table>

Data Base Reduction

Factor Analysis

Because of the very large size of the raw data base describing the socio-economic characteristics of the human landscape in British Columbia, it would have been extremely difficult, and probably meaningless, to attempt a description of that landscape using all variables available from the 1981 census. A method was needed to reduce the size of the raw data base to manageable proportions, one that would identify those variables most descriptive of the essential socio-economic conditions that typify the population of British Columbia.
Factor analysis was used for this purpose.

In a seminal article on factor analysis, Rummel identifies nine uses of this technique (Rummel, 1967, pp. 148-151) under the following headings:

1. interdependency and pattern delineation;
2. parsimony or data reduction;
3. structure;
4. classification or description;
5. scaling;
6. hypothesis testing;
7. data transformation;
8. exploration;
9. mapping.

Factor analysis in the present thesis was used mainly for data reduction (#2 above), and to a lesser extent for pattern delineation (#1 above), classification and description (#4 above). There was no sustained attempt to use factor analysis as a deductive device (#6 above). This was partly because of the technical intricacies involved in its application and interpretation, and partly due to the inherent complexity of the problem under study, i.e. the duality of socio-economic structure and social inequity. It did not appear realistic to expect that a problem of such broad dimensions could be reduced to a succinct list of causal statements through one fell swoop of quantitative method. Indeed, it has been confirmed elsewhere that the use of factor analysis for data reduction is a very
prominent application of the method (Jae-On Kim, 1975, p.469).

The basic principle of factor analysis is that systematic patterns of variation in a body of data can be attributed to a series of composite variables, or factors, that are related to the main patterns of variation observed in the data. Factor analysis yields a number of statistical measures that define relationships between individual variables and the factors. These include (Sax, 1979, pp.81 -85):

1. factor loading = the strength of correlation between a given variable and the factors that describe the main sources of variation in the data set;
2. common-factor variance = the square of the factor loading, indicating the proportion of variance held in common between an individual variable and a given factor;
3. communality = the sum of common factor variance for an individual variable, indicating the extent to which that variable is correlated to the main factors that have been identified;
4. eigenvalue = the sum of common factor variances for a given factor, divided by the number of variables in the data set, indicating the total proportion of variance accounted for by that factor.

Once the main factors that account for patterns of variation in a body of data have been identified they can serve as a guide to which individual variables should be selected for further examination. Simply stated, factor analysis helps to identify
those variables that are most representative of variations in the entire data set.

In using factor analysis as a technique for data base reduction it was nevertheless decided not to allow the selection of significant variables to be dictated solely by a prescriptive application of this quantitative method. Because of the very large size of the 1981 census data pool, and because there were clear indications from both theory and other research about what kinds of variables would be relevant to the accessibility of education, it was both feasible and desirable to create conceptual subdivisions in the data. These conceptual subdivisions were then treated for the purpose of factor analysis as distinct data bases from which to select significant variables.

The broad conceptual subdivisions used for classifying variables prior to factor analysis were based to a large extent on the social ecology of schooling as suggested by Eggleston (1977). The central notion in this analytical framework is that influences on educational opportunity emanate from distinct spheres of personal, cultural, and/or economic experience in the life activities of actual or potential students.

Following this approach, the variables in the overall data base were organized into the following categories:

1. education = variables reflecting participation, achievement, and resource allocation in the education system;
2. demographic = variables describing the structure and composition of the general population;
3. household = variables describing family size and living conditions within individual households;
4. ethnic = variables describing the ethnic origins of the population, based on mother tongue;
5. labour = variables describing the characteristics of the workforce by occupational group and employment status;
6. income = variables describing the distribution of income in relation to population size and gender.

In cases where several similar variables displayed similar factor loadings in relation to a given factor, the selection of a representative variable for further examination was based on theoretical and/or empirical evidence suggesting which variable was most meaningful and widely used in educational and social research. A measure of data reduction was also achieved by aggregating some variables that are measures of a common dimension of social structure (e.g. age, educational achievement levels).

The initial data base subjected to factor analysis consisted of 295 variables formatted by school district. Most of these variables were from the 1981 census. Factor analysis was conducted in three rounds. At each successive round the data base was reduced on the basis of eliminating those variables least related to the factors identified, and aggregating, where possible, any of the surviving variables. After three rounds of
factor analysis the original data base had been reduced to the 23 variables shown in Tables 2 and 3.

Canonical Correlation Analysis

Having used factor analysis to shrink the original data base from 295 to 23 representative variables, it was desirable to identify those variables that were most strongly correlated to educational variables. This was done by using canonical correlation analysis. The strength of this technique is that it is designed to analyze simultaneously intercorrelations between two separate groups of variables, one of which is treated as independent variables with the other being considered as dependent variables. The result of this analysis is to identify which of the variables in the independent group are most closely associated to variables in the dependent group (Warwick, P.V., in Nie et al., 1975, pp. 515-518.). This is realized by a method similar to factor analysis. Variance in the data set is accounted for in terms of composite variables, or factors, designated as roots. These roots are correlated through factor loadings to individual variables in both the dependent variable and independent variable groups so as to identify which variable(s) is (are) most representative of the respective groups. Standardized regression coefficients, or beta weights, are then generated to indicate the strength of correlations between dependent and independent variables, respectively. The result of this is the identification of those independent variables that are most representative of the data set and at 554
<table>
<thead>
<tr>
<th>SURVIVING VARIABLES</th>
<th>COMMUNALITY</th>
<th>FACTOR</th>
<th>EIGENVALUE</th>
<th>PERCENTAGE OF VARIATION ACCOUNTED FOR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EDUCATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>undereducated adults</em></td>
<td>0.7813</td>
<td>1</td>
<td>2.65</td>
<td>33.1</td>
</tr>
<tr>
<td><em>secondary pupil/teacher ratio</em></td>
<td>0.6652</td>
<td>2</td>
<td>1.81</td>
<td>22.6</td>
</tr>
<tr>
<td><em>highly educated adults</em></td>
<td>0.7274</td>
<td>3</td>
<td>1.11</td>
<td>13.9</td>
</tr>
<tr>
<td><em>secondary participation rate</em></td>
<td>0.8501</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>mill rate</em></td>
<td>0.6956</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DEMOGRAPHIC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>population age 0-19 years</em></td>
<td>0.9299</td>
<td>1</td>
<td>4.66</td>
<td>58.3</td>
</tr>
<tr>
<td><em>immigrants</em></td>
<td>0.7489</td>
<td>2</td>
<td>1.48</td>
<td>18.4</td>
</tr>
<tr>
<td><em>migrants</em></td>
<td>0.9412</td>
<td>3</td>
<td>1.09</td>
<td>13.6</td>
</tr>
<tr>
<td><strong>ETHNIC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>English</em></td>
<td>0.9250</td>
<td>1</td>
<td>2.43</td>
<td>27.0</td>
</tr>
<tr>
<td><em>German</em></td>
<td>0.7181</td>
<td>2</td>
<td>1.84</td>
<td>20.4</td>
</tr>
<tr>
<td><em>Native Indian</em></td>
<td>0.5938</td>
<td>3</td>
<td>1.41</td>
<td>15.6</td>
</tr>
<tr>
<td><strong>HOUSEHOLD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>4 to 8 children at home</em></td>
<td>0.8855</td>
<td>1</td>
<td>7.53</td>
<td>53.8</td>
</tr>
<tr>
<td><em>high density housing</em></td>
<td>0.9525</td>
<td>2</td>
<td>2.35</td>
<td>16.8</td>
</tr>
<tr>
<td><em>housing in need of major repair</em></td>
<td>0.8579</td>
<td>3</td>
<td>1.45</td>
<td>10.4</td>
</tr>
<tr>
<td><em>very high value housing</em></td>
<td>0.9570</td>
<td>4</td>
<td>1.17</td>
<td>8.4</td>
</tr>
<tr>
<td><em>2 to 3 children at home</em></td>
<td>0.8128</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>rented/owned housing ratio</em></td>
<td>0.9143</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INCOME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>per capita income</em></td>
<td>0.9704</td>
<td>1</td>
<td>2.81</td>
<td>70.3</td>
</tr>
<tr>
<td><em>female employment income</em></td>
<td>0.9899</td>
<td>2</td>
<td>1.02</td>
<td>25.5</td>
</tr>
<tr>
<td><strong>LABOUR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>secondary industry workers</em></td>
<td>0.9617</td>
<td>1</td>
<td>9.24</td>
<td>57.8</td>
</tr>
<tr>
<td><em>primary industry workers</em></td>
<td>0.7190</td>
<td>2</td>
<td>2.82</td>
<td>17.6</td>
</tr>
<tr>
<td><em>unemployment rate</em></td>
<td>0.9773</td>
<td>3</td>
<td>1.61</td>
<td>10.0</td>
</tr>
<tr>
<td><em>female/male unemployment ratio</em></td>
<td>0.7600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURVIVING VARIABLES</td>
<td>FACTOR 1</td>
<td>FACTOR 2</td>
<td>FACTOR 3</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td><strong>EDUCATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*undereducated adults</td>
<td>0.8122</td>
<td>0.2017</td>
<td>0.0304</td>
<td></td>
</tr>
<tr>
<td>*secondary pupil teacher ratio</td>
<td>-0.7701</td>
<td>0.2652</td>
<td>-0.0423</td>
<td></td>
</tr>
<tr>
<td>*highly educated adults</td>
<td>-0.7516</td>
<td>-0.3668</td>
<td>0.1671</td>
<td></td>
</tr>
<tr>
<td>*secondary participation rate</td>
<td>-0.2016</td>
<td>0.8993</td>
<td>0.0283</td>
<td></td>
</tr>
<tr>
<td>*mill rate</td>
<td>0.1632</td>
<td>0.0533</td>
<td>0.8155</td>
<td></td>
</tr>
<tr>
<td><strong>DEMOGRAPHIC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*population age 0-19 years</td>
<td>0.8639</td>
<td>0.4122</td>
<td>-0.1167</td>
<td></td>
</tr>
<tr>
<td>*immigrants</td>
<td>-0.3199</td>
<td>-0.7375</td>
<td>-0.3203</td>
<td></td>
</tr>
<tr>
<td>*migrants</td>
<td>0.0014</td>
<td>0.0436</td>
<td>0.9692</td>
<td></td>
</tr>
<tr>
<td><strong>ETHNIC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*English</td>
<td>-0.9419</td>
<td>-0.1694</td>
<td>0.0959</td>
<td></td>
</tr>
<tr>
<td>*German</td>
<td>0.0896</td>
<td>0.8381</td>
<td>0.0874</td>
<td></td>
</tr>
<tr>
<td>*Native Indian</td>
<td>0.0372</td>
<td>-0.2215</td>
<td>-0.7372</td>
<td></td>
</tr>
<tr>
<td><strong>HOUSEHOLD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*4 to 8 children at home</td>
<td>0.9371</td>
<td>-0.0427</td>
<td>-0.0273</td>
<td>-0.0697</td>
</tr>
<tr>
<td>*high density housing</td>
<td>0.9117</td>
<td>0.1985</td>
<td>-0.2642</td>
<td>0.1102</td>
</tr>
<tr>
<td>*housing in need of major repair</td>
<td>0.7866</td>
<td>0.4744</td>
<td>0.0474</td>
<td>-0.1090</td>
</tr>
<tr>
<td>*very high value housing</td>
<td>-0.2112</td>
<td>-0.9458</td>
<td>0.1202</td>
<td>-0.0741</td>
</tr>
<tr>
<td>*2 to 3 children at home</td>
<td>0.0717</td>
<td>0.1253</td>
<td>-0.8746</td>
<td>-0.1646</td>
</tr>
<tr>
<td>*rented/owned housing ratio</td>
<td>0.0063</td>
<td>-0.5333</td>
<td>0.1440</td>
<td>0.9437</td>
</tr>
<tr>
<td><strong>INCOME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*per capita income</td>
<td>0.9720</td>
<td>0.1601</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*female employment income</td>
<td>-0.1193</td>
<td>0.9878</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LABOUR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*secondary industry workers</td>
<td>0.9667</td>
<td>-0.1561</td>
<td>0.0536</td>
<td></td>
</tr>
<tr>
<td>*primary industry workers</td>
<td>0.7674</td>
<td>0.1224</td>
<td>0.3392</td>
<td></td>
</tr>
<tr>
<td>*unemployment rate</td>
<td>-0.1448</td>
<td>0.8526</td>
<td>-0.4791</td>
<td></td>
</tr>
<tr>
<td>*female/male employment ratio</td>
<td>-0.0061</td>
<td>0.0075</td>
<td>0.8717</td>
<td></td>
</tr>
</tbody>
</table>
the same time correlate most closely to the most representative of the dependent variables. In this case, the surviving variables from factor analysis were subjected to canonical correlation analysis. From this process emerged a profile of 11 independent socio-demographic variables that were both representative of their respective groups and at the same time strongly correlated to the dependent variables.

The 11 socio-demographic variables selected in this manner were as follows:

1. Demographic
   a. persons age 0-19 years
   b. immigrants

2. Ethnic
   a. anglophones
   b. native Indians

3. Household
   a. high density housing (one or more persons per room)
   b. families with 4 to 8 children at home
   c. housing in need of major repair

4. Income
   a. per capita income

5. Labour Force
   a. unemployment rate
   b. secondary industry workers
   c. primary industry workers

The designation of educational variables as dependent and
socio-demographic variables as independent was made for analytical convenience. Although it was assumed that socio-economic conditions influence participation and achievement in the education system it cannot be simply asserted that socio-economic conditions are the root causes from which educational results occur, because conditions in the education system also have impacts on socio-economic variables.

There is thus a problem of trying to identify which variables are causes and which are effects. However, the fact that the 11 socio-demographic variables listed above were strongly correlated to educational variables suggests that they are important influences on educational opportunity. They were therefore prime candidates for inclusion in maps of social indicators reflecting variations in educational opportunity.

**Relationships Between Variables**

**Analysis of Variance**

The basic purpose of analysis of variance (ANOVA) is to determine whether several distinct samples are drawn from the same parent population. The null hypothesis is that inter-sample variations are attributable to chance, i.e. the different samples are drawn from the same population. ANOVA generates an F statistic which is compared to the known theoretical distribution of F for various degrees of freedom. The F statistic is the ratio of the within-samples variance to the
between-samples variance (Smith, D. M., 1975, p. 117). If the calculated value of F exceeds the theoretical value of F then, at a specified level of confidence, the null hypothesis can be rejected, i.e. the samples are not from the same population. If the value of F calculated from the samples does not exceed the theoretical value of F, then the null hypothesis is accepted and the samples may be assumed to be from the same population (at a specified confidence level).

ANOVA was conducted on distance education student survey responses concerning educational and occupational aspirations to determine whether the sub-samples drawn from the Open Learning Institute, B.C. Correspondence Branch, and Knowledge Network were essentially representative of the same general population with respect to these variables. The interpretation of ANOVA results rests on three key statistics generated by SPSS:

1. Significance of F - Levels over the 0.05 level indicate that there is no significant difference between sub-samples at the 95% confidence level.

2. Eta² - The closer this value is to zero, the smaller the difference between the sub-samples. The closer it is to one, the greater the difference between the subsamples.

3. Multiple R² - This value indicates the proportion of variance in student aspiration variables accounted for by differences in the sub-samples (student groups).

The results of ANOVA conducted on responses from the three
student groups (sub-samples) are shown in Table 4.

The results displayed in Table 4 do not indicate that the three distance education student groups are alike in their socio-economic profiles. However, these results do suggest that as the three groups are very similar in their pattern of educational and socio-economic aspirations there are reasonable grounds for combining the results of the 3 surveys of distance education students and analyzing them as though they were a single sample.

