THE TEACHER IN SOVIET SOCIETY: STRUCTURE, PROFESSIONALIZATION AND CULTURAL ROLE

by

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The Teacher as Specialist in Soviet Society:
Structure, Professionalization and Cultural Role

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ABSTRACT

When examining how the Soviet Union has developed its educational system, it is necessary to take into account its system of teacher education, and how the Soviets have adapted it to the needs of the people. This study of Soviet teacher education was undertaken in the hope that it might give some insight into how Soviet specialist training has evolved as well as into some of its prominent present-day characteristics, including the background and skills considered appropriate for a teacher in the Soviet Union. The study investigates specialist education for teachers in the following main areas:

1. Prerequisite knowledge for prospective teachers entering Soviet Universities and pedagogical institutes in both Humanities and Science departments;

2. Soviet teacher's professional knowledge; Russian language and literature teachers;

3. The educational practicum;

4. Similarities to and differences from typical North American programs of professional preparation of teachers.

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Introduction

This thesis is undertaken on the assumption that it will provide an insight into how Soviet specialist training has evolved, as well as into some of its prominent present-day characteristics. An incidental benefit of such an inquiry might be to provide a greater understanding of the Soviet Union through the study of teachers' specialist training. While this thesis is essentially descriptive, it can be seen as a groundwork for further comparative study of the Soviet and North American systems.

Farrell (1979) believes there can be no scientific theory of education without comparative research. In the twentieth century the term "comparative" has been associated with "education" whenever educational systems in various countries have been the object of study. Bakhtin (1986) noted that each culture of the past holds immense possibilities that have remained unrecognized and unused throughout the entire historical life of a given culture. In the article "Response to a Question from Novy Mir" Bakhtin (1986) observed:

> There exists a very strong, but one-sided and thus untrustworthy, idea that in order better to understand a foreign culture, one must enter into it, forgetting one's own, and view the world through the eyes of this foreign culture. This idea, as I said, is one-sided. Of course, a certain entry as a living being into a foreign culture, the possibility of seeing the world through its eyes, is a necessary part of the process of understanding it; but if this were the only aspect of this understanding, it would merely be duplication and would not entail anything new or enriching. *Creative understanding* does not renounce itself, its own place in time, its own culture; and it forgets nothing. In order to understand, it is immensely important for the person who understands to be *located outside* the object of his or her creative understanding - in time, in space, in culture. For one cannot even really see one's own exterior and comprehend it as a whole, and no mirrors or photographs can help; our real exterior can be seen and understood only by other people, because they are located outside us in space and because they are others.
>
> In the realm of culture, outsidedness is a most powerful factor in understanding. It is only in the eyes of another culture that foreign culture reveals itself fully and profoundly (but not maximally fully, because there will be cultures that see and understand even more). A meaning only reveals its depths once it has encountered and come into contact with another, foreign

> meaning: they engage in a kind of dialogue, which surmounts the closedness and one-sidedness of these particular meanings, these cultures. We raise new questions for a foreign culture, ones that it did not raise themselves; we seek answers to our own questions in it; and the foreign culture responds to us by revealing to us its new semantic depths. Without *one's own* questions one cannot creatively understand anything other or foreign (but, of course, the questions must be serious and sincere). Such a dialogic encounter of two cultures does not result in merging or mixing. Each retains its own unity and *open* totality, but they are mutually enriched.
>
> As concerns my own evaluation of prospects for the development of our literary scholarship, I think they are quite good in view of our immense potential. We lack only scholarly, investigatory boldness, and without this we cannot rise to the heights or descend to the depths. (pp.6-7).

Yannicopoulos (1985) grasped this lack of bold scholarly investigation in the history of education, especially regarding a pedagogue - the concern of this thesis. He observed: "Although the pedagogue's contribution to the education of the young man throughout the period of antiquity is unquestionable, modern students of the history of education have often placed little emphasis upon his educative role" (p.173).

In order to understand an educational system it is necessary to touch on the social, political and ideological background of a society; in short, the main forces that affect education. This thesis will describe the pedagogical programs in teacher preparation in Soviet higher institutions using a descriptive and historical approach to show the general, theoretical knowledge, practical skills and teaching craft required for teachers in the USSR, and compare them to those in North America.

Chapter 1 describes prerequisites for entry to Soviet universities and Pedagogical Institutes for someone intending to become a teacher. The discussion focuses mainly on admission requirements, admission procedures, entrance examinations and preparatory departments. The second part of the chapter focuses on the prerequisite subjects themselves in the humanities and sciences that are a general requirement for all students entering higher pedagogical institutions.

Chapter 2 describes the philosophy of the Soviet state, the ideas of Vygotsky regarding child development, then compares some prevailing Western theories, (among them Freudianism, neo-Thomism and Existentialism) and their relation to pedagogy and criticism.

Chapter 3 describes the Soviet teacher's professional knowledge and the requirements of pedagogical institutes for the professional preparation of Russian language and literature teachers.

Chapter 4 contains the description of the teacher's practical requirements, and evaluates the data gathered about the Soviet system, and about the influences which form the social role of the teacher, and, finally, considers the extent to which the role of the teacher has extra-ideological components.

Chapter 5 concludes this thesis drawing the main points, differences and similarities between the two educational systems and gives suggestions for further work in this area.

Statement of the Problem To understand the Soviet system of higher education one must first understand something of the Soviet Union. The Soviet Union shapes the materialist world perspective of its citizens, and seeks to train its technical and artistic specialists in terms of it. However, Western observers, looking at the Soviet educational system, generally have somewhat different assumptions than those in the Soviet system. The Soviet system is purposely designed to help build a socialist society. All its component subsystems, including education, are organized and controlled by the Soviet state and the Communist party precisely for that purpose. Because a central purpose of this thesis is to provide a greater understanding of the theory and assumptions upon which the educational system for Soviet teachers is built, some reference must be made to the overall ideological context within which it exists.

The essential questions addressed are:

1. What are the prerequisites for entry into Soviet Universities and Pedagogical Institutes?
2. What are the prerequisites in the Humanities ?
3. What are prerequisites in Sciences?
4. What is the nature of the theoretical assumptions employed in the Soviet Union in order to maintain the specialists who shape the future generations?
5. What kind of specialist knowledge - theoretical and practical - is required in a Soviet teacher's professional training?

Statement of the Purpose. This research is undertaken in order to better understand how Soviet pedagogical schools aim to give specialists a broad general education, highly specific professional skills, and also - something that one cannot neglect in the Soviet context - the desire to live a deep spiritual life.

One of the advantages of studying another education system is that it promotes a comparison with one's own. Canadians can benefit from an awareness of the Soviet system if only because their own may become more distinctive in contrast. On the other hand, however, some Soviet ideas and educational practices - adapted to the Canadian context might prove useful.

Statement of the Method. In order to adequately examine the Soviet educational system with regards to specialist training, as well as to understand the knowledge required for specialists applicable within schools which affect socialization, a variety of data was relied upon. Study and research in this area is enriched by primary sources, and efforts are made to present an analytical, comparative and descriptive interpretation of Soviet teacher training. The data for this study were obtained from books, periodicals, and Soviet and American documents as well as

my two trips to the USSR, in 1985 and 1987. Details and precise schedules of teacher education course schedules are included in the appendices.

Context and limitations

I studied in the Soviet Lithuania. As a result, my attitudes towards North America are influenced by my own perception of values. I am describing the view of the ideal Soviet teacher. I do not intend this thesis to be a comparative study, between typical USSR and USA teacher preparation programs, but occasionaly some comparisons will enable me to describe the USSR system more clearly. No doubt readers will be able to make comparative judgements of their own, based on their experiences.

In order to thoroughly investigate the pertinent areas of Soviet teacher education, teacher training knowledge has been divided into: prerequisite knowledge in humanities and sciences, a descriptive and analytical account of the teacher's role and functions in Soviet society, and specialist knowledge and practice. By presenting an analysis of the essential parts which make up Soviet teacher education we should be able to make better sense, not only of the Soviet education system, but of Soviet society as a whole.