*Chi Square Analysis*

When differences are observed between two or more groups of survey respondents, it is important to establish whether these observed differences reflect actual differences between the groups or whether the differences are simply the random effects of sampling error. The Chi-square test is a procedure for comparing differences between data sets (i.e. response patterns) in order to discover whether these differences are significant. The Chi-square statistic calculated from observed response frequencies is compared to a known distribution of expected Chi-square values at various confidence levels. If the observed Chi-square exceeds the expected Chi-square value, then the null hypothesis of no significant differences is rejected at a given confidence level. A rejection of the null hypothesis implies that observed differences between two groups (i.e. of survey respondents) are greater than would be due to chance alone.
### TABLE 4

RESULTS OF ANOVA FOR 3 STUDENT ASPIRATION VARIABLES BY DISTANCE EDUCATION INSTITUTE

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SOURCE OF VARIATION</th>
<th>SUM OF SQUARES</th>
<th>DEGREES OF FREEDOM</th>
<th>MEAN SQUARE</th>
<th>F OF F</th>
<th>SIGNIFIC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Future education plans</td>
<td>Main effects</td>
<td>0.150</td>
<td>2</td>
<td>0.075</td>
<td>1.488</td>
<td>0.226</td>
</tr>
<tr>
<td></td>
<td>*Student grp</td>
<td>38.335</td>
<td>760</td>
<td>0.050</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>38.485</td>
<td>762</td>
<td>0.051</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>38.485</td>
<td>762</td>
<td>0.051</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Occupational goal</td>
<td>Main effects</td>
<td>3.850</td>
<td>2</td>
<td>1.925</td>
<td>0.168</td>
<td>0.846</td>
</tr>
<tr>
<td></td>
<td>*Student grp</td>
<td>8722.462</td>
<td>760</td>
<td>11.477</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>8726.312</td>
<td>762</td>
<td>11.452</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Educational goal</td>
<td>Main effects</td>
<td>0.064</td>
<td>2</td>
<td>0.032</td>
<td>0.009</td>
<td>0.991</td>
</tr>
<tr>
<td></td>
<td>*Student grp</td>
<td>2583.679</td>
<td>760</td>
<td>3.400</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>2583.743</td>
<td>762</td>
<td>3.391</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2583.743</td>
<td>762</td>
<td>3.391</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>STUDENT GROUP</th>
<th>N</th>
<th>ETA</th>
<th>MULTIPLE R SQUARED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Future education plans</td>
<td>OLI</td>
<td>222</td>
<td>0.02</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>B.C. Cor. Br.</td>
<td>138</td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KNOW</td>
<td>403</td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td>2. Occupational goal</td>
<td>OLI</td>
<td>222</td>
<td>-0.08</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>B.C. Cor. Br.</td>
<td>138</td>
<td>-0.07</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KNOW</td>
<td>403</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>3. Educational goal</td>
<td>OLI</td>
<td>222</td>
<td>-0.01</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>B.C. Cor. Br.</td>
<td>138</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KNOW</td>
<td>403</td>
<td>-0.00</td>
<td></td>
</tr>
</tbody>
</table>
In the case of the surveys that were done, respectively, of Grade 12 students and distance education students in British Columbia it was of interest to find out if student responses to questions on educational and occupational aspirations were significantly related to differences in the various personal and socio-demographic profile traits of the students. In order to identify significant relationships between variables the following procedures were followed:

* variables representing survey responses were grouped to reflect distinct socio-demographic dimensions of student profile traits;

* selected response frequencies for variables describing student aspirations were cross-tabulated against selected response frequencies for variables describing student profile traits;

* Chi-square tests were done on these cross-tabulations to establish which variables representing student profile traits were significantly related to student aspiration variables at the 95% confidence level.

Wherever the Chi-square test indicated that student group differences in response patterns in a cross-tabulation of two given variables were greater than what would occur by chance (i.e. implied rejection of the null hypothesis), it was inferred that a statistically significant relationship existed between the two variables. This inference was assumed to be accurate 95 times out of 100.
The groups of variables from the distance education student survey that were subjected to Chi-square tests were as follows:

1. Student Aspirations
   a. intention to continue education
   b. long term career goal
   c. long term educational goal

2. Personal Traits
   a. gender
   b. # of financial dependents
   c. English as main home language

3. Educational Traits
   a. highest educational level completed
   b. time since last attended school
   c. academic performance in secondary school
   d. perceived effectiveness of distance education

4. Perceptual Traits
   a. confidence re. ability to finance education
   b. most important factor against further education
   c. most important goal in distance education
   d. most important long run effect of distance education on career
   e. level of information regarding government student aid

5. Socio-Economic Traits
   a. current employment status
   b. current occupation of student
   c. father's occupation
   d. mother's occupation
e. total family income
g. father's educational level
h. mother's educational level

6. Geographic Traits
a. difficulty of transportation to attend classes
b. level of local educational opportunity
c. time lived in major metropolitan areas
d. time lived in major regional towns
e. time lived in small towns
f. time lived in rural areas
g. degree of geographic mobility (based on numbers of
time lived in major regional towns, time lived in small towns,
time lived in rural areas)

Variables from each group of student profile traits (i.e., groups 2-6) were cross-tabulated against student aspiration variables and the results of Chi-square tests indicated which student profile traits were significantly related to student aspiration variables.

Those student profile variables identified by this procedure as having been significantly related to at least two student aspiration variables were retained for closer examination and/or comparison to results of other surveys. A similar process was used to select from the survey of British Columbia Grade 12 students those student profile traits significantly related to aspiration variables. In the case of distance education students
the student profile traits found to be significantly related to student aspirations were as follows:
* gender
* confidence re. ability to finance education
* level of information re. government student aid
* family income
* personal income of student
* student's current occupation
* father's occupation

It is worth noting that Chi-square tests do not provide any information on the degree of association between different variables, but merely serve to identify the presence of statistically significant relationships.

Correlation Coefficients

Correlation coefficients are used to measure the strength of the relationship between variables (Smith, ibid., pp. 209-218). The most commonly used correlation coefficient is the Pearson product-moment correlation coefficient, symbolized by the letter r. The value of r ranges from -1.0 to +1.0. When r=0, the two variables being considered are independent of each other, or uncorrelated. When the positive or negative value of r for two variables is known, it can be used to predict the value of a so-called dependent variable if the value of the corresponding independent variable is known. The correlation coefficient r does not provide a causal explanation of the relationship between two variables, even though it does provide a measure of
the strength and direction of their association. Moreover, \( r \) may be an oversimplification in that it is based on the assumption of a linear relationship between the variables.

Using SPSS it was possible to generate matrices of correlation coefficients for selected variables from educational and socio-demographic data based on British Columbia census tracts and school districts, respectively. These matrices provided a means of identifying those socio-demographic variables most closely correlated to variables denoting participation and achievement in the education system. Correlation matrices for census tract and school district data, respectively, are illustrated in summarized form in Tables 5 and 6. The Education Achievement Index referred to in these tables was obtained by subtracting adults with Grade 8 or less from adults with a university degree.
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-0.081</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.313</td>
<td>-0.508</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-0.299</td>
<td>-0.222</td>
<td>-0.080</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-0.557</td>
<td>0.137</td>
<td>-0.170</td>
<td>0.278</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-0.590</td>
<td>0.243</td>
<td>-0.732</td>
<td>-0.086</td>
<td>-0.034</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>-0.220</td>
<td>0.122</td>
<td>0.200</td>
<td>0.128</td>
<td>0.345</td>
<td>0.153</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-0.382</td>
<td>0.111</td>
<td>0.105</td>
<td>0.646</td>
<td>0.494</td>
<td>0.074</td>
<td>0.352</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>-0.264</td>
<td>0.558</td>
<td>0.568</td>
<td>0.103</td>
<td>0.511</td>
<td>0.316</td>
<td>0.261</td>
<td>0.357</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>-0.453</td>
<td>-0.164</td>
<td>-0.172</td>
<td>-0.213</td>
<td>0.643</td>
<td>-0.191</td>
<td>0.196</td>
<td>0.302</td>
<td>0.412</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Table 5**

**SUMMARIZED CORRELATION MATRIX - TEN KEY VARIABLES FROM THE 1981 CENSUS FOR 254 VANCOUVER CENSUS TRACTS**

1. Education Achievement Index
2. Population Age 0 - 19 Years
3. Anglophones
4. Native Indians
5. Non-Anglophones
6. Per Capita Income
7. Housing in Disrepair
8. Unemployment
9. Average Persons Per Room
10. High Density Housing
TABLE 6
SUMMARIZED CORRELATION MATRIX - TEN KEY VARIABLES FROM THE 1981 CENSUS
FOR 75 B.C. SCHOOL DISTRICTS.

|   | 1.000 | -0.422 | 1.000 | 0.193 | 0.505 | -0.137 | 1.000 | 0.630 | 0.419 | 0.273 | 0.055 | 0.721 | 0.633 | 0.755 | 1.000 | -0.646 | 0.410 | -0.103 | -0.729 | -0.539 | -0.633 | -0.755 | 1.000 | -0.689 | 0.271 | 0.123 | 0.331 | -0.470 | -0.619 | 0.593 | 0.574 | 1.000 | -0.450 | 0.632 | -0.087 | 0.803 | -0.445 | 0.474 | 0.777 | 0.673 | 0.384 | 1.000 |
|---|-------|--------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 |       |        |       |       |       |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 2 | -0.422|        | 0.193 |       |       |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 3 | 1.000 |        | 0.505 | -0.137| 1.000 |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 4 | 0.193 | 0.505  | 0.630 | -0.273| -0.055| 0.721  | 0.633 | 0.755 | 1.000 | -0.646| 0.410 | -0.103| -0.729| -0.539| -0.633| -0.755| 1.000 | -0.689| 0.271 | 0.123 | 0.331 | -0.470| -0.619| 0.593 | 0.574 | 1.000 | -0.450| 0.632 | -0.087| 0.803 | -0.445| 0.474 | 0.777 | 0.673 | 0.384 | 1.000 |
| 5 | 0.505 | -0.137 | 0.630 | 0.505 | 0.419 | 0.331  | 0.273 | 0.123 | 0.331 | -0.646| 0.410 | -0.103| -0.729| -0.539| -0.633| -0.755| 1.000 | -0.689| 0.271 | 0.123 | 0.331 | -0.470| -0.619| 0.593 | 0.574 | 1.000 | -0.450| 0.632 | -0.087| 0.803 | -0.445| 0.474 | 0.777 | 0.673 | 0.384 | 1.000 |
| 6 | -0.137| 1.000  | 0.273 | -0.055| 0.721 | 0.633  | 0.755 | 1.000 | -0.646| 0.410 | -0.103| -0.729| -0.539| -0.633| -0.755| 1.000 | -0.689| 0.271 | 0.123 | 0.331 | -0.470| -0.619| 0.593 | 0.574 | 1.000 | -0.450| 0.632 | -0.087| 0.803 | -0.445| 0.474 | 0.777 | 0.673 | 0.384 | 1.000 |
| 7 | -0.137| -0.273 | 0.419 | 1.000 | 0.331 | 0.273  | 0.123 | 0.331 | -0.646| 0.410 | -0.103| -0.729| -0.539| -0.633| -0.755| 1.000 | -0.689| 0.271 | 0.123 | 0.331 | -0.470| -0.619| 0.593 | 0.574 | 1.000 | -0.450| 0.632 | -0.087| 0.803 | -0.445| 0.474 | 0.777 | 0.673 | 0.384 | 1.000 |
| 8 | 1.000 | -0.646| 0.410 | -0.103| -0.729| -0.539 | -0.633| -0.755| 1.000 | -0.689| 0.271 | 0.123 | 0.331 | -0.470| -0.619| 0.593 | 0.574 | 1.000 | -0.450| 0.632 | -0.087| 0.803 | -0.445| 0.474 | 0.777 | 0.673 | 0.384 | 1.000 |
| 9 | -0.646| 0.410  | -0.103| 1.000 | -0.689| 0.271  | 0.123 | 0.331 | -0.470| -0.619| 0.593 | 0.574 | 1.000 | -0.450| 0.632 | -0.087| 0.803 | -0.445| 0.474 | 0.777 | 0.673 | 0.384 | 1.000 |
| 10| -0.137| -0.273 | 0.419 | 0.331 | -0.689| 0.271  | 0.123 | 0.331 | -0.470| -0.619| 0.593 | 0.574 | 1.000 | -0.450| 0.632 | -0.087| 0.803 | -0.445| 0.474 | 0.777 | 0.673 | 0.384 | 1.000 |

1. Education Achievement Index
2. Population Age 0 - 19 Years
3. Anglophones
4. Native Indians
5. Immigrants
6. Per Capita Income
7. Housing in Disrepair
8. Unemployment
9. Primary Sector Workers
10. High Density Housing
APPENDIX 2 - QUESTIONNAIRES USED FOR STUDENT SURVEYS
DEAR STUDENT:

Please find enclosed a questionnaire concerning your background and educational interests. This survey is being carried out through the cooperation of the B.C. Post-Secondary Education Enrollment Forecasting Committee (BCFC), the Open Learning Institute, and the B.C. Correspondence Education Branch.

The purpose of this study is to identify those conditions that affect the accessibility of higher education and training in British Columbia and the motivation of British Columbians toward higher educational achievement. Educational planners are faced with the goal of providing equal opportunities for education and training, regardless of the socio-economic status, geographical location and personal circumstances of potential students. The information produced by this survey will be useful in working toward that goal.

We strongly urge you to fill out the questionnaire and return it as soon as possible to:

Mr. Doug Brown  
Geography Department  
Simon Fraser University  
Burnaby, B.C.  
V5A 1SA.

Remember, your answers are confidential and your name will not be identified with your questionnaire. If you still don't feel comfortable about a few questions that you may find are too personal, these may be left out. Please do answer as many questions as you can, to the best of your ability.

The success of this survey depends on your participation. All who are interested in improving the educational system in B.C. will ultimately benefit from such research. Your help in this project is very much appreciated.

Please note that you are under no obligation to participate in this survey. If you are 18 years of age or less you may want to discuss the questionnaire with your parents before deciding whether to fill it out. If you wish to have further information about this survey and/or a summary of its results, please write to either of the following persons:

1. Mr. Doug Brown, Geography Department  
Simon Fraser University  
Burnaby, B.C.  Telephone: 291-3322

2. Dr. T.K. Poiker, Geography Department  
Simon Fraser University  
Burnaby, B.C.  Telephone: 291-3322

Thank you for your cooperation.

Sincerely,

Director, Program Support.
DEAR STUDENT:

Thank you for helping us with this research. One of the purposes of this study is to find out which regions of British Columbia can benefit most from correspondence education. On the attached map you will see the college regions of British Columbia, indicated by letters of the alphabet. Before filling out this questionnaire please indicate to us the college region in which you live. Put the letter corresponding to your college region on the upper right hand corner of the first page, beside the box marked OFFICE USE ONLY.

Please return your completed questionnaire to:

Doug Brown
C/O Geography Department
Simon Fraser University
Burnaby, B.C. V5A 1S6

Thank you.

Yours sincerely,

Doug Brown
Geography Department
Simon Fraser University
LOCAL CATCHMENT AREAS OF COLLEGE REGIONS: TO BE USED IN
BCFC REPORTS FROM JANUARY 1982

<table>
<thead>
<tr>
<th>LETTER/NUMBER</th>
<th>NAME OF AREA</th>
<th>SCHOOL DISTRICTS*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A / 1</td>
<td>Vancouver College Area</td>
<td>39</td>
</tr>
<tr>
<td>B / 2</td>
<td>Douglas College Area</td>
<td>40, 41, 42, 43</td>
</tr>
<tr>
<td>C / 3</td>
<td>Kwantlen College Area</td>
<td>35, 36, 37, 38</td>
</tr>
<tr>
<td>D / 4</td>
<td>Capilano College Area</td>
<td>44, 45, 48, 46</td>
</tr>
<tr>
<td>E / 5</td>
<td>Camosun College Area</td>
<td>61, 62, 63, 64</td>
</tr>
<tr>
<td>F / 6</td>
<td>Malaspina College Area</td>
<td>65, 66, 68, 69, 47, (67)</td>
</tr>
<tr>
<td>G / 7</td>
<td>North Island College Area</td>
<td>70, 71, 72, 84, 85, 49, (73), (74), (79)</td>
</tr>
<tr>
<td>H / 8</td>
<td>Fraser Valley College Area</td>
<td>32, 33, 34, 75, 76</td>
</tr>
<tr>
<td>I / 9</td>
<td>Okanagan College Area</td>
<td>14, 15, 16, 19, 21, 17, 22, 23, 77, 89, (20), (78)</td>
</tr>
<tr>
<td>J / 10</td>
<td>Selkirk College Area</td>
<td>7, 9, 10, 11, 12,(8), 13, 4 of 86</td>
</tr>
<tr>
<td>K / 11</td>
<td>East Kootenay College Area</td>
<td>1, 2, 3, 4, 18, 4 of 86, (5), (6)</td>
</tr>
<tr>
<td>L / 12</td>
<td>Cariboo College Area</td>
<td>24, 26, 27, 29, 30, 31, (25), (82)</td>
</tr>
<tr>
<td>M / 13</td>
<td>New Caledonia College Area</td>
<td>55, 56, 57, 28, (58)</td>
</tr>
<tr>
<td>N / 14</td>
<td>Northwest College Area</td>
<td>50, 52, 54, 80, 88, 92, (51), (53)</td>
</tr>
<tr>
<td>O / 15</td>
<td>Northern Lights College</td>
<td>59, 81, 87, 60, (83)</td>
</tr>
</tbody>
</table>

* Bracketed school districts are no longer in existence. They have either amalgamated with or been absorbed by one of the other school districts within the college area.
CORRESPONDENCE STUDENT SURVEY

The purpose of this survey is to help to improve the educational and financial aid system for students in British Columbia. You may not have made any final decisions yet about your future plans, but please answer the questions with your best estimate. Your careful and honest answers are very important. This is not a test, and your name will not be known to those who study your answers.

Many questions refer to Post-Secondary Institutions: these are institutions such as vocational schools, colleges, universities, technical institutes, or the Open Learning Institute. A list of post-secondary institutions appears in question 5.

We very much appreciate your assistance. Your answers are confidential. Please don't write your name on the questionnaire.