I am aware that there have been liberating changes in the USSR recently. In the conclusions I make some suggestions for further study that I find interesting, but which I can not take up in this thesis.

Definition of Terms.

New Soviet Person The perfect prototype of the new person is an individual whose inner as well as external self exemplifies Communist doctrine. It is the desire of the party that this new man forsake personal objectives in order to work for the good of

society. The main thrust of the Soviet socialization effort is directed toward the development of this new person.

Party, regime, leadership. These terms will be used interchangeably to refer to the small group of individuals within the Soviet Communist party who control every facet of Soviet political, economic, and social life. These individuals assume ultimate responsibility for socialization.

School. For purposes of the study, school will refer to the formal institution to which the child is sent to receive intellectual, vocational and character education. The term will be used to apply only to primary and secondary levels and will not refer to pre-school institutions or colleges and universities.

Collective. The collective is described by Urie Bronfenbrenner (1962) as a group engaged in some socially useful enterprise. The collective is regarded as the major instrument of socialization, it is primarily to the collective that the Party looks in order to inculcate within the child the principal aims and goals of the communist State.

Pioneer youth group. This is a youth group in the Soviet Union which aids in the process of socializing the young. Membership in the Pioneer group is open to children between the ages of ten to fourteen. This group represents the second step on the road to membership in the Communist party. Within this organization, youth help the party to perform traditional civic activities (Barghorn, F. 1966).

Pioneer palaces. Those palaces are built for youth activities, gatherings, crafts, music and dance classes, game competitions, and so on.

Scientific literature. This term means a systematic analysis of all literature using scientific methods.

Scientific knowledge. This term indicates a particular knowledge. It does not indicate that science knows everything at each moment. It is potentially resolved by the movement of science in the direction of 'everything', and not that each

separate field of research and each separate researcher can only work on particular problems 'in his specialty'. Scientific knowledge is resolved in actual fact by the systematic nature of collective scientific work. Each scientific discipline, in conformity with its self-imposed laws of methodological stringency, takes from reality a certain projection on to its own plane and is constrained to do its day-by -day work only with this projection.

CHAPTER 1

Prerequisite Knowledge for Entry to Soviet Universities and Pedagogical Institutes

Introduction

There are two types of teacher training institutions in the USSR: universities and pedagogical institutes. The university is a traditional institution in the Soviet Union. There students are trained in the academic disciplines that they will later teach in secondary schools. As a rule, however, these graduates are not as well trained in teaching methods and professional pedagogical techniques as the graduates of pedagogical institutes, though they have a much broader literary upbringing. Conversely, graduates of teacher training institutes are less well prepared academically in their subject areas when compared to university graduates. However, universities are more prestigious institutions for specialist training and graduates teach higher grades when they are assigned to teach at secondary schools.

Admission requirements. The rules governing admissions are defined by the Ministry of Higher and Special Education of the USSR in co-operation with other institutions. Admission requirements for applicants to both institutions are determined on the basis of either graduation from secondary school or merit (Bondarenko, 1983). The meritocratic criterion can be qualified by the age and social status of applicants, some of whom may then be exempted from entrance examinations. Exemption rules are indicated in the following page under the section "favoured categories".

Admissions procedures involve competitive written and oral examinations for completeness of assessment and in order that the most capable and gifted students are admitted. Only applicants under 35 may be admitted as full-time students, since in the Soviet Union it is believed that the development and formation

of moral and intellectual abilities is likely to be greater in the young. Tamm (1962) noted that Einstein was 26 years old when he formulated the principles of the theory of relativity; that same year he published two additional contributions of prime significance in the development of the quantum theory and statistical physics. Galois was killed in a duel in 1832 at the age of 21. In the thirteen hours before his death he managed to write about sixty pages of algebraic equations that made him one of the greatest mathematicians of all time. On the basis of the theory he advanced, and which today bears his name, there evolved the group theory of one of the most important areas of modern mathematics. There are more such examples in the history of science.

The Ministry of Education recognizes, however, that there are people with intellectual and artistic inclinations whose abilities may emerge later in life, or for whom education was unavailable when young. These men and women are free to apply to such curriculums without pre-scheduled examination. Screening is limited only by national and cultural priorities and by the individual work-experience of the applicants. Priority is given to those seeking courses that will improve their professional skills. For example, workers with two or more years of experience, and recommendations from their industrial or collective supervisors,will enter ahead of others. Students from vocational technical schools and army reservists also hold priority status.

In addition to the results of the competitive examinations, a system of competitive indices (including an average mark from each applicant's' secondary school certification) are used in considering a student's diligence and abilities.

As mentioned, admission rules favour certain categories of applicants. Those exempted from entrance examinations include the following:

1. Applicants who have completed university preparatory courses and passed their examinations.

2. Applicants with special secondary education available in schools focuse on certain sciences, humanities, mathematics, or languages - as in schools using an immersion method from first grade through to and including at least one year of pedagogical experience who are referred by education and professional-technical organizations to evening and correspondence departments of higher institutions preparing teachers.

3. Officers transferred to the reserves from the Soviet Military Force, State Security Commitee and Ministry of Internal Affairs. This category includes those who have not completed higher military or civil education. No importance is given to when officers were transferred to the reserves, or to which year they finished their previous studies.

Certain applicants under specific conditions are exempted from some examinations but are required to take others, as follows:

a) Applicants who graduate from secondary school with gold or silver medals, and those who graduate from a special secondary school, or professional-technical secondary school with honours take only one assigned exam in the area of study rather than four. A grade of "excellent", or five (on the scale of 1-5) exempts those applicants from other examination, while a "good" or "satisfactory" grade demands examinations in all subject areas. However, all applicants mentioned above are, in fact, permitted to enter higher education without taking entrance examinations if they wish to take up specializations considered to be of paramount importance to the national economy, or ones in which there is a shortage of specialists).

b) Persons who pass two examinations and gather nine points (on scales from 1 to 5, where 5 is the highest grade) are exempt from further examinations.

Rules governing entrance examinations include the following:

1. Applicants are examined according to the programs that are approved by the Ministry of Higher and Special Education of the USSR.

2. Applicants required to take entrance examinations are given fifteen calendar days of unpaid additional holidays from their work institution.

3. Applicants who do not come to an examination at the appointed time without justifiable reason may not take further examinations.

4. Applicants are not allowed to take an examination twice.

Admissions Procedure. Admissions are dealt with by the Admissions Commission of each institution. Commissions, headed by a rector's office, also include vice-rectors, deans of faculties, representatives of the institutions' teaching staffs, and representatives of certain public organizations. The student indicates the faculty and field of specialization desired.

Attached to the application are (Tarybinis Pedagogas [Soviet Pedagogue], March 9, No 9-10, 1984)

the original diploma of secondary education ;

letters of reference from school or work;

a short autobiography;

a health certificate;

six photographs

a certified copy of employment record.

Upon arrival at the higher educational institution, the applicant presents, in person, a passport or a military card. Letters of reference should come from supervisors of organizations, social organizations, trade unions, institutions and collective farms. Men discharged from the Soviet military present letters from their unit headquarters.

Applicants who have graduated from secondary schools that specialize in mathematics or languages can be admitted as full-time students with priority given to those who have worked after graduation in the area of study, or who have any work experience. Work experience is not required of those who have graduated with honours - gold or silver medals - from special secondary schools or professional-technical schools and are recommended by Soviet teachers.

To give an example of a typical university institution I will take the case of Vilnius University and compare it with Vilnius Pedagogical Institute. These data are typical of Soviet higher educational institutions throughout the sixteen Soviet republics.

Enrolment for 1985 - Vilnius University (Tarybinis Studentas [Soviet Student], April 5, 1985). (See Appendix A for details)

1. Faculty of Languages = 340
2. Faculty of History = 365
3. Faculty of Mathematics = 240
4. Faculty of Physics = 125
5. Faculty of Kinesiology = 155

Enrolment for Vilnius Pedagogical Institute (Tarybinis pedagogas, [Soviet pedagogue], March 9, No 9-10,1984.