Under each question you will find the heading "Code" with a list of possible answers. Each possible answer has a number beside it. Write the code number of your answer in the appropriate box to indicate your answer to the question. Here is an example:


CODE: 1. Pacific Region 2. Prairies 3. Central Canada (Que. Ont.)
4. Atlantic Region 5. The North

NOTE: For those questions where some answer code numbers are greater than 9, two boxes are provided for the code number. In this case the tens digit of the code number is put in the left box while the ones digit of the code number is put in the right box.

Here is an example:

Question: In what province or territory do you live? . . . . . . . . xx [0] [1] yy


If you lived in Alberta your answer would be: xx [0] 2 yy
If you lived in Newfoundland your answer would be: xx 1 0 yy
If you lived in the N.W.T. your answer would be: xx 1 2 yy

It will probably take 30-45 minutes to complete this questionnaire. Please take all the time you need to do a good job. If you change your mind on an answer, please make sure your correction is clearly legible.

Note: Please ignore the numbers beside answer boxes. They do not affect your answer in any way. They are to be used in doing the statistical analysis of this survey.
1. What program are you enrolled in for your correspondence course(s)?

CODE: 1. Academic, post-secondary
2. Academic, secondary
3. High school completion
4. Technical/vocational
5. Adult basic education
6. Other (specify)

2. Approximately how many more correspondence courses do you expect to take after completing the one(s) you are now doing?

CODE: 1. None
2. 1 or 2
3. 3 or 4
4. 5 or more
5. More than 5

3. Do you intend to do more education or training once you have completed all the correspondence course(s) that you plan to do?

CODE: 1. Yes, definitely
2. Yes, probably
3. Undecided
4. Probably not
5. Definitely not

4. If you answered 'Yes, definitely' or 'Yes, probably' or 'Undecided' to question 3 above, how confident are you that you can afford further education?

CODE: 1. I am confident I will have enough money
2. I will probably have enough money
3. I don't know if I will have enough money
4. I will not likely have enough money
5. I will probably have to work and save money before being able to consider further education

NOTE: Please skip this question if it doesn't apply to you.

5. If you answered 'Yes, definitely' or 'Yes, probably' to question 3, what Program and Institution do you plan to enroll in? Select your first and second choices from the lists below.

NOTE: Please skip this question if it doesn't apply to you.

<table>
<thead>
<tr>
<th>PROGRAMS</th>
<th>INSTITUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) FIRST CHOICE</td>
<td>(b) FIRST CHOICE</td>
</tr>
<tr>
<td>SECOND CHOICE</td>
<td>SECOND CHOICE</td>
</tr>
</tbody>
</table>

**CODES:**

**PROGRAMS**

1. Educational Science
2. Architecture
3. Engineering
4. Forestry
5. Nursing
6. Arts (Humanities, History, Philosophy, English, Foreign Language, Gene
c. Technical/vocational Education (e.g., Automotive Technology, Computer Science, Drafting, Electronics, Farmer Trainee Education, etc.)
7. Career, Technical and Vocational Education (e.g., Health Care, Business Administration, etc.)
8. Science (Mathematics, Physics, Chemistry, Engineering, etc.)
9. General Institute Programs
10. Technical Institute Programs
11. Technical Institute Programs
12. Engineering Technologies
13. Business and Management programs
14. Social Service programs
15. Other technical institute programs
16. Other technical institute programs

**INSTITUTIONS**

1. University of A.C.
2. Famous University
3. University of Phonetics
4. High School Completion
5. Technical/vocational
6. Adult Basic Education
7. Other (specify)

NOTE: Please use two-digit codes for the programs and institutions.
6. If you answered 'Probably not' or Definitely not' to question 3 above, what are the 3 most important factors against your doing further education?

NOTE: Please skip this question if it doesn't apply to you.

(a) Most important 19 □ □ (b) Second most important 21 □ □

(c) Third most important 23 □ □

CODE: 1. I can't afford more education right now
2. I can't and don't want to leave my present home community in order to attend an educational institution
3. I already will have enough education for my chosen occupation
4. Family and/or job responsibilities will prevent me from getting further education at this time
5. There is not enough financial aid available from government and/or educational institutions
6. I have other interests that are more important to me than education
7. I don't want to go into debt to finance my education
8. I would rather make money than get more education
9. I have decided to postpone doing more courses until sometime in the future
10. Other

7. During the first 2 years after you finish your present correspondence education program which of the following directions do you think your life will take? .........

(a) Regarding your work .................................................. □ 25

CODE: 1. Begin a steady job for the first time
2. Continue working at my present job
3. Continue in my present occupation, but at a better job
4. Change occupations
5. I have no idea.

(b) Regarding your education ............................................. □ 26

CODE: 1. No further education
2. More correspondence courses (eg. Open Learning Institute)
3. Attend a university or college full-time
4. Attend a university or college part-time
5. Attend a technical school (eg. BCIT)
6. Attend a vocational school (eg. Pacific Vocational Institute)
7. Attend a business school
8. Undecided.

8. What are your most important goals in taking a correspondence course(s)?

(a) Most important .......................................................... 27 □ □ 28

(b) Second most important .................................................. 29 □ □ 30

(c) Third most important ................................................... 31 □ □ 32

CODE: 1. To get to a higher level of schooling
2. To go along with the wishes of my parents, spouse, and/or family that I get more education
3. To prepare for a job or career
4. To increase my earning power
5. To give me a wider choice of jobs or a better chance of job promotion
6. To become a more well-informed citizen
7. To satisfy my personal curiosity about a subject
8. To provide myself with a hobby
9. To expand my horizons (become better informed, further my personal development)
10. To find out if I am capable of doing higher level courses
9. What is the highest level of education that you have completed so far?  

CODE:  
1. Some secondary schooling (Grade 8, 9, 10, 11)  
2. High school graduation (Grade 12)  
3. Apprenticeship and some secondary schooling (Grade 8, 9, 10 or 11)  
4. Trade, business, or technical school diploma  
5. Special training program  
6. 1 or 2 years community college  
7. 1 to 3 years university  
8. University graduate (B.A. B.Sc.)  
9. Graduate degree (M.A. Ph.D.)  
10. Other  

10. How long (before enrolling in correspondence education) had it been since you last attended a secondary school (high school), university, or adult education/training course?  

CODE:  
1. More than 5 years ago  
2. Within the past 3-5 years  
3. Within the past 2 years  
4. I am presently attending a course  
5. I have never attended a course beyond the elementary school level  

11. If you have done some secondary schooling (high school) what was (or is) your major high school program? If you did (or are doing) a mixed program, select the one toward which your studies and interests are most strongly focused.  

CODE:  
1. Arts and Science  
2. Commercial  
3. Industrial  
4. Community Services  
5. Visual and Performing Arts  
6. Agriculture  
7. This question does not apply to me  

12. What was (or is) your academic performance in high school?  

CODE:  
1. Among the top students (A: 86-100%)  
2. Above average (B: 73-85%)  
3. Average (C+: 60-72%)  
4. Below average (F: 50-59%)  
5. Very much below average (F: 9-49%)  

13. How many friends and/or family members do you have who participate in, or intend to participate in, further education or training beyond the secondary (high school) level?  

(a) FRIENDS  
(b) FAMILY MEMBERS  

CODE:  
1. None  
2. 1 or 2  
3. 3 or 4  
4. 5 or 6  
5. More than 6  

14. What were the two most important factors affecting your decision to take correspondence courses?  

(a) THE MOST IMPORTANT FACTOR  
(b) THE SECOND MOST IMPORTANT FACTOR  

CODE:  
1. I prefer the greater personal independence (flexible scheduling, not attending classes etc.)  
2. Job and/or family responsibilities prevent me from following a regular non-correspondence program of studies  
3. I was favourably impressed by the publicity and/or counselling services associated with my present correspondence program  
4. I already have taken correspondence courses and am familiar with this method of learning  
5. I know someone who has furthered his/her education through home study  
6. It's the only type of education I can afford at this time  
7. Correspondence education was recommended to me by someone who has done it.  
8. I may want to study later and would like to maintain my study skills  
9. Attending a regular institution is not practical because of the distance I would have to move away from my present home community.
15. How effective do you think correspondence education is as a method of learning compared to regular in-class education? ................. \[42

CODE: 1. More effective
2. Less effective
3. Just as effective
4. The two forms of education are not comparable
5. I have no idea

16. How do you expect your correspondence education/training will affect your career in the long run? Indicate the 2 most important effects in order of importance to you.

(a) THE MOST IMPORTANT EFFECT ........................................ \[43

(b) THE SECOND MOST IMPORTANT EFFECT. .................. \[44

CODE: 1. No effect
2. Increase the number of occupations open to me
3. Improve my chances of promotion in my occupation
4. Increase my income
5. Increase my access to higher levels of education/training
6. Increase my self-confidence
7. Prepare me to adapt more easily to changes within my occupation
8. I have no idea

17. How do you expect your correspondence education to affect your geographic mobility in the future? .................. \[45

CODE: 1. I will probably remain in the same area where I now live
2. I will probably move to another community similar to the one where I now live
3. I will probably move to a larger community
4. I will probably move to a smaller community
5. If I move it will not be because of my correspondence education
6. I have no idea

18. What are your main sources of financial support while you are doing your correspondence courses? Choose a major source and a secondary source and put the code in the appropriate box for each.

(a) MAJOR SOURCE .................................................. \[46

(b) SECONDARY SOURCE .......................................... \[47

CODE: 1. Direct support from parent, or spouse, or other family members (other than loans)
2. Loans from family and friends
3. Earnings from full-time work, outside the home (not limited to summer work only)
4. B.C. Government student assistance (grants and/or loans)
5. Scholarships or bursaries (other than B.C. Government assistance) offered by post-secondary institutions
6. Summer work
7. Part-time work
8. Personal savings
9. Other

19. In deciding to become a correspondence student you may have considered economic factors. How important were the following types of expenses in affecting your decision about whether to attend an educational institution as a regular (non-correspondence) student?

(a) Housing ............................................................. \[48

(b) Food ................................................................. \[49

(c) Transportation (including the cost of moving to a location nearer to an education institution) ............... \[50

(d) Tuition, books, etc. (i.e. expenses directly related to your studies) ........................................ \[51

(e) Income lost through giving up a job to become a student .................................................. \[52

CODE: 1. Very important
2. Important
3. Fairly important
4. Not important
20. If you expect to do further education at the post-secondary level, have you applied or will you apply for financial assistance through the B.C. Government Student Assistance Program? □ 53
   CODE: 1. Yes, I have applied or will apply
          2. No, I have not applied nor will I apply
          3. I don't know about this program at all
          4. I have applied for other assistance in addition to
             this program
          5. I have applied for other assistance instead of this program

21. How well-informed are you about government financial aid for students? □ 54
   CODE: 1. Very well informed
          2. Moderately well informed
          3. Not well informed

22. If you were going to attend a course in the town nearest to your home, how difficult would it be for you to arrange for transportation? □ 55
   CODE: 1. Not difficult
          2. Fairly difficult
          3. Very difficult
          4. I have no idea

23. If you were going to attend a course what is the maximum distance you would be willing to travel to attend it? Give your answer in kilometers or in time (or both), whichever is easiest.
   (a) NUMBER OF KILOMETERS. □ 56  (b) TIME. □ 57
   CODE: 1. Less than 1 km.
          2. 1-5 km.
          3. 6-10 km.
          4. 11-30 km.
          5. 31-50 hrs.
   CODE: 1. 15 minutes or less
          2. 20 minutes or less
          3. 45 minutes or less
          4. 1 hour or less
          5. 1-1 1/2 hours or less

24. How well served do you think your area presently is in terms of educational opportunities for adults (non-compulsory education)? □ 58
   CODE: 1. Very well served
          2. Fairly well served
          3. Badly served
          4. Not served at all
          5. I have no idea

25. Approximately how far is it from your home to the nearest facility where adult education courses are held?
   (a) NUMBER OF KILOMETERS. □ 59  (b) TRAVEL TIME. □ 60
   CODE: 1. Less than 1 km.
          2. 1-5 km.
          3. 6-10 km.
          4. 11-20 km.
          5. Over 20 km.
   CODE: 1. 15 minutes or less
          2. 20 minutes or less
          3. 45 minutes or less
          4. 1 hour or less
          5. 1-1 1/2 hours or less

NOW, PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF

26. What is your sex? □ 61
   CODE: 1. Male  2. Female

27. What is your age? □ 62
   CODE: 1. Under 18 yrs.
          2. 18-25 hrs.
          3. 26-35 yrs.
          4. 36-49 yrs.
          5. 50 yrs. or over

28. What is your own order of age in your family? □ 63
   CODE: 1. I am the only child
          2. I am the oldest child
          3. I am the second oldest child
          4. I am the third oldest child
          5. I am the fourth or more oldest child
29. What is your marital status? 

CODE: 1. Single 
2. Married or Common Law 
3. Divorced or separated 
4. Widowed 
5. Other 

30. If you are under 18 years of age, what is the marital status of your parent(s) or guardian(s)? 

CODE: 1. Single 
2. Married or common law 
3. Divorced or separated 
4. Widowed 
5. Other 

31. How many financial dependents (e.g. children and/or spouse not working outside the home) are there in your household? 

32. Is English the main language spoken in your home? 

CODE: 1. Yes 
2. No 

33. What is your present occupational status? Put a check in the appropriate box(es). Check more than one if appropriate. 

- self-employed 
- employed full-time 
- employed part-time 
- homemaker (keep house over 50% of the time) 
- student 
- unemployed 
- retired 

34. Please refer to the list of occupations below and choose the appropriate one to answer each of the following questions. Indicate your choice with the appropriate code in each box. You should identify your answer according to the type of work done on the job rather than by the place where a person works. For example, someone who is a secretary in a police station would be indicated by code number 11 (clerical/secretarial etc.) and not by code number 9 (police/security/military occupations). If you have trouble interpreting this question please write a note on the back of this page explaining how you decided to interpret it to give your answer.

(a) If not a full-time student what is your present occupation? 
(b) What occupation would you like to have most as a long-term career (i.e. your ideal occupation)? 
(c) What is your father's or male guardian's occupation? 
(d) What is your mother's or female guardian's occupation? 

NOTE: If either of your parents or guardians are retired, deceased or unemployed, indicate his/her last occupation.
35. (a) What was the approximate total income (before taxes) of your immediate family in 1981? Include all sources of income and all income earners in your family household. Estimate what range it would be in, using the appropriate code. 

(b) What was approximately your own personal total income (before taxes) in 1981? Estimate what range it would be in, using the appropriate code.

CODE: 1. Less than $6,000
2. $6,000 - $11,999
3. $12,000 - $17,999
4. $18,000 - $23,999
5. $24,000 - $29,999
6. $30,000 - $35,999
7. $36,000 - $41,999
8. $42,000 and over
9. I have no idea

36. Please refer to the list of educational levels below, and choose the appropriate one for each of the following questions. Indicate your choice with the appropriate code in each box.

(a) What is the highest level of education you expect to complete in your life? 
(b) What is the highest level of education completed by your father or male guardian?
(c) What is the highest level of education completed by your mother or female guardian?

CODE: 1. Elementary school less than Grade 8
2. Some high school
3. High school completed to Grade 12
4. Some university study or college diploma
5. Bachelor's degree
6. Post-graduate degree (Master's, Ph.D. Dentistry, Law, Medicine)
7. Technical institute training
8. Trade or vocational institute training
9. Business school
10. I have no idea

37. Below is a list of different types of locations. Please indicate with the appropriate code how much of your life has been lived in these areas. In the brackets beside each answer please give the names of those places where you have lived a year or more of your life.

(a) Major metropolitan areas (Examples: Greater Vancouver, Victoria)
(b) Major regional towns (Examples: Prince George, Kamloops, Kelowna)
(c) Small towns (Examples: Campbell River, Castlegar, Fernie)
(d) Unorganized rural areas and/or small remote communities (farming areas, isolated logging/mining centers, fishing villages, Indian reserves, etc) (Examples: Atlin, Seton Portage, Alert Bay)

CODE: 1. Never
2. Less than one year
3. 1 - 3 years
4. 4 - 10 years
5. More than 10 years

38. How many times since 1975 have you moved?

(a) Within your home area
(b) Between different areas of B.C.
(c) Between different provinces
(d) Between different countries

CODE: 1. Once
2. Twice
3. Three times
4. Four times or more
5. None
Please read this page carefully before answering any questions.

BRITISH COLUMBIA POST-SECONDARY EDUCATION
ENROLLMENT FORECASTING COMMITTEE

School Number 1 2 3
Student Number 4 5 6 7

OFFICE USE ONLY

GRADE XII
STUDENT SURVEY

The purpose of this survey is to help improve the educational and financial aid system in British Columbia. You may not have made any final decisions yet about what to do after Grade XII, but please give your best estimate of your future plans. Your careful and honest answers are very important. This is not a test, and your name will not be known to those who study your answers.

Many questions refer to Post-Secondary Institutions: these are institutions such as vocational schools, colleges, universities, technical institutes, or the Open Learning Institute. A list of post-secondary institutions appears in question 5.

We very much appreciate your assistance. Your answers are confidential. Please don't write your name on the questionnaire.

Under each question you will find the heading "Code" with a list of possible answers. Each possible answer has a number beside it. Write the code number of your answer in the appropriate box to indicate your answer to the question. Here is an example:
Question: In what region of Canada do you live? .................................................................

NOTE: FOR THOSE QUESTIONS WHERE SOME ANSWER CODE NUMBERS ARE GREATER THAN 9, A SEPARATE SPACE IS PROVIDED FOR EACH DIGIT. IN THIS CASE THE TENS DIGIT OF THE CODE NUMBER IS PUT IN THE LEFT BOX WHILE THE ONES DIGIT OF THE CODE NUMBER IS PUT IN THE RIGHT BOX. HERE IS AN EXAMPLE:

Question: In what province or territory to do live?

If you lived in Alberta your answer would be:
If you lived in Newfoundland your answer would be:
If you lived in the N.W.T. your answer would be:

It will probably take 30 minutes to complete this questionnaire. Please take all the time you need to do a good job. If you change your mind on an answer, please make sure your correction is clearly legible.

Note: Please ignore the small numbers beside answer boxes. They do not affect your answer in any way. You will use them later in transferring your answers to the computer information sheet.
PLEASE READ EACH QUESTION CAREFULLY

1. First of all, please indicate your major plans for this summer and this fall. Refer to the code from 1 to 5 below, and select the answer code number which best describes the chances that you will do each of the things from (a) to (i). Please make sure you fill in all answer boxes for this question.

CODE: 1. No Chance 4. Good Chance
2. Some Chance 5. Definitely (100% Chance)
3. 50/50 Chance

PLANS FOR THIS SUMMER (July/August '81)

(a) Get a permanent job or apprenticeship .............................................................
(b) Get a job for the summer ....................................................................................
(c) Take courses from a post-secondary institution ...................................................

PLANS FOR THIS FALL (September '81)

(d) Get a Part-Time job .............................................................................................
(e) Enter or continue an apprenticeship ......................................................................
(f) Get or continue with a permanent job Full-Time ..................................................
(g) Travel most of the time ..........................................................................................
(h) Enroll in a post-secondary institution Full-Time ...................................................
(i) Enroll in a post-secondary institution Part-Time ..................................................

If you answered NO CHANCE to BOTH Questions (h) and (i) above please continue with Questions 2, 3 and 4. Otherwise SKIP Questions 2, 3 and 4 and answer Questions 5 to 32.

2. Since you indicated 'NO CHANCE' to enroll in a post-secondary institution, what are your two main reasons for not continuing with your education? Indicate the major and secondary reasons by writing the proper code for each box. Please note instructions on the bottom of the front page for using two-digit answer codes.

CODE: 1. I want to gain some work experience before deciding whether I need more education
2. I need a break from my studies.
3. I dislike studying of any kind
4. I am interested in education but I can't afford further education now
5. I am already qualified for my chosen job.
6. I don't think that further education will be useful to me.
7. I don't want to leave home in order to continue my education.
8. I want to travel before entering post-secondary education.
9. Job/family/personal responsibilities will not leave me enough free time to attend courses.
10. I don't want to go into debt to finance my education.
11. I want to make money instead of continue my education.

3. There are five events (a), (b), (c), (d), and (e) which might cause you to change your mind about continuing your further education this fall. Please read each one and answer by referring to the code from 1 to 5 below.

CODE: 1. Yes, I certainly would continue my education this fall.
2. Yes, I probably would continue my education this fall.
3. I am not sure.
4. No, I probably wouldn't continue my education this fall.
5. No, I definitely wouldn't continue my education this fall.

(a) More financial assistance for post-secondary education becomes available ...................................................
(b) My possibilities of getting a job for this fall become very slim ..............................................................
(c) A large number of people in my chosen occupation become unemployed ........................................
(d) Post-secondary education becomes available within a short distance from my home .....................
(e) It becomes possible to obtain post-secondary education through home study (i.e. correspondence courses)...

4. Do you plan to attend a post-secondary institution sometime in the future?

CODE: 1. Yes, within a year
2. Yes, after working for about one year
3. Yes, after working for two years or more
4. Yes, after a period of travel and/or work
5. Maybe, within a year
6. Maybe, after working for about one year
7. Maybe, after working for two years or more
8. Maybe, after a period of travel and/or work
9. No, I definitely do not intend to continue my education
10. I am undecided right now

Those who have answered Questions 2, 3 and 4 should now SKIP Questions 5 to 12 and answer Questions 13 to 32.
5. Since you indicated that you may enroll in a post-secondary institution this fall, what Programme and Institution do you plan to enroll in? Select your first and second choices for Programme and Institution from the list below, and indicate them in the appropriate boxes using the code numbers below. Please note instructions on the bottom of the front page for using two-digit answer codes.

(a) Programmes

<table>
<thead>
<tr>
<th>FIRST CHOICE</th>
<th>(b) Institutions</th>
<th>(c) HAVE YOU APPLIED? (Write 1 if Yes, Write 2 if No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST CHOICE</td>
<td>FIRST CHOICE INSTITUTION</td>
<td>FIRST CHOICE INSTITUTION</td>
</tr>
<tr>
<td>SECOND CHOICE</td>
<td>SECOND CHOICE INSTITUTION</td>
<td></td>
</tr>
</tbody>
</table>

**CODES: PROGRAMMES**

<table>
<thead>
<tr>
<th>University Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Agricultural Sciences</td>
</tr>
<tr>
<td>2 Architecture</td>
</tr>
<tr>
<td>3 Engineering</td>
</tr>
<tr>
<td>4 Forestry</td>
</tr>
<tr>
<td>5 Nursing</td>
</tr>
<tr>
<td>6 Arts - Humanities (History, philosophy, English, foreign languages, mass media, religious studies, etc.)</td>
</tr>
<tr>
<td>7 Arts - Social Sciences (geography, political science, psychology, sociology, economics, home economics, etc.)</td>
</tr>
<tr>
<td>8 Arts - Fine Arts (music, theatre, art)</td>
</tr>
<tr>
<td>9 Commerce and Business Administration</td>
</tr>
<tr>
<td>10 Education (elementary, secondary, physical education, adult ed.)</td>
</tr>
<tr>
<td>11 Science (biology, physics, mathematics, chemistry, computing, forestry, electronics, agriculture, surveying, etc.)</td>
</tr>
</tbody>
</table>

**Technical Institute Programmes**

| 12 Engineering Technologies |
| 13 Health programmes |
| 14 Business and Management programmes |
| 15 Social Service programmes |
| 16 Other technical institute programmes |

**College Programmes**

| 17 University Transfer - Arts |
| 18 University Transfer - Science |
| 19 University Transfer - Education |
| 20 University Transfer - Other |
| 21 B.C.I.T. Transfer |
| 22 Career/Community/Social Services (arts childhood education, recreation, welfare, human resource development, community planning, etc.) |
| 23 Business and Management (accounting, hotel management, secretarial science, data processing, etc.) |
| 24 Career/Prep and Applied Arts (commercial art, fashion design, journalism, etc.) |
| 25 Career-Health Services and Sciences (nursing, medical lab etc) |
| 26 Career-Engineering and Science Technologies (forestry, electronics, agriculture, surveying, etc) |
| 27 Other college certificate/diploma programmes |

**College and Vocational School Vocational Programmes**

| 28 Art |
| 29 Commercial (secretarial, accounting, etc.) |
| 30 Trades and technical programme (construction, drafting, logging, welding, electrical, mechanical, etc.) |
| 31 Health (dental nursing) |
| 32 Service (food training, barbering, wellness, etc.) |

**Open Learning Institute Programmes (Correspondence Programmes)**

| 33 Adult basic education (Grade 12 completion) |
| 34 University courses (biology, computing, economics, English, history, math, etc.) |
| 35 Career, technical and vocational programmes (career planning, job search, entry level training, typing, shorthand, electronics, etc.) |

**Programmes of Private Institutions**

| 36 Programme of a private business school in B.C. |
| 37 Programme of a private vocational school in B.C. |
| 38 Programme of a private religious institute in B.C. |
| 39 Programme of a private institution outside B.C. |

**University Programmes**

| 1 University of B.C. |
| 2 Simon Fraser University |
| 3 University of Victoria |
| 4 Trinity Western College |
| 5 in the Prairie Provinces |
| 6 in Ontario |
| 7 in Quebec |
| 8 in the Maritimes |
| 9 in the United States |
| 10 in Europe |
| 11 Other |

**Technical Institutes**

| 12 B.C. Institute of Technology |
| 13 in the Prairie Provinces |
| 14 in Ontario |
| 15 in Quebec |
| 16 in the Maritimes |
| 17 in the United States |
| 18 in Europe |
| 19 Other |

**Colleges**

| 20 Camosun College |
| 21 Capilano College |
| 22 Douglas College |
| 23 East Kootenay College |
| 24 Fraser Valley College |
| 25 Okanagan College |
| 26 Selkirk College |
| 27 Vancouver Community College |

** Correspondence Study**

| 56 Open Learning Institute (O.L.I.) |
| 57 A correspondence programme located in an institute outside B.C. |

**Private Institutions**

| 58 A private business school in B.C. |
| 59 A private trade school in B.C. |
| 60 A private religious institute in B.C. (i.e., affiliated with a university or college) |
| 61 A private institution outside B.C. |
| 62 Other |

---

If ALL institutions offered your FIRST CHOICE of program from Question 5 which institution would you choose to attend? 36 39

6. Use the code number from Question 5 that indicates your preferred institution in this case.
7. Which of the following factors were most important in selecting your first choice of a post-secondary institution? Indicate two factors by using the code.

**CODE:**
1. I can live at home and commute
2. Low tuition
3. Friends going to that institution
4. Particular programme offered
5. The school has approximately the right number of students
6. Broad general programme offered
7. Good reputation of that institution and/or programme
8. Recommended by parents or other persons
9. I have never seriously considered going to another institution
10. The particular entrance requirements of the chosen institution

**MOST IMPORTANT FACTOR**

**SECOND MOST IMPORTANT FACTOR**

---

8. Have you applied or will you apply for financial assistance through the B.C. Government Student Assistance Programme?

**CODE:**
1. Yes, I have applied or will apply
2. No, I have not applied, nor will I apply
3. I don't know about this programme at all
4. I have applied for other assistance in addition to this programme
5. I have applied for other assistance instead of this programme

---

9. What is the maximum amount of money per year that you think is available to you through the B.C. Government Student Assistance Programme?

**CODE:**
1. Less than $1,000
2. $1,000 — $2,000
3. $2,001 — $3,000
4. $3,001 — $4,000
5. Over $4,000
6. I have no idea.

---

10. What will be your two main sources of financing your education? Choose a major source and a secondary source and put the code in the appropriate box for each.

**CODE:**
1. Direct support from parent, or spouse or other family members (other than loans)
2. Loans from family and friends
3. Earnings from full-time work outside the home (not limited to summer work only)
4. B.C. Government student assistance (grants and/or loans)
5. Scholarships or bursaries (other than B.C. Government financial assistance) offered by post-secondary institutions
6. Summer work
7. Part-time work during the academic year
8. Personal savings
9. Other

---

11. How confident are you that sufficient funds can be obtained to finance your education?

**CODE:**
1. I am confident that I have enough money
2. I will probably have enough money
3. I don't know if I will have enough money
4. I will not likely have enough money
5. I will probably have to find a job first and continue my education sometime in the future.

---

12. Below are nine events from (a) to (i) which might affect your decision about whether to continue with your education. Read each one and indicate whether it would increase the chances of your continuing your education this fall, according to the code below.

**CODE:**
1. Definitely, it would increase the chances of continuing
2. Probably it would increase the chances of continuing
3. No change
4. Probably it would decrease the chances of continuing
5. Definitely, it would decrease the chances of continuing

(a) Financial support from the family becomes unavailable

(b) I am unable to save enough money from part-time or summer employment

(c) I am offered a well paying job for this fall

(d) A large number of people in my chosen occupation become unemployed

(e) The programme I wish to enroll in has become available close to my home

(f) Help is needed at home

(g) It becomes possible to work while attending classes part-time

(h) It becomes possible to work and do correspondence courses

(i) Financial assistance for which I have applied (or will apply) is not granted (This refers to financial assistance in addition to that provided by family or friends)
EVERY STUDENT SHOULD COMPLETE QUESTIONS 13 to 32

13. (a) How well-informed do you believe you are regarding the B.C. Government Student Assistance Programme? □ 58

**CODE:**
1. Very well-informed
2. Moderately well-informed
3. Not well-informed

(b) How well-informed do you believe you are regarding the bursary and/or scholarship programmes available in the post-secondary institutions of B.C.? Note: This refers to programmes in addition to the B.C. Government Student Assistance Programme □ 59

**CODE:**
1. Very well-informed
2. Moderately well-informed
3. Not well-informed

14. Assume that you were attending a post-secondary institution in a full-time programme of studies for an eight-month period. What do you estimate the total cost to you and your family would be? This refers to money spent by you or others for your education and includes education costs, living costs, transportation, etc. PLEASE GIVE YOUR BEST ESTIMATE, IRRESPECTIVE OF YOUR PRESENT PLANS. □ 60

(a) Living with your parents or guardians ................................................................. □ 61
(b) Living away from the home of your parents or guardians .................................... □ 61

**CODE:**
1. Less than $2,000
2. $2,001 — $3,000
3. $3,001 — $4,000
4. Over $4,000
5. I have no idea.

15. (a) Do you plan to do some of your post-secondary education through correspondence courses (i.e. Open Learning Institute or other correspondence programmes)? □ 62

**CODE:**
1. Yes, definitely
2. Yes, probably
3. I’m not sure
4. Definitely not
5. I’m not aware of any post-secondary correspondence programmes

NOTE: IF YOU ARE NOT ACTIVELY CONSIDERING CORRESPONDENCE STUDY AS INDICATED BY YOUR ANSWER TO QUESTION 15 (a) (CODE NUMBERS 3, 4, OR 5), PLEASE SKIP 15 (b) AND GO ON TO THE NEXT QUESTION.

(b) If you are considering enrolling in a home study programme (correspondence course(s)) what are the two most important factors affecting your interest in this form of education?

**CODE:**
1. I would prefer the greater personal independence of home study (flexible scheduling, not attending classes, etc.)
2. Job and/or family responsibilities will prevent me from following a regular non-correspondence programme of studies.
3. I was favourably impressed by the publicity and/or counselling services associated with the home study programme.
4. I already have taken correspondence courses and am familiar with this method of learning.
5. I know someone who has furthered his/her education through home study.
6. It's the only type of education I can afford at this time.
7. Correspondence study was recommended to me by someone who has done it.
8. I may want to study later and would like to maintain my study skills.

THE MOST IMPORTANT FACTOR ................................................................. □ 63

THE SECOND MOST IMPORTANT FACTOR .................................................. □ 64
16. How much influence has each of the following persons and circumstances had on your plans for this fall (i.e. fall of 1981)? Please indicate the amount of influence for each of them, according to the code from 1 to 4 below.

**CODE:**
1. No influence
2. A little influence
3. Moderate influence
4. Major influence

**INFLUENCE OF PERSONS ON MY PLANS**

(a) Friends ................................................................. [ ]
(b) Parents or guardians ............................................... [ ]
(c) Brothers, sisters, or other relatives .......................... [ ]
(d) School counsellor(s) ................................................ [ ]
(e) School teacher(s) ................................................... [ ]
(f) College, institute, or university counsellor or teacher(s) [ ]
(g) Employer(s) I have met ......................................... [ ]
(h) People I know who have gone on to further education [ ]

**OTHER INFLUENCES ON MY PLANS**

(i) The general economic conditions in British Columbia ................................................. [ ]
(j) My recent employment/unemployment experience ....................................................... [ ]
(k) Possibility of a new lifestyle after Grade 12 ................................................................. [ ]
(l) Opportunity to live away from home after Grade 12 ................................................... [ ]
(m) Reputations of my chosen institution, occupation or trade ....................................... [ ]
(n) Availability (or lack) of general public information about educational opportunities (i.e. through radio, T.V., newspapers, information brochures, etc.) ................................................................ [ ]
(o) The length of time required to obtain a recognized diploma (e.g. 2 years technical training versus 4 years university) ......................................................... [ ]

NOW, PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF

17. What is your sex?

**CODE:**
1. Male
2. Female

18. What is your present age in years?

[ ] 81 [ ] 82

For example, if you are 17 years of age fill in the answer box as follows: 81 1 7 82

19. What is your major high school programme? If you are enrolled in COMBINED STUDIES, select the one toward which your studies and interests are most strongly focused

**CODE:**
1. Arts and Science
2. Commercial
3. Industrial
4. Community Services
5. Visual and Performing Arts
6. Agriculture
7. Other

20. What was your (letter grade or approximate average in grade eleven? What is your expected average grade in Grade 12?

(a) GRADE 11................................................................. [ ]
(b) GRADE 12................................................................. [ ]

**CODE:**
1. A = 86-100%
2. B = 73-85%
3. C = 60-72%
4. P = 50-59%
5. F = 0-49%

21. (a) Will you have completed your high school graduation requirements by this June?