1. Faculty of Languages = 380
2. Faculty of History = 100
3. Faculty of Mathematics = 145
4. Faculty of Physics = 55
5. Faculty of Kinesiology = 125
6. Faculty of Geography and Physical Education = 85
7. Preschool Pedagogy and Psychology = 100

A prominent Soviet academician, Sergei Sobolev (1962), for example, noted that the training of scientific cadres has features which distinguish it from the training of specialists for industry. A youth who is interested in mathematics, and has proven his ability, must work immediately after graduation because of the requirements to have work experience before enrolling in a higher institution. The enforced

interruption will not prevent an engineer from being a good specialist, but Sobolev (1962) questions whether a youth with a talent for mathematics will be able to make up for the time he has lost, and still became a learned mathematician. Sobolev (1962) states that most the fruitful period of life for the mathematician-researcher occurs earlier than with other scientists. Most of the original ideas, without which progress in physico-mathematics is unthinkable, were advanced by scientists when they were still young. Creative scientific thought requires not only a fiery spirit and profound erudition, but youthful freshness of mind.

The evidence suggests it might possibly be best to abandon the practice of admitting mathematicians and physicists to institutions which prepare pedagogues and researchers only after they have had their required labor experience, especially in a sphere of work which is not related to their chosen vocations.

The Soviets accept a proportionally greater number of teachers yearly than is the case in North America. The number is determined by the teacher/student ratio. The planned nature of the educational system makes it easy to predict the overall demand for teachers in the USSR. The achievement of complete secondary education in the USSR is indicated in the Soviet report to the 37th session of the International Conference in Education of UNESCO (1979, p. 5). "In 1978 over 5 million boys and girls, that is, about 97.7 per cent of the number of the first graders of the respective age, received complete secondary education". Of those who work, 543 of every 1,000 workers had attained at least a complete secondary education by 1979, including 111 with higher education. Comparable numbers for 1970 were 342 and 78 respectively indicating a rapid increase in the average level of education of the working population of the USSR over this period of time (Kozhevnikov, 1980, p. 5)

School legislation in the USSR provides for considerable uniformity in secondary education throughout the country, yet with consideration for the national

identities of the peoples in the Union Republics (Fundamentals of Legislation of the USSR and the Union Republics on Public Education, enacted July, 1973). K. Zukauskas (1982) indicates that in the post-war period alone (1945-1980) 54.600 teachers graduated from higher pedagogical institutions in the Lithuanian republic, which is typical of a number of Soviet republics' teacher enrolment. In 1981, 90% of subject teachers had received higher education, and in the special secondary schools almost all teachers (96%) had a higher education. Since graduation from secondary school is mandatory for all Soviet citizens, the demand for teachers in Soviet schools is high, (See S. Strumilin, 1962) with a job guaranteed to every graduating teacher.

In Canada, senior secondary education is not mandatory. According to Statistics Canada (1984-85) secondary enrolment decreased by 37.000 students 1.6% over 1983-84 to 2,288,000. Illiteracy is common and business people agree that it creates financial burden (The Journal, 1986). Meanwhile, future Canadian enrolment to teacher training institutions remains essentially unplanned. However, financial conditions and projections of school boards do dictate to some degree the number of teachers hired in Canada. Graduating teachers are not guaranteed a job, and many are unemployed, as are numbers of qualified teachers, particularly in British Columbia, 1987.

Entrance Examinations. Students who will receive their instruction in a language other than Russian must write an examination on their own language and literature as well as on Russian language and literature, which is mandatory for all. This examination is considered to be of particular importance, as its results are taken as measures of the level of literacy and the general cultural background of applicants. (See Appendix A for more details).

An examination in mathematics is required of those specializing in "pedagogy and methods of primary school instruction". Students intending to study speech

pathology or special education, pedagogy, or the psychology of preschool teaching, also take examinations in biology.

Admission to institutions in the fields of art and culture and physical education requires entrance examinations in the disciplines of general education. Applicants to conservatories have to demonstrate their performance skills in addition to other examinations.