**CODE:**
1. Yes
2. Maybe
3. No

(b) If you answered Maybe or No to (a), will you have finished your high school graduation requirements by next January?

**CODE:**
1. Yes
2. Maybe
3. No
22. Please refer to the list of educational levels below, and choose the appropriate one for each of the following questions. Indicate your choice with the appropriate code in each box.

(a) What is the highest level of education you expect to complete in your lifetime? .......................................................... 88 89
(b) What is the highest level of education completed by your father or male guardian? ...................................................... 90 91
(c) What is the highest level of education completed by your mother or female guardian? ................................................... 92 93

CODE: 1. Elementary school less than Grade 8
2. Some high school
3. High school completed
4. Some university study or college diploma
5. Bachelor's degree
6. Post-graduate degree (Master's, Ph.D., Dentistry, Law, Medicine)
7. Technical institute training
8. Trade or vocational institute training
9. Business school
10. I have no idea

23. Please refer to the list of occupations below and choose the appropriate one to answer each of the following questions. Indicate your choice with the appropriate code in each box. You should identify your answer according to the type of work done in the job rather than by the place where a person works. For example, someone who is a secretary in a police station would be indicated by code number 11 (clerical/secretary, etc.) and not by code number 9 (police/security/military occupations). If you have trouble interpreting this question please ask your teacher for help.

(a) What occupation would you like to have most as a career? ............................................................................................... 94 95
(b) What is your father's or male guardian's occupation? (If he is retired, deceased, or unemployed indicate his last occupation) ........................................................................... 96 97
(c) What is your mother's or female guardian's occupation? (If she is retired, deceased, or unemployed indicate her last occupation) ........................................................................... 98 99

CODE: 1. Skilled sales occupations (insurance, real estate, industrial and consumer goods sales)
2. Artistic, literary, performing arts, sports, recreation and entertainment
3. Managerial, administrative, and related occupations (managers, executives, administrators, self-owned business, etc.)
4. Semi-skilled and skilled social and/or medical professions (social worker, job counsellor, mental health worker, social planner, nurse, radiologist, dental technician, etc.)
5. Graduate engineer/architect/city planner (civil engineer, electrical engineer, forestry engineer, architect, etc.)
6. Researcher (natural science researcher, social science researcher, etc.)
7. Teaching and related occupations (elementary, high school, college, university teachers, counsellor, librarian, etc.)
8. Medical doctor, dentist, lawyer, priest or minister
9. Police/security/military occupations (policeman, soldier, prison guard, security guard, etc.)
10. Housewife/homemaker
11. Clerical/secretary, bookkeeper, retail clerk, receptionist, administrative support staff
12. Service occupation (barber, hairdresser, hotel/restaurant work, etc.)
13. Unskilled or semi-skilled work in factory, mill, etc. (processing/manufacturing)
14. Unskilled or semi-skilled work in farming, fishing, mining, logging, hunting, trapping, etc. (natural resource extraction)
15. Unskilled or semi-skilled work in transportation, communication and/or public works (including maintenance and janitorial work)
16. Skilled work in farming, fishing, mining, logging, etc. (natural resource extraction)
17. Farmer (own farm)
18. Skilled technical work (technologist, electronic technician, computer programmer, etc.)
19. Skilled work in transportation, communications, and/or public works (telephone, bus, airline, port, hydroelectric system, newspaper, TV, radio)
20. Skilled tradesperson (electrician, plumber, construction machine operator, etc.)
21. Other

24. (a) Is English the main language your parents speak at home? .................................................................................. 100

CODE: 1. Yes 2. No

(b) How many languages do your parents speak fluently besides English? ................................................................. 101

CODE: 1. None 2. One 3. Two 4. Three or more

(c) How many languages do you know well besides English? .................................................................................. 102

CODE: 1. None 2. One 3. Two 4. Three or more
25. (a) How many persons live in your household? .......................................................... [ ] 103

CODE: 1. Two or less  2. Three  3. Four  4. Five  5. Six or more

(b) How many persons under 18 years of age live in your household? ......................... [ ] 104

CODE: 1. None  2. One  3. Two  4. Three  5. Four or more

(c) What is your own order of age in your family? ...................................................... [ ] 105

CODE: 1. I am the oldest child
   2. I am the second oldest child
   3. I am the third oldest child
   4. I am the fourth oldest child
   5. I am the fifth or more oldest child

(d) How many of your parents or guardians live with you? ........................................ [ ] 106

Code: 1. Both parents
   2. One parent
   3. One guardian
   4. Two or more guardians
   5. None

26. What was the approximate total income (before taxes) of your family in 1980? Include all sources of income and all income earners in your family. Estimate what range it would be in, using the appropriate code .......................................................... [ ] 107

CODE 1. Less than $6,000
   2. $6,000 - $11,999
   3. $12,000 - $17,999
   4. $18,000 - $23,999
   5. $24,000 - $29,999
   6. $30,000 - $35,999
   7. $36,000 - $41,999
   8. $42,000 and over
   9. I have no idea

27. How many times since 1975 have you moved? Write the appropriate code in each box. ........................................................................................................................................................................ [ ] 108

(a) Within your home area (not far from your school) ................................................... [ ] 109
(b) Between different areas of B.C. (requiring you to change schools) ....................... [ ] 110
(c) Between different provinces ...................................................................................... [ ] 111
(d) Between different countries ...................................................................................... [ ] 112

CODE: 1. Once  2. Twice  3. Three times  4. Four times or more  5. None

28. Below is a list of different types of locations. Please indicate with the appropriate code how much of your life has been spent in these areas.

(a) Major metropolitan centres (i.e. Greater Vancouver area and Victoria) .................. [ ] 112
(b) Major regional towns ............................................................................................... [ ] 113
(c) Small towns ............................................................................................................. [ ] 114
(d) Unorganized rural areas and/or small remote communities (farming areas, isolated logging/mining centres, fishing villages, etc.) ................................................. [ ] 115

CODE: 1. Never  2. Less than one year  3. 1-3 years  4. 4-10 years  5. More than 10 years

29. Below is a list of possible functions that the post-secondary education system may serve. Please indicate the relative importance to you of each by writing the appropriate code in each box.

(a) To increase my general level of education ............................................................ [ ] 116
(b) To allow me to meet more people ........................................................................ [ ] 117
(c) To prepare me for a job or career ......................................................................... [ ] 118
(d) To increase my level of income ........................................................................... [ ] 119
(e) To make me a more well-informed citizen ........................................................... [ ] 120
(f) To satisfy my personal curiosity about a particular subject .................................. [ ] 121
(g) To provide me with more opportunities for recreation and/or social activities .... [ ] 122
(h) To make me a more knowledgeable and mature adult ....................................... [ ] 123
(i) To give me a more personal independence and a wider choice of occupations .... [ ] 124

30. All things considered, what is your general feeling about the years you have spent in high school?
   (a) Your degree of satisfaction about high school in general ........................................... □ 125
   CODE: 1. Very satisfied
         2. Satisfied
         3. Fairly satisfied
         4. Not satisfied
(b) The degree of difficulty of schoolwork ........................................................................□ 126
   CODE: 1. Very difficult
         2. Difficult
         3. Fairly difficult
         4. Not difficult
(c) The usefulness of school as preparation for adult life ...................................................... □ 127
   CODE: 1. Very useful
         2. Useful
         3. Fairly useful
         4. Not useful
31. Have you taken or are you now taking a correspondence course? .................................. □ 128
   CODE: 1. Yes
         2. No
         Note: If you answer 'NO' to question 31 please disregard question 32.
         If you answer 'YES' please answer question 32.
32. How many correspondence courses have you taken, or are you taking?
   (a) Secondary level ............................................................................................................. □ 129
   (b) Post-secondary level ................................................................................................. □ 130
   CODE: 1. None
         2. 1-3
         3. 3-6
         4. 6-10
         5. more than 10

THANK YOU FOR FILLING OUT THIS QUESTIONNAIRE:

NOW PLEASE TRANSFER YOUR ANSWERS ONTO THE COMPUTER INFORMATION SHEET BY FOLLOWING THE INSTRUCTIONS ON THE NEXT PAGE
INSTRUCTIONS FOR FILLING OUT THE COMPUTER INFORMATION SHEET

1. Please use a dark pencil, "HB" or softer — NOT INK. The pencil should be blunt rather than very sharp, to avoid leaving smudges on the card if the point should break.

2. To make your answers readable to the computer you will be putting a mark in a space(s) under the code number corresponding to your answer for each question. The answer spaces look like this: 

   You will put a mark in the space(s) corresponding to the code number of your answer as follows. Note that the mark should not overlap the edges of the answer space, i.e. it should be made within the two broken lines. Please follow this procedure carefully, exactly, and neatly. Otherwise, the computer will not be able to read your answer. Please do not use circles, X's or other marks to indicate your answer. The computer only reads solid straight lines between the dotted lines as illustrated.

3. If you make a mistake, or smudge the computer information sheet, please erase incorrect marks and/or smudges as completely as possible. If you want to do your sheet over again a few extra sheets will be provided to your teacher for this purpose.

4. You will find the space for your answer on the computer information sheet by referring to the small number beside the answer box on the questionnaire. Here is an example:

   Answer box on questionnaire:  
   Answer space on computer information sheet:

5. You have answered two types of questions on the questionnaire:
   (a) those where the code numbers of possible answers were 9 or smaller:
   (b) those where the code numbers of possible answers include a number or numbers 10 or greater.

   (a) Here is an example of how you answer the first type on the computer information sheet:

   Question 25 (c): What is your own order of age in your family? 
   If your answer was 1. I am the oldest child your answer box on the questionnaire would look like this: 1 105 and your answer on the computer information sheet would look like this:
   105  
   If your answer was 4. I am the fourth oldest child your answer box on the questionnaire would look like this: 4 105 and your answer on the computer information sheet would look like this:
   105

   (b) Here is an example of how you answer the second type on the computer information sheet:

   Question 23 (a): What occupation would you like to have most as a career? 
   If your answer was 8. Medical doctor, dentist, lawyer, priest or minister your answer box on the questionnaire would look like this: 8 95
   In the answer space on the computer information sheet you will see two series of numbers. The first is to indicate the first digit of your answer code (i.e. tens digit); the second is to indicate the second digit in your answer code (i.e. ones digit). Thus, your answer would be as follows:
   94 0 1 2 3 4 5
   If your answer was 20. Skilled trades person your answer box on the questionnaire would be 94 210 95
   Your answer would be indicated on the computer information sheet:
   94 0 1 2 3 4 5 6 7 8 9

6. Please ignore all blank space on the computer information sheet.

THANKS AGAIN FOR YOUR HELP
Theoretical Concepts

In Chapters 1, 2, and 3, the problem of uneven educational opportunity in British Columbia and the potential role of distance education as a means of addressing this problem were introduced. The social and geographic dimensions of uneven access to educational opportunity for adults were described in terms of three propositions (See p. 20). These propositions focused on three distinct aspects of unequal educational opportunity: metropolitan dominance as the main feature of regional disparity; the spatial segregation of social classes; and the use of distance education as a remedy for social and geographic inequities.

Throughout the preceding chapters references to the accessibility of education and to educational opportunity are based on the concept of effective access (p. 35). That is, regardless of whether post-secondary institutions are officially available for use by all there are objective conditions that, in practice, regulate who is permitted to participate in the education system. These conditions are not limited to academic prerequisites, but include also a number of personal cultural socio-economic, and geographic attributes of potential students. The spatial variation in these attributes defines an educational opportunity surface that is based to a large degree on geographic segregation of social classes.
In order to develop a conceptual basis for understanding the linkage between socio-geographic inequalities and educational opportunity, six theoretical concepts were reviewed (p. 38):

1. The technocratic paradigm-human capital theory;
2. Cultural diffusionism;
3. Social reproduction;
4. De-schooling;
5. Credentialism;

The first two of the above (human capital theory and cultural diffusionism) were found to be highly questionable (pp. 41, 42) due to underlying assumptions which oversimplify the role of education as an influence on labour productivity and as a medium of cultural change. The latter four concepts (social reproduction, de-schooling, credentialism, and ecology of schooling) provided mutually complementary insights into the relationship between the education system, social inequality and geographic variations in human well-being (pp. 42 - 46).

Taken together, the four concepts of social reproduction, de-schooling, credentialism, and the ecology of schooling suggested a set of expectations as to the structure of the human resource landscape in British Columbia and the spatial variation in educational opportunity among social classes, regions, and sub-regional residential territories. Social reproduction and de-schooling, respectively, described the structural and behavioural aspects of the human resource landscape. In essence,
the social reproduction model suggested that the level of educational opportunity would be unevenly distributed among social classes according to the amount of wealth they control and the type of economic functions they perform. Division of social classes in the workplace were expected to be reflected in inequalities of effective access to higher education, and in residential segregation of social classes. The de-schooling concept, in describing education as a form of high mass consumerism, generated the expectation that perceptions, goals, and attitudes relative to higher education would vary among different social classes and, hence, among their respective residential territories. Higher education may be defined as a high order good for which the demand is sensitive to various factors, including: the proximity of potential consumers to high order urban central places; the amount and quality of information available to potential consumers; and the amount of purchasing power potentially at the disposal of consumers; and qualitative aspects of the family and/or social environment that either stimulate or suppress demand for higher education.

Credentialism and the ecology of schooling provided empirical guidelines for defining the human resource landscape of British Columbia, Credentialism suggested that the distribution of educational credentials would be a reliable guide to the spatial distribution of human well-being because of the key role played by credentials in assigning individuals to occupational and social positions. The ecology of schooling
concept implied the need to define human well-being in terms of an wholistic set of local living conditions rooted in elements of the pyschological social, and economic environments that may either activate or limit local use of the education system (See Figure 3.1, p. 162).

An heuristic geographic framework for combining the above concepts into a model of the human resource landscape was found in the dependency perspective. This concept was reinterpreted in the light of theories of class conflict (e.g. Carnoy) and social reproduction (e.g. Bourdieu) to emphasize metropolitan dominance of the education system. (pp. 21 - 32, 134 - 147) Thus, the metropolis was defined as the seat of power over both economic and cultural institutions. The concentration of power over both the material and positional economy in the hands of an affluent metropolitan social elite signified that the metropolis controlled simultaneously the distribution of capital investment, employment opportunities and the educational credentials required to obtain entry and promotion in non-manual occupations.

In a resource-based economy such as that of British Columbia in which resource-extracting activities become increasingly capital-intensive over time, secondary industry is limited, large corporate bureaucracies are dominant, the main path to upward social mobility lies in expansion of tertiary sector employment. Most service sector employment, and especially high order decision-making functions, is spatially concentrated in
the metropolis and in major regional urban centres. This spatial centralization of the service sector is supported by a spatial centralization of major post-secondary institutions. Thus, people who possess or seek to possess educational credentials required for access to jobs in the service sector also congregate in the major cities. Within those major cities people whose occupational status depends largely on their educational credentials are concentrated in areas where socio-economic conditions cultural amenities and access to post-secondary institutions facilitate participation in higher education.

The result of the above conditions would logically be a spatially polarized human resource landscape. Wealth and the credentials required to gain access to the control of wealth would be spatially concentrated in affluent residential areas of the metropolis and of the regional major satellite cities. Living conditions that promote educational opportunity and upward social mobility were expected to occur in residential areas occupied by people with high educational credentials. Because of the spatial concentration of high order economic functions (e.g. finance, corporate management, top level government agencies) in the metropolis and in the largest cities, institutions of higher learning could be expected to agglomerate in these same locations. Thus, in the absence of compensating measures, there would be a marked rural/urban disparity in the socio-economic, locational, and institutional requisites for effective access to higher education. Rural and
hinterland residents would find themselves at a marked disadvantage compared to urban and metropolitan people.

In this reinterpreted version of the dependency perspective, the human resource hinterland would not be strictly confined to the rural areas and towns where resource extraction is the economic mainstay. The human resource hinterland would also include those residential areas in large cities, and within the metropolis itself, where unfavourable socio-economic conditions and a relatively low level of educational achievement among the adult population are likely to limit effective access to higher education.

During the late 1970's, and early 1980's, the Government of British Columbia established a comprehensive distance education system as a means of equalizing educational opportunity among all residents of the province regardless of their personal characteristics, socio-economic status, or location. In theory, such an approach toward the delivery of educational programs should increase the effective accessibility of higher education and training to people who would otherwise find it difficult or impossible to achieve their educational and occupational goals.

In terms of credentialist theory the advent of a full-fledged distance education program implies a policy goal of altering the social and spatial distribution of education credentials so that the possession of cultural capital is not predetermined by the possession of material capital (pp. 33 -
34). A redistribution of effective access to educational credentials would result in greater social mobility for people whose socio-economic or geographic origins would normally inhibit their participation in conventional education systems. Greater social equity would ensue as graduates of distance education programs use their newly-acquired credentials to purchase employment and acquire social status within the positional economy.

A dramatic expansion and re-distribution of the supply of educational credentials could provoke a general devaluation of credentials as cultural currency. This would put residents of the human resource hinterland on a more equal footing with others in society in the competition for secure niches in the positional economy. However, if those in society who already have middle class social status or better, and already possess the material and cultural capital required for upward social mobility, are the main beneficiaries of distance education, then the long term result of distance education will be to aggravate social class disparities both in the metropolis and in hinterland communities. Thus, to assess the impact of distance education on social and geographic inequities it is important to identify the socio-economic and geographic origins of distance education students.
The theoretical concepts reviewed above suggested the existence in British Columbia of a polarized human resource landscape. Such a landscape was expected to be spatially segmented into distinct residential territories on the basis of social class (pp. 156-158). It was expected that effective access to higher education, as indicated by adult education achievement levels (credentials) and objective socio-economic conditions, would vary systematically between these different residential territories. In effect, the various residential territories would constitute zones of different educational opportunity levels. It was anticipated that effective educational opportunity would decline along the urban place hierarchy; the most favourable conditions would be found in affluent metropolitan neighborhoods and the least favourable conditions would be found in small geographically remote and rural residential areas.

It was, however, expected that the polarization of social space into zones of high and low educational opportunity would be replicated at several different scales: provincial, regional, and intra-urban. Thus, the residential nucleus of the metropolis, consisting of affluent upper middle class neighborhoods, would have outliers in the major regional towns in the geographic hinterland of the province. Conversely, social
conditions resembling those of under-privileged hinterland communities would be found in the working class and slum neighborhoods of the major cities and of the metropolis itself.

The Urban Landscape

Comparison of the spatial distribution of socio-economic and educational indicators within the major cities of British Columbia revealed the existence of a consistent pattern of residential segregation by social class attributes. Incorporated in the urban structure of each major city was a set of five distinct neighborhood types (pp. 192 - 197):

1. Inner City Slum Neighborhoods;
2. Central Low Status Neighborhoods;
3. Central High Status Neighborhoods;
4. Suburban High Status Neighborhoods;
5. Suburban Low to Middle Status Neighborhoods.

High and low status neighborhoods occupied opposite positions on both the social hierarchy and the spatial layout of the city, and were separated from each other by buffer zones comprised of middle status neighborhoods, nonresidential land use, or natural barriers.

There was a consistent pattern of association in these residential neighborhoods between educational credentials of the adult population and indicators of social status. In general, low credentials were more prevalent in neighborhoods with prominent ethnic minorities, poor quality and/or crowded
housing, high unemployment, and low per capita income. In all major cities the worst living conditions and the lowest adult education levels were found in the Inner City Slum, a neighborhood adjacent to the commercial core of the city. In each city there were Central and Suburban High Status neighborhoods, in which the most favourable conditions were concentrated. The Suburban High Status neighborhoods were more spatially extensive and more consistently of high status than their respective Central counterparts. Suburban High Status neighborhoods were also better endowed in terms of access to scenic natural amenities.

The classification of the five neighborhood types according to the metropolis/hinterland model of human resources described earlier is as follows:

1. Metropolis: Central High Status, Suburban High Status;
2. Hinterland: Inner City Slum, Central Low Status, Suburban Low to Middle Status.

Intuitively, it might be sensible to classify Suburban Middle Status neighborhoods as zones of transition, as economic conditions in these areas are somewhat better than in Low Status neighborhoods. However, Middle Status neighborhoods are empirically part of the human resource hinterland, especially in a resource-based economy such as that of British Columbia. This is because educational credentials and income levels are only marginally higher than in Low Status neighborhoods, while unemployment is marginally lower. Hence, Middle Status
neighborhoods are actually quite vulnerable in periods of economic recession, i.e. they can become zones of downward transition.

Although all major British Columbia cities exhibited the same general urban morphology in terms of the spatial segregation of neighborhoods by socio-economic and educational traits, there were some differences between the main urban centres of the Interior and the Coastal metropolitan centres of Greater Vancouver and Greater Victoria (pp. 198 - 236). For example, the pattern of social class segregation by neighborhoods was somewhat simpler in the Interior cities, with Middle Status neighborhood being more prominent.

Other differences between Greater Vancouver /Greater Victoria and the Interior cities included the following:

1. Higher incomes in Metropolitan cities as compared to Interior cities;
2. A more favourable relative income position for women as compared to men in Interior cities, even though men still earned more;
3. A much higher concentration of ethnic minorities in Vancouver as compared to all other cities;
4. A higher education among metropolitan adults as compared to adults in the Interior cities;
5. A younger population in Interior cities;
6. Higher housing standards in the Metropolitan centres than elsewhere;
7. Lower unemployment in the Metropolitan cities versus the Interior cities.

Thus, in general it appeared that the socio-economic status of the Metropolitan cities was higher than that of the Interior cities. However, in the Interior cities there was a greater potential local demographic pressure on the education system, due to a younger population.

School Districts

In order to ascertain the existence of rural/urban differences in effective educational opportunity, the 75 school districts of British Columbia were divided into four rural/urban categories (p. 242). These categories, representing increasing degrees of urbanization, ranged from rural to metropolitan.

Social and educational indicators that were found to be correlated to educational achievement levels of the adult population were compared across these four categories, and rural/urban differences were noted.

There was a remarkable consistency in the distribution of indicators of social well-being across the rural/urban categories (pp. 245 - 248). In almost all cases, social conditions were systematically better the higher the degree of urbanization. Adult educational achievement and participation in the education system, for example, were lowest in rural school districts and highest in metropolitan districts. There were also noticeable demographic differences between rural/urban.
categories that could have a bearing on the education system. For instance, non-metropolitan school districts had a higher proportion of persons of school age (i.e. 0-19 years), indicating a greater potential need for expansion of the local supply of educational services. On the other hand, metropolitan districts had substantially larger percentages of immigrants and non-anglophones, indicating a greater potential need for culturally adaptive education programs (e.g. English as a second language).

Rural/urban socio-economic disparities among school districts were notably consistent. Unemployment rose steadily from the metropolitan to the rural category, as did the percentage of primary sector workers. The rural unemployment rate was twice the metropolitan rate. Per capita income, on the other hand, declined systematically across the four rural/urban categories: metropolitan districts were most affluent while rural districts were least well-off.

Living conditions also varied consistently among rural/urban categories. Rural districts had twice the percentage of large families that occurred in the metropolis. Crowded housing was five times as prevalent in rural districts as in metropolitan districts. The rural incidence of housing in disrepair was 2 1/2 times higher than that of metropolitan areas (Table 5.5, p. 248).
Virtually all of the rural/urban comparisons of social indicators confirmed the expectation that effective educational opportunity declines systematically from metropolitan to less urbanized locations on the central place hierarchy. Thus, regardless of the purely locational advantages of urban places with respect to the accessibility of education, residents of urban places in British Columbia also had greater effective access to higher education in terms of objective social conditions.

If rural/urban differences in socio-economic conditions are relevant to geographic disparities in effective educational opportunity, this should be reflected in the rural/urban pattern of students' decisions about future education and careers. Students in more urbanized areas, if they live in a socio-economic environment that is truly more supportive of participation in higher education, should be more upwardly mobile in terms of their educational and career choices than students in less urbanized areas.

In order to explore the possible association between rural/urban differences in socio-economic circumstances and students' educational and occupational choices, corroborating evidence of this association was sought in the results of a 1981 province-wide survey of Grade 12 students in British Columbia. Results of the survey were grouped using the same four rural/urban categories as referred to above in examining social indicators (pp. 248 - 254). If Grade 12 students in metropolitan
and large urban centres were found to have higher aspiration and participation levels than those in less urbanized settings this could be taken as confirmation that effective educational opportunity was indeed greater in the more heavily urbanized centres of the province.

In general, the results of this exercise supported the contention that social conditions in highly urbanized environments are more favourable to participation in higher education, as compared to less urban social environments. On a purely demographic level this was reflected in the fact that only in the metropolitan group of school districts was there approximately equal participation of males and females in Grade 12. As the degree of urbanization decreased across the four rural/urban categories, so did the percentages of males in Grade 12. In addition, age/grade retardation for Grade 12 students was proportionally lower in the more urban as compared to the less urban school districts.

Comparisons of the educational achievement of parents with the expected achievement of Grade 12 students revealed marked rural/urban disparities in favour of metropolitan areas and large cities. Both parents and Grade 12 students in the heavily urbanized areas were more disposed toward high academic achievement (e.g. university degrees) than was the case for less urbanized and rural areas. The distributional pattern for parental educational credentials and aspiration levels of Grade 12 students placed metropolitan districts in the most favoured
status and rural districts in the least favoured position. The high educational/occupational aspiration levels of metropolitan students manifested itself in a much higher inclination toward university studies than for non-metropolitan students. The projected university participation rate of Grade 12 students for metropolitan school districts was over double that of non-metropolitan districts. Metropolitan students were also much more strongly disposed than others to choose careers associated with high academic credentials, high incomes, and managerial roles.

Factors cited by Grade 12 students as major influences on their decisions about further education also reflected the more privileged status of heavily urbanized areas as compared to small cities and rural areas (p. 254). Metropolitan students, faced with an abundance of post-secondary options, based their choice of institution largely on the convenience of being able to live at home; non-metropolitan students were without this luxury and based their choices mainly on the availability of desired programs. Metropolitan students as a group received much more financial support from their families than did other students. Rural students, on the other hand, received the least financial support from their families and were of necessity the most financially self-reliant student group. The privileged position of urban and especially metropolitan students was evident in the systematic rural/urban perceptual differences regarding the affordability of higher education: the more urban
the home area of the student, the greater the perceived degree of financial security.

The 75 school districts of British Columbia are the primary spatial units within which the administration of the education system is conducted. These school districts, because they represent communities or small groups of communities provide a convenient framework for describing the social geography of education in the province. Comparison of social and educational indicators between school districts serves to define inter-community differences in living and learning conditions. A number of such comparisons were made through the mapping of relevant indicators (pp. 255 - 282).

The level of provision of librarian and counselling services was found to be moderately high and more consistent in the southwestern portion of British Columbia as compared to the rest of the province, and northern school districts tended to be less well-serviced than southern districts (p. 260). Within the Lower Mainland service levels were higher in the western districts than in the eastern ones. This non-uniformity of service levels may be to some extent unavoidable in the short run, given inter-district demographic differences. However, in combination with other educational and social conditions it accentuates differences between communities in the quality and variety of educational opportunities available.
The academic abilities and motivations that prepare students to participate in post-secondary education are cumulatively formed throughout the years of experience in primary, elementary, and secondary schooling. The professional qualifications of teachers in the K-12 school system must therefore be considered an important aspect of the quality of education. Students of well-qualified teachers presumably receive high quality instructional services that promote learning, and thereby lay down the foundation of academic skills and attitudes that will eventually lead to successful participation in post-secondary education.

The distribution of professional credentials of teachers in British Columbia revealed that metropolitan school districts had a better qualified corps of teachers compared to non-metropolitan districts, and that teachers in southern British Columbia were better qualified than those in the north (p. 263). Within the Lower Mainland credentials of secondary teachers were quite uniform, while highly qualified elementary teachers were spatially concentrated in the western part of the region. It can therefore be surmized that there is a spatial bias in learning conditions that promote participation in post-secondary education. This bias works in favour of metropolitan and southern British Columbia in general, and the western Lower Mainland in particular.

The distribution of other indicators of educational quality among the school districts of the province, while less uniform,
was generally consistent with the concept of a spatially polarized, metropolitan-dominated pattern of educational opportunity. The spatial incidence of oversized elementary classes among school districts was highest in non-metropolitan locations. While overcrowded secondary classes were more prominent in the Lower Mainland than elsewhere, they were limited to the southern and eastern suburban communities of the region. The most highly privileged area of the province in terms of the quality of learning conditions, including class size, was the northwest corner of the Lower Mainland (pp. 263 - 267).

If effective educational opportunity is influenced by the quality of the school environment this should be reflected in participation rates at the higher levels of the education system. In general, this proved to be the case in British Columbia. Secondary participation rates in southern school districts were higher than in northern ones. The highest university participation rates were found in districts in the north-west corner of the Lower Mainland that were among the most privileged in terms of specialized support services, teacher qualifications and class size in the K-12 grades. There were a few non-metropolitan school districts with exceptionally high university participation rates. However, the general pattern of secondary and university participation rates was positively associated with indicators of educational quality.

The level of effective educational opportunity in a given area is also reflected in living conditions in the family and
the community. For example, the presence of a highly educated adult population should normally be associated with high secondary and post-secondary participation rates, while the opposite would prevail where adult educational credentials were low.

Empirical data for British Columbia revealed a consistent spatial association between adult educational achievement and participation in the education system (p. 272). An educational deprivation ratio indicated that the adult population of school districts in the metropolitan southwest was substantially more educated than adults elsewhere in the province. Within the Lower Mainland, the northern and western districts had the highest levels of adult educational achievement. Coincidentally, adult participation in the education system was higher in the Lower Mainland than elsewhere in British Columbia, and was highest in the northwest sector of the Lower Mainland. Similarly, secondary drop-out rates were low where adult educational credentials were high, and vice-versa (p. 274). Thus, the metropolitan-hinterland dichotomy was evident in both the distribution of adult educational credentials and in the distribution of participation/drop-out rates. Northwest British Columbia was particularly disadvantaged in this respect.

The distribution of economic indicators describing living conditions in the school districts of British Columbia was similar to that of educational indicators (pp. 274 - 277). Unemployment was highest in districts where participation and
achievement in education were low. Per capita income was positively associated with adult education achievement, and income differentials between metropolitan and non-metropolitan districts were very substantial. Some of the worst economic conditions occurred in the southern Interior and northwestern British Columbia while the best conditions were located in the northwest corner of the Lower Mainland.

Social conditions were also characterized by metropolis-hinterland contrasts, and by spatial polarization within metropolitan British Columbia (pp. 275 - 282). Non-anglophone minorities were especially concentrated in the Vancouver area. Native Indians were highly concentrated in only one school district (Nishga) in northwestern British Columbia, and were elsewhere much less numerous except for a few rural districts in the central Interior. Large families and crowded housing were more prevalent in school districts of northern British Columbia than in the south. Large families and crowded housing were less prevalent in the metropolitan southwest than elsewhere in the province. Similarly, housing quality in metropolitan school districts was better than in non-metropolitan districts. In general, those communities that depended most on primary sector employment displayed the strongest indications of socio-economic distress and educational deprivation. The most privileged socio-economic position, and the highest educational status was linked to school districts in the northwest part of the Lower Mainland.
College Regions

The 15 college regions of British Columbia are aggregations of school districts. Until the advent of a comprehensive distance education system in the late 1970's and early 1980's community colleges were the main instrument for addressing regional disparities in post-secondary educational opportunity within the province. As such, the colleges are a purely geographic approach to providing equal access to higher education. They were not conceived specifically for the purpose of equalizing effective educational opportunity among social classes. Even as a device for promoting spatial equality they are imperfect, given the large sizes and dispersed populations of some college regions in the central and northern Interior.

In order to assess the extent of regional differences in effective access to higher education in British Columbia, educational and socio-economic indicators were mapped by college region. The resulting regional profiles provided evidence as to whether the concept of a polarized human resource landscape was valid at the scale of college regions. Indicators selected for this purpose covered the spectrum of circumstances relevant to the effective accessibility of post-secondary education, including learning conditions, social conditions, economic variables and government aid to students.

Comparisons of non-vocational instructional staffing levels and faculty workloads for college regions revealed substantial
inter-regional differences (pp. 292 - 298). There was not, however, a clear-cut metropolis-hinterland dichotomy in the distribution of these conditions except for the fact that the Capilano region, encompassing the high status metropolitan residential communities of North Vancouver and West Vancouver, ranked among the colleges with both the highest staffing levels and highest faculty workloads. Colleges with the highest staffing levels were found in southern British Columbia, while colleges with the lowest faculty workloads were located in the north.

Adult participation in the education system was definitely polarized on the basis of metropolitan dominance (pp. 288, 297). Participation was higher in metropolitan regions than elsewhere in the province and it was lowest in the Interior. University participation rates for Grade 12 students also displayed a sharp disparity in favour of the metropolitan southwest; the lowest participation rates were found in northern British Columbia.

A number of social conditions were examined to see if there was a systematic pattern of disparity between the college regions of the province (pp. 298 - 305). A ratio of educational deprivation was used to compare the inter-regional distribution of educational credentials among the adult population. It was found that the educational achievement levels of adults in the five college regions of the Lower Mainland and Greater Victoria were substantially higher than elsewhere in the province. The most deprived college regions in terms of educational
credentials were those in the central and northern Interior, and all non-metropolitan college regions were relatively deprived. It was clear that the distribution of educational credentials was strongly polarized in favour of metropolitan British Columbia.

Demographic variables considered to have a bearing on effective educational opportunity included the age and ethnic structure, respectively, of the population. It was found that as distance from the metropolitan southwest increased the percentage of persons aged 0-19 years also increased, and that northern college regions had younger populations than did southern regions. This implied that, in relative terms, potential demographic pressure on the education system was higher in non-metropolitan and northern regions than in metropolitan and southern regions. Above average concentrations of non-anglophones were identified in the Vancouver, Fraser Valley, Selkirk, and Northwest college regions, with the ethnic minority population of Vancouver being proportionally larger than elsewhere. Native Indians as a percentage of the total population were most numerous in the central and northern Interior, and especially in the Northwest region. Thus, while both metropolitan and non-metropolitan regions had ethnic minority groups within their service areas, non-indigenous minorities were most prominent in the metropolis and indigenous minorities were more prevalent in non-metropolitan regions.
There were also marked contrasts in housing conditions between metropolitan and non-metropolitan regions. In general, crowded housing and poor quality housing were more characteristic of non-metropolitan than of metropolitan regions. The highest incidence of bad housing conditions was found in college regions of northern British Columbia.

Regional disparities in economic conditions in British Columbia also conformed closely to the metropolis/hinterland concept (pp. 305 - 314). The spatial distribution of wealth as embodied in the value of housing units indicated that wealth was concentrated in the Lower Mainland-Greater Victoria metropolitan region, and that as distance from the metropolis increased the value of wealth held as residential real estate declined. The most affluent college region in terms of real estate values was the Capilano region. Unemployment rates and per capita income were also distributed in a pattern of contrast between the metropolitan southwest and the rest of the province. The lowest unemployment rates were found to be in metropolitan college regions, while the highest proportional unemployment was found in hinterland regions; the worst unemployment was in northwestern British Columbia. Conversely, per capita income was highest in metropolitan regions and lowest in the Interior. The most affluent college region was Capilano with a per capita income over twice that of the lowest value for the province. In general, the higher the percentage of the workforce engaged in primary sector occupations, the lower the economic status of the
Throughout British Columbia there was a strong association between indicators of participation/achievement in the education system and indicators of socio-economic well-being. The Capilano college region emerged as the centre of affluence and high educational opportunity in the province, while the central and northern college regions encompassed the worst conditions in terms of both socio-economic and educational status. The human resource landscape of the province was indeed polarized in terms of effective educational opportunity.

Given the existence of a regionally polarized pattern of educational opportunity, the regional distribution of government financial aid to post-secondary students was a matter of particular interest.

If the implicit purpose in government financial aid to students is to provide compensation to students whose access to higher education is blocked by socio-economic or locational disadvantages, then under-privileged regions should receive proportionally more aid than privileged ones. In British Columbia effective educational opportunity has been shown to be highest in the metropolitan southwest and southern college regions generally have been found to enjoy a more advantageous socio-economic status than northern ones. Therefore, it is to be expected that government aid per student would be lowest in the metropolitan regions and highest in northern British Columbia,
and that college regions in rural and/or geographically peripheral parts of the province would receive proportionally more aid per student than college regions in heavily urbanized locations.

Empirical evidence on the actual distribution of financial aid to students contradicted the above reasoning (pp. 314-319). The lowest per student levels of government financial support occurred not in metropolitan, but in rural, economically depressed regions of the hinterland. It was also remarkable that the lowest per capita student aid allotments were to the North Island college region, where virtually all college students are distance education students. Furthermore, those college regions that suffered the most from recent provincial government cut-backs in student aid also suffered from weakened federal support for students. The worst example of this was the Northwest college region, a region of chronically high unemployment. Thus, government policies of student financial aid have aggravated rather than mitigated regional and socio-economic disparities in effective access to higher education.

Distance Education and Social Equity
Advocates of distance education have described its general purpose as being threefold:

1. To provide universal access to higher education;
2. To promote upward social mobility;
3. To provide flexible individualized instruction for adults who cannot or do not wish to participate in classroom-based learning.

In practice, most distance education institutions define their mandate with reference to the principle of compensating disadvantaged groups in society so as to equalize educational opportunity across a broad spectrum of individual and social needs (pp. 323 - 329). Thus, reference is specifically made in the literature on distance education to the educational needs of those who have been impeded in some way from pursuing their educational interests via the conventional route of classroom-based learning; examples include:

* Mature adults who missed a first chance at higher education due to socio-economic or family constraints;
* Working adults who are unable to leave their full-time jobs to attend classes;
* Women whose responsibilities as homemakers and mothers prevent them from spending time away from their families to attend classes;
* Sedentary, physically disabled, or home-bound persons who are unable to participate in campus-based education;
People who live in rural or isolated locations where attendance at a regular post-secondary institution is impractical or too costly;

People who cannot afford to engage in a full-time program of campus-based studies.

These are, in principle, the criteria that have been used to guide and to justify the development of distance education in British Columbia.

Whether distance education is a learning system capable of achieving its purpose depends on the criteria used to judge its effectiveness. There are three general types of such criteria:

1. Pedagogical criteria, focusing on the technical efficiency of teaching methods used in distance education compared to methods used in classroom instruction;

2. Social equity criteria, focusing on the question of whether the benefits of distance education actually accrue to social groups that can be considered to be disadvantaged;

3. Ideological criteria, focusing on whether distance education is substantively better than conventional education in terms of its cognitive content, the cultural values it transmits, and the role it performs in society.

Each of the above approaches to assessing the effectiveness of distance education has its own implicit rules as to what sorts of evidence and interpretations are admissible; there are arguments both for and against distance education within all three approaches, and the debate is inconclusive. The social
equity approach is the most appealing, however, because it is the most subject to empirical examination.

Effective educational opportunity in British Columbia has been shown to be unevenly distributed among social classes, residential territories, and regions. Distance education has been presented as a possible remedy to this problem, on the basis that it promotes both universal access to education and upward social mobility via the education system. Implicit in the rationale that supports distance education is the belief that it increases social equity by providing educational opportunity to the disadvantaged elements of society. This begs the question of whether an expansion in access to higher education will inevitably result in a general expansion of upward social mobility.

Responses to this question hinge on a number of issues concerning the organization of social institutions and social behaviour. These issues include the following:

1. Does the social elite that controls government and post-secondary institutions impose economic and geographic discrimination so as to limit the impact of efforts to increase access to education?

2. Does expanded access to institutionalized education merely create a consumerist illusion of social mobility while actually subjugating greater numbers of people to the cultural values of an elitist society that are transmitted via the education system?
3. Does the education system actually serve mainly as a screening device to reinforce social class boundaries, based on the division of labour, rather than as a means of traversing or redefining these boundaries?

Critics of distance education have argued strongly that it is essentially an authoritarian and bureaucratic form of education that in practice does not promote meaningful social mobility of the economically and geographically disadvantaged (pp. 330 - 348).

The concept of the positional economy suggests that there are strict limits on the extent to which social mobility may be increased through expansion of access to education (pp. 348 - 349. The positional economy is one based on relatively scarce culturally-defined commodities that are used to identify high status social ranks. One of these commodities is higher education credentials. If access to a certain type of credential is increased than its positional value falls and those who can afford it migrate to educational programs that are more costly to obtain, more scarce, and therefore, more valuable in the positional economy. Moreover, as the number of niches in the higher ranks of the social hierarchy remains limited over time, and as these niches are well defended by those who control them, the prospect of a general increase in social mobility appears highly unlikely.

The idea of social mobility is itself one element of a model of society, based on the assumption that increased education
causes increased technical efficiency in production and economic
growth, thereby, increasing the demand for educated workers and
resulting in upward mobility for the well-educated (i.e. more
productive) members of society. This technocratic paradigm has
been convincingly challenged by credentialism (pp. 350 - 360).
According to the credentialist critique, the main function of
education is not to impart technical efficiency but rather to
determine which individuals will control the bureaucratic
superstructure of the production process. Thus, in the
credentialist model of society, technical efficiency and
economic growth do not necessarily flow from increased
education. Therefore, education cannot by itself create the
necessary economic preconditions for upward social mobility.

Credentialists argue that, in fact, the positional economy
tends not to expand much over time regardless of expansionary
trends in the material economy (i.e. the output of goods and
services), and that most expansion in the positional economy
takes the form of growth in large, centralized corporate and
state bureaucracies. The result of this has been credential
inflation, increased educational competition, and
re-distribution of both wealth and credentials among the more
privileged social strata. This process has only served to
maintain or even increase social and geographic disparities in
wealth, economic opportunity, and social status. In this
context, the development of a distance education system can be
expected to have minimal impacts on social and geographic equi-
and may well result merely in a limited re-distribution of educational opportunity among members of the middle and upper social classes.

There is strong empirical evidence from various sociological studies that the distribution of benefits of higher education is disproportionately skewed in favour of the more affluent social classes (pp. 361 - 368). Porter, in particular, has shown there is a positive association between the socioeconomic status of individuals and their degree of motivation toward higher education. Moreover, there is considerable evidence to indicate that people from small communities, rural areas, and/or primary sector occupational groups are less inclined than people from urbanized areas toward participating in higher education. This gives credence to the concept of a human resource landscape that is polarized between both social classes and geographic regions so as to foster an uneven distribution of effective educational opportunity.

Research in Sweden has shown that people with high educational credentials were more socially and geographically mobile than those with low credentials, and that over time inter-generational social mobility tended to increase in association with increased education. However, research on the socio-economic effects of Swedish reforms in adult education showed that the main participants in adult education were people of relatively affluent social backgrounds, and that disadvantaged social groups were only minimally involved in
adult education. The logical result of this was not a general increase in upward social mobility but rather an increase in educational and cultural disparities between social classes.

Some researchers have concluded that family and peer group influences are dominant in affecting educational achievement while others hold that positive discrimination in the provision of educational services can compensate disadvantaged students for their unfavourable socio-economic origins. However, the political and economic conditions outside the education system that impede the social mobility of individuals on the basis of their social, racial or sexual traits cannot be removed by educational reform alone. Thus, there are entrenched limits on what the educational system can be expected to achieve in terms of social equity.

Research on socio-economic origins and personal profiles of distance education students has yielded ambivalent results on the issue of whether distance education promotes upward social mobility of the under-privileged (pp. 369 - 377). Critics of Britain's Open University have found that people from manual occupational groups benefitted proportionally less from distance education than did those from non-manual occupations. It has also found that many participants in distance education had already achieved relatively high educational credentials before enrolling in this type of education. However, there is also evidence that certain demographic groups do benefit from open learning; these include mature students, married working parents.
and single professional women.

Research by the Open University has indicated that the socio-economic status origins of its students were lower than was the case for conventional universities. In addition, the Open University found that participation rates of women in general, and of homemakers in particular, have risen over time. Open University researchers have postulated that their clientel is drawn mainly from women of high socio-economic origins whose educational credentials are low and men of low socio-economic origins whose prior educational achievement is relatively high.

Research on distance education students in Canada has indicated they are not from disadvantaged backgrounds in either a socio-economic or a geographic sense. It would appear on the basis of studies conducted in Ontario, that Canadian distance education students are mainly mature, financially secure, and well-educated professionals who use distance education as a convenient means of career enhancement, and who live within easy commuting distance from university or college campuses.

It was the purpose of research conducted for this thesis to determine whether distance education in British Columbia has proven to be a viable means of re-distributing effective educational opportunity to the benefit of people who may be considered disadvantaged. In order to achieve this purpose information was systematically collected on the profile characteristics, motivations and educational/occupational goals
of these students. Student traits of particular interest included:
1. Geographic origins and spatial mobility;
2. Socio-economic status;
3. Gender;
4. Gender combined with social class;
5. Affiliation with under-privileged socio-demographic groups.

On the basis of this information it was possible to assess the social status, geographic distribution and relative social mobility of distance education students, and to compare these students to reference groups in the general population.

Profile Traits and Social Mobility of Distance Education Students

If distance education in British Columbia is a potentially effective means of redressing social and geographic inequalities in the opportunity for higher education and upward social mobility it should be possible to show that a majority of distance education students have the following characteristics:
1. They are disadvantaged in terms of their social, economic, or geographic status.
2. They anticipate upward social mobility as an outcome of their distance education activities.

In order to determine if the above conditions were valid, a study of the socio-demographic profile traits and educational/occupational goals of a large sample of distance education students was conducted. The general purpose of this
study was to discover whether these students were in any obvious way disadvantaged, and whether or not their anticipation of social mobility varied by social class background.

On the basis of the programs of study selected by the distance education students, their expressed intentions about continuing their education, and their long term aspirations regarding education and careers, a majority of these students were from relatively advanced academic backgrounds and foresaw extended post-secondary studies followed by careers in occupations of comparatively high socio-economic status. It was clearly apparent that as a group, distance education students considered themselves to be upwardly mobile (pp. 381 - 384).

A review of the personal characteristics of distance education students revealed the following group profile (pp. 384 - 387):

1. A slim majority was female.
2. A large majority was married or had parents who were married.
3. A large majority was older than 25 years.
4. Virtually all were anglophones.
5. A majority was constituted of oldest children.
6. A majority was from households with one or no dependents.

There was little indication from this information that distance education students could be considered socially marginal or disadvantaged.
There were only three distinguishing personal features of the group:

* Mature age level;
* Married status;
* Oldest children.

These students could only be considered disadvantaged in two possible ways:

* As married people, they might have found full-time attendance in an educational program to be inconvenient in relation to family life.
* As eldest children, older than 25 years they were people whose pursuit of higher education had been postponed, perhaps due to an inadequate pool of family resources as they were leaving the secondary school system.

It can be concluded from this that for eldest children who are unable to go directly from secondary to post-secondary education, distance education serves as a second chance opportunity for higher education.

Examination of the educational background of distance education students confirmed that a majority had not attended school for at least three years (p. 389). However, there was no evidence that the study group lacked academic ability or motivation. A very large proportion of distance education students were people of average or above average academic ability who chose distance education not for its intrinsic appeal as a mode of learning but because it provides a
logistically convenient method of upgrading academic credentials through part-time or occasional study. It was very evident that the main reason for the perceived convenience of distance education was that it permitted students to fulfill their career or family obligations while still pursuing their educational interests. Lack of spatial access to conventional institutions was cited by only a small minority of students as a decision factor in the choice of distance education.

The question of whether distance education students saw themselves as disadvantaged in a socio-economic sense was not answered in unequivocal terms (p. 391). The main reason given for their decision by those not planning to continue their education was lack of motivation. However, family and/or job responsibilities as well as financial constraints were both also prominent reasons for not continuing. A sizeable minority of those going on to further education were not in a financially secure position, and a large majority of all distance education students were uninformed about government financial aid.

Increased social mobility (i.e. occupational mobility and educational credentials) was the major goal of students participating in distance education, and outranked by far the goal of increased income. This finding supports the credentialist view that the education system's strongest link is to the positional economy rather than the material economy. In other words, educational credentials are valued primarily as cultural currency and not for their immediate dollar value on
the labour market (p. 392).

The socio-economic traits of distance education students provided evidence of whether they belonged to under-privileged social classes. While the largest single group of distance education students was employed full-time, a majority was composed of people who could be considered as economically dependent in the sense of not having full-time employment outside the home (p. 395). Therefore, it could be surmised that, as individuals, a majority if these students currently experienced some degree of economic insecurity.

However, when distance education students were identified according to their socio-economic origins, i.e. taking into account the socio-economic status of their parents, it was apparent that a large majority were from families of middle or high socio-economic status (pp. 395 - 397). In general, the current occupational status of distance education students was well below that of their fathers. The same situation prevailed with respect to income, but very few of these students were dependent on government financial aid as opposed to employment or income derived from family sources. Thus, in purely economic terms it appeared that distance education students were temporarily disadvantaged individuals from relatively privileged socioeconomic backgrounds.

The distinctive feature of the social class backgrounds of distance education students was the low educational achievement
of their parents in relation to their own socio-economic status. Contacts of the students with peers involved in post-secondary education indicated that their families were of middle or higher socio-economic status, and yet education credentials of the distance education students' parents were consistently low. This revealed a pattern of inter-generational social mobility where economic success was first achieved by parents beyond the level of their own credentials and the family's socio-economic status was then confirmed later through the acquisition of cultural currency by the children via distance education (p. 399).

If distance education is an effective means of overcoming distance barriers that block access to higher education it should be possible to demonstrate that people in the geographic hinterland use distance education proportionally more than metropolitan residents. Non-metropolitan college regions of British Columbia were found to have a disproportionally higher participation in distance education than was the case for metropolitan college regions (p. 402). That is, non-metropolitan participation was higher than could be expected purely on the basis of the inter-regional distribution of adults in the province. This finding was reinforced by the fact that, when distance education students were grouped by community type, the largest single group was composed of people who had lived in small towns or rural areas for at least 10 years. Thus, it was concluded that distance education did provide a proportionally
greater increase in effective access to higher education for hinterland residents.

Nevertheless, there was strong evidence that distance education students were not deprived of spatial access to educational opportunities (p. 404). A very large percentage of all distance education students were, in fact, metropolitan residents. In addition, a large majority of distance education students was made up of people who lived within easy commuting distance of a post-secondary facility. Thus, while distance education did reduce to some extent inter-regional disparities in spatial access to higher education, it did not appear to have had much impact on intra-regional geographic disparities. It may also be that quality and variety in the choice of available education courses or programs was a much more decisive factor in the choice of distance education than the mere physical accessibility of post-secondary facilities. In any case, most distance education students were not geographically disadvantaged in terms of their location with respect to adult education facilities. Thus, there was no information to suggest a linkage between the relative spatial mobility of students and their potential social mobility.

There were three distinct facets of the profile characteristics of distance education students in British Columbia that were linked to their potential social mobility, as reflected in the students' educational and occupational aspirations (p. 407):
1. Gender;
2. Ability to pay for education;
3. Occupational background.

With respect to gender, it was clear that distance education conferred greater potential upward social mobility on women than on men via the higher academic aspirations of women. Regarding ability to pay, it was evident that students whose ability to pay was relatively high were more committed to further education, had higher educational goals, were better informed of government financial aid, and had higher occupational aspirations than students whose ability to pay was relatively low. Similarly, the lower the students' occupational status, or that of their fathers, the lower were their own occupational aspirations.

The linkage between the aspirations of distance education students and, respectively, their ability to pay for education and their occupational background implied strongly that the potential social mobility of these students varied according to their social class origins. Moreover, gender differences in potential social mobility suggested there were distinct sub-groups within social classes that were more likely than others to be upwardly mobile via distance education. Therefore, personal, educational, perceptual and locational student traits that were significantly associated both with the student's aspirations and social class origins were selected for closer examination.
There were two main findings regarding the personal traits of distance education students in relation to their social class origins. Firstly, female students tended to be from families of high socio-economic status while males were more likely to be of low status families (pp. 423, 424). Thus, distance education was a means for middle class women to confirm their social status and for working class men to acquire higher social status. Secondly, anglophone distance education students were of substantially more affluent socio-economic origins that were non-anglophones (p. 424). Thus, distance education was a means for anglophones to confirm their social status, and for non-anglophones to upgrade their status.

Information on the educational and social class background of distance education students indicated that there was a direct positive relationship between the students' educational achievement and their socio-economic status (pp. 428 - 429). Thus, the potential social mobility of students of high socio-economic origins was greater than that of students of low socio-economic status. Furthermore, students of low socio-economic status typically had been out of school for a much longer period of time than their high status peers, prior to entering distance education. Therefore, it can be concluded that low socio-economic status confers a twofold inhibition on potential social mobility, based on low educational achievement and on delays in pursuing higher education.
There were distinct differences among distance education students from different social class backgrounds with respect to their perceptions of the relative accessibility of higher education (pp. 432 - 438). Although a substantial proportion of these students were of modest socio-economic origins, the more vulnerable economic position of low status students was expressed in their perceptions. Low socio-economic status students were more sensitive than others to family or job obligations, distance costs, and lack of income as obstacles to the pursuit of higher education. It appeared that low status students were mainly concerned with obtaining the credentials required to secure employment, while those of middle or high status were oriented toward enhancement of income, career mobility, or personal development. Thus, most high status students perceived themselves as being concerned with social mobility per se, while low status students were mainly concerned with immediate economic security.

In general, high status students were better informed than other students of student financial aid and were therefore better positioned to take full advantage of it. However, students with the lowest incomes were also well-informed in this regard; thus, they were able to partially overcome their socio-economic obstacles to social mobility.

There were several geographic distortions in the distribution of distance education opportunities to different social classes (pp. 438 - 443). Although most distance education
students were already located within easy spatial access of post-secondary facilities, students of high socio-economic status were especially well-located in this regard. In general, the lower the socio-economic status of distance education students the less urban was their residential status. Students with high socio-economic status were in a majority and were predominantly located in metropolitan areas. Thus, while a substantial number of distance education students were non-metropolitan, when social class and the geographic location of students were considered simultaneously it was apparent that effective distance education opportunity was skewed in favour of the privileged social classes living in heavily urbanized and/or metropolitan areas. Whatever its absolute benefits to non-metropolitan areas and lower socio-economic groups, distance education was relatively more effective in serving the needs of already privileged social classes and locations.

Regional and Social Comparisons

Regional Differences in distance education Opportunity

Given the thesis that effective opportunity for higher education in British Columbia is regionally polarized in favour of the metropolitan southwest, it was necessary to address the question of whether this also applied to distance education. If it could be shown that the same regional imbalance existed in opportunities for distance education as for other forms of education this would indicate that distance education is subject
to the same limitations as campus-based learning systems and therefore should not be seen as a panacea for geographic inequalities. Systematic inter-regional comparisons of profile traits of distance education students were therefore conducted as a means of identifying significant inter-regional differences in conditions that may promote or impede the educational progress of these students.

Goals and Expectations

When college regions of British Columbia were grouped into metropolitan and non-metropolitan categories it was clearly evident that metropolitan distance education students had substantially higher educational aspiration levels than did those in non-metropolitan regions (p. 448). The regions with the lowest aspiration levels with respect to academic education were in the geographic hinterland, especially in the northern Interior, while those with the highest aspiration levels were in the metropolitan southwest. This confirmed that metropolitan distance education students had greater potential upward social mobility than did their non-metropolitan counterparts.

Personal Traits

It was found that, on a proportional basis, participation of metropolitan women in distance education was substantially higher than that of men. In hinterland regions, however, the representation of males and females in distance education was only slightly different from the aggregate provincial gender
distribution (p. 451). It appeared that hinterland women were less inclined than metropolitan women to take advantage of distance education opportunities. This could be due to regional cultural differences, to greater opportunities for female career development in the metropolis, or to greater demand for the child-rearing services of women in the hinterland, where families are larger and the population is younger. There was, in fact, strong evidence that metropolitan distance education students were under much less pressure than non-metropolitan students to care for financial dependents. Thus, gender and family responsibilities were much less likely to impede effective access to distance education in metropolitan British Columbia than in non-metropolitan regions of the province.

Educational Traits

The perceived effectiveness of distance education as a learning system was of particular interest. If a majority of non-metropolitan residents saw distance education as more effective than conventional education, or if there was more support in non-metropolitan regions than in the metropolis for distance education, then it could be concluded that distance education is especially well-adapted to serve the educational needs of hinterland residents. However, the vast majority of distance education students surveyed did not think distance education was more effective than conventional campus-based learning, and there were no significant differences between metropolitan and hinterland students in this perception.
Therefore, it must be concluded that as a pedagogical system distance education has no special appeal to hinterland residents and is not more effective than ordinary campus-based learning.

**Perceptual Traits**

There were very definite attitudinal differences between metropolitan and non-metropolitan distance education students regarding the role of distance education in achieving their educational goals (pp. 452 - 455). Non-metropolitan students were decidedly more pragmatic and materialistic in their assessment of the benefits of distance education, while metropolitan students saw distance education as enhancing their cultural credentials and/or personal development. Thus, in the hinterland distance education served the narrowly defined, immediate economic interests of its clientele (i.e., jobs, income etc.) while in the metropolis it served long-term personal or cultural goals of students.

**Socio-Economic Traits**

Regional differences in the social class composition of distance education students were examined to see whether there were systematic regional differences in distance education opportunity based on socio-economic status. Employment status was considered to be an indicator of the degree of economic independence that individuals possess. Two of the more economically vulnerable groups in this regard were part-time workers and homemakers. Part-time workers were more prevalent.
among metropolitan than among non-metropolitan distance education students, while there was a larger percentage of homemakers among non-metropolitan distance education students than among metropolitan distance education students.

With regard to income and occupational status of the parents of distance education students it was evident that students of low socio-economic status origins were relatively more numerous in non-metropolitan than in metropolitan regions (pp. 458 - 459). However, the large majority of distance education students in both metropolitan and non metropolitan regions was made up of students of upper middle to high socio-economic status. It was therefore concluded that the impact of distance education on the social class hierarchy is to maintain or reinforce those social class differences that are derived from education credentials.

**Locational Traits**

Although a majority of all distance education students did not see spatial access to post-secondary facilities as a significant problem, there were nevertheless inter-regional differences in the relative accessibility of such facilities to distance education students. In particular, metropolitan students as a group reported having better spatial access to higher education facilities (pp. 460 - 463). The worst access to such facilities was identified to have been in the central and northern parts of the province. It can therefore be concluded that, in view of their relative spatial handicap,
non-metropolitan residents do benefit more than metropolitan residents from the use of distance education in terms of physical access to education.

*Distance Education Students Versus the General Population*

To assert that distance education is an instrument for redressing inequities in the distribution of educational opportunity is to imply that distance education students are distinguishable from the rest of society on the basis of qualities that hinder their access to education. In order to verify whether this is so, distance education students were compared to the adult population of British Columbia. Characteristics that could influence the ability of an individual to pursue higher education were of special interest.

The parents of distance education students were found to be substantially more educated than the adult population at large (p. 468). In addition, it was found that there was virtually no difference between metropolitan and non-metropolitan regions in the percentage of distance education students' parents who were highly educated. In the general population, however, the percentage of highly educated metropolitan adults was very noticeably larger than was the case for non-metropolitan adults. Thus, distance education students were consistently of higher social status in terms of parental educational achievement than the population at large throughout all regions of the province. In this respect, distance education students were a socially
When attention was focused on under-educated parents of distance education students it was found that a larger percentage of these parents were under-educated than what occurred in the general population. However, there was very little discrepancy between metropolitan and non-metropolitan regions in the incidence of under-educated distance education parents, whereas in the general population the percentage of under-educated adults was almost twice as large for non-metropolitan as for metropolitan regions. Thus, distance education was found to be beneficial to students of low social status origins, and particularly so in hinterland regions.

As a group distance education students had higher educational credentials than the general adult population (p. 471). However, like the general population, the percentage of highly educated distance education students was greater in metropolitan than in non-metropolitan areas. The metropolitan/non-metropolitan contrast in education credentials of highly educated distance education students was interesting, because there was no such contrast in the credentials of highly educated distance education parents. This suggests that in hinterland families high social status fails to fully compensate for regional disparities in educational opportunity.

In a cultural sense, affiliation with a non-anglophone minority may impede the access of individuals to higher
education. The accessibility of distance education to cultural minorities is therefore a measure of its effectiveness in re-distributing educational opportunity. In general, there were proportionally much fewer non-anglophones among distance education students than within the general population. Therefore it was concluded that distance education was not effective in expanding educational opportunities for cultural minorities. However, it was especially ineffective in non-metropolitan regions.

In purely economic terms, it was found that distance education students were not disadvantaged compared to the general population (pp. 472 - 475). Although on a personal level their incomes were low, when their family incomes were taken into account they appeared at least as well off as the population at large, and were probably even in a better economic condition. This could not, however, be clearly established due to non-comparability of some income data.

Distance Education Versus Grade 12 Students

Distance education students were also compared to Grade 12 students in order to discover which of the two groups possessed more advantages relative to the pursuit of higher education and upward social mobility (pp. 475 - 491). Comparisons were qualified by the existence of age differences between the two student groups.
Comparisons of the educational and occupational goals of distance education and Grade 12 students, respectively, indicated very clearly that distance education students had a much higher aspiration level and were therefore potentially more upwardly mobile. In general, distance education students were more committed to extended post-secondary education, and to careers requiring a relatively high level of academic training.

A number of personal traits were compared between the two student groups. No significant differences were found with respect to gender or age order among siblings. However, there was a very substantive difference in language affiliation: distance education students were a much much more homogeneous in their affiliation to the English language. Hence, it was concluded that distance education is relatively more accessible to anglophones than to cultural/linguistic minorities. In this context it was concluded that distance education accentuates the upward social mobility of anglophones relative to non-anglophones.

Another notable difference between distance education students and Grade 12 students was that the former were substantively higher achievers in terms of measured academic ability. Thus, distance education would tend to widen the gap in upward social mobility between academic achievers and non-achievers.
There were also clearly discernable attitudinal differences between the two groups of students. Distance education students were better informed of student financial aid, but less confident of their ability to finance further education. Being generally older, distance education students were more subject to family financial obligations, less likely to receive parental support, and more conservative in their assessment of financial constraints. Also it was evident that distance education students were more concerned with enhanced career mobility and personal development than with immediate economic gains, as compared to Grade 12 students.

Distance education students were different from Grade 12 students in their socio-economic characteristics in several ways. For example, they were more financially independent than Grade 12 students, being much more apt to derive income from steady employment. Although the social status of the parents of the two respective student groups was generally similar, the mothers of distance education students were of considerably lower occupational status than was the case for mothers of Grade 12 students. This raised the possibility that having one parent of low occupational status could be a major contributing factor for the postponement of post-secondary education. In consideration of family income, however, it was concluded that, whatever their past disadvantages, distance education students were currently more affluent than their Grade 12 counterparts.
There were meaningful differences in the geographic traits of distance education students as compared to Grade 12 students. Firstly, distance education students were more spatially mobile in their residential histories and therefore, were considered to be a more field independent group of learners. Secondly, distance education students were predominantly from either metropolitan or small town/rural backgrounds, whereas proportionally more Grade 12 students were from large towns, in terms of previous living experience. In general, it was apparent that the living experience of distance education students was more firmly rooted in the metropolitan environment than was the case for Grade 12 students.

*Distance Education Versus Other Post-Secondary Students*

Compared to university and college students, the personal and educational traits of distance education students were found to be different in the following ways (pp. 492 - 495):

1. As a group, distance education students were older.
2. A larger proportion of distance education students were married and had financial dependents.
3. Distance education students had much lower academic credentials than university students.
4. Distance education students were more concerned than other students about their career mobility and earning power.

Thus, it appeared that the educational interests of distance education students were more constrained by family obligations, by the need for academic upgrading, and by the practical
requirements of career enhancement, than was the case for other post-secondary students.

In purely economic terms, distance education students were more affluent than other post-secondary students. This was reflected in higher family incomes and a lower unemployment rate for distance education students. It was also reflected in a higher degree of financial self-sufficiency via full-time employment.

The residential living experience of distance education students was notably different from that of university students. University students were more prominently metropolitan in their background, while distance education students were much more apt to be from small towns or rural areas. It was therefore, apparent that distance education did provide educational opportunity to a more geographically dispersed clientel than that of the universities.

*Educational Opportunity in the Hinterland*

The potential suitability of distance education as a means of serving the needs of hinterland residents was assessed by reference to an education needs case study, focusing on the Sunshine Coast/Bowen Island region of British Columbia (pp. 499 - 505). The study consisted of 3 surveys of 3 different target populations: the general public, senior-secondary students and employers. The main purpose of the study was to identify factors that were influential in the decision of local residents to
enroll in college courses.

Members of the general public indicated that the two leading considerations affecting their decision to participate in post-secondary courses would be course content and the location of the course. The maximum acceptable commuting travel to attend a course was 45 minutes or 30 miles. Their most important motives for seeking further education were centered on personal development and the pursuit of knowledge more than on the more practical objectives of academic upgrading and career development. However, the latter two motives were also quite prevalent. Logistical requirements cited for participation in higher education included the scheduling of classes outside daytime working hours, and location of classes within easy commuting distance. Facility-based courses were much more popular than distance education. It thus, appeared that the potential market for distance education in this area was quite weak, given the expressed preference for facility-based learning as opposed to distance education.

Although interest in distance education appeared weak, the fact that both the general public and employers cited flexible scheduling and minimal travel time as major considerations in the perceived accessibility of courses suggested that there was a potential role for distance education. In view of the predominance of course content as a key consideration, the expressed need of employers for more skilled personnel, and the established precedent of on-the-job training efforts to achieve
this, it is possible that distance education could be acceptable as a compromise if courses were carefully selected to meet local demands for education and career enhancement in locations where commuting to courses was impractical.

Senior secondary students in the Sunshine Coast/Bowen Island region were heavily committed to seeking employment and pursuing university studies. Although a large minority was potentially interested in remaining in the region if appropriate courses were made locally available, the vast majority had decided to leave the region. A sizeable percentage of these students, especially those whose mothers had high occupational status, saw themselves as upwardly mobile. Given their lack of interest in distance education and/or part-time study, their high interest in university education, and their expressed propensity to leave their parents' homes and the region, it is unlikely the distance education represented an attractive option for these students as a way of continuing their studies beyond high school.


42. BROWN, W.J. Rankings of the Provinces on Various Aspects of Canadian Education. Canadian Teachers’ Federation Monograph, No. 2 Ottawa: Canadian Teachers’ Federation, 1967.


89. ELIOT-HURST, M.E. Human and Inhuman Geography. Armindale: Geography Department, University of New England, December, 1981.


144. HOLMBERG, B. Status and Trends of Distance Education. London: Kogan Page, 1981.


146. HOLMBERG, B. A Conceptual Framework for Practice in Distance Education. Paper presented to Symposium on Distance Education, Simon Fraser University, September 5, 1978.


166. KAUFMAN, D. and MUGRIDGE, I. (eds.) Distance Education in Canada. Dover, New Hampshire: Croom Helm, 1986.


220. PEISERT, H. Soziale Lage und Bildungschancen in Deutschland, Munchen: 1967.


248. RILEY, N.W. and STURGEON, K.B. "Methods of Manipulating Geocoded Data Through Social Indicators for Use on Simulation Modelling and Decision Taking," (Source?)