Vladimir Z. Kresin (1983), who taught at Moscow University, and was a member of committees on physics curricula for schools and colleges, suggests that Soviet secondary schools give a better technical scientific education than do their North American counterparts. However, at the university level, he advocates a system of objective computerized testing in the selection of students (comparable to the Scholastic Aptitude tests and various other standardized examinations used in North America), as opposed to Soviet university entrance examinations, which are mostly oral, and therefore likely to be subjective. Kresin states that:

> . . . at the university level, as I have observed here at the University of California at Berkeley, the U.S. system takes a giant step forward. For one thing, the Soviet Union does not have a system of computerized testing in the selection of students comparable to the Scholastic Aptitude Tests and various other standardized examinations - a system remarkable for its objectivity. Instead, every Soviet university conducts its own entrance examinations, which are mostly oral. Given the intense competition for admission, especially to the top universities, this leads to arbitrary decisions based on subjective criteria - in short, to corruption (1983, p. 229).

Kresin notes too that religious and ethnic prejudices influence admissions and grading. The Soviet system does, however, excel at identifying talented individuals and channeling them to the best schools. An extensive system of "mathematical olympiads" and science competitions works to this end, as do humanities competitions. Regarding both entrance examinations and mathematics olympiads, academician Sobolev observes the following:

I know very well that it is useless to devise generally valid "litmus papers" on talent. Such "tests", especially unfailing ones, are not to be found anywhere. And teachers do have some tested and proven methods which can more or less reliably disclose a pupil's aptitude for concentrated mental work. I am referring to the school Olympiads in mathematics, physics and chemistry. If preceded by lengthy preparation and intensive work on the part of its participants in school study circles, such contests are of real value.

Mathematics Olympiads have enjoyed a good tradition in our country for the past thirty years. During the thirties, for example, Olympiad winners could be accepted into physico-mathematics dapartments without entrance examinations in their major subject, even if they had only "3" [average] marks in other subjects. This method of selecting first-year students for higher educational institutions is quite justified. No matter how great the examiner's experience and acumen, he cannot - on the basis of a few random questions - make an on-the-spot judgement of a young applicant's aptitudes with any high degree of accuracy. Talent is an equation with many unknowns, and scientific talent is seldom as singularly pronounced as, say, a musical inclination. The former is usually deeply hidden and, once discovered, there is no real guarantee that it will be preserved and continue to develop normally. Obviously, the far more effective method is systematic observation over a period of many years of the student's inclinations to see if he is capable of assimilating the logically subtle and complex apparatus of abstract mathematical thought.

Current matriculation rules have been considerably improved as compared with those in effect a few years ago. A student's entrance mark is derived from the average of his marks in major subjects alone. Gone is the absurd situation in which the fate of a future mathematician or physicist could be decided by the number of commas he had used in a composition. But matriculations at Novosibirsk higher schools have shown a slackening of interest on the part of applicants to enter those departments which in the main prepare future scientific personnel. The results of entrance examinations sometimes necessitate that all applicants who received at least average ratings must be accepted; entering students with as many as three "3"s on their records were accepted by the University of Novosibirsk in 1961. As for those young people who cannot enter college immediately, they are often favored with lower all-round entrance requirements (1962, pp. 49-50).

Sobolev (1962) thinks that the future supply of scientific personnel poses a number of requirements. Scientists and teachers have to get busy; there must be more scientific circles, societies and Olympiads. There must be more people devoted to science.

He cautions that one should not form the idea that obstructions in the path of science can be blamed only on the imperfection of teaching methods. He suggests that success depends 90 per cent on students. Edison once said: "Genius consists of 1 per cent inspiration and 99 per cent perspiration". The American author Ben L. Martin (1978) suggests that the scores of minority applicants in the United States are high enough to assure their selection without special treatment, but when there are not enough such candidates, the selection process gets problematic. When the scores of a minority applicant are significantly lower than those of a white applicant of the same seat:

> At this juncture the government brief argues that traditional credentials, 'standing by themselves, do not fully reveal the applicant's abilities and potential.' Why? Because of the 'lingering effects of past discrimination.' How are these lingering effects discovered? They are not; rather, they are inferred from the disparity in formal credentials. Racial discrimination produced a set of conditions - inferior schools, lack of supportive home environments, poverty, nutritional deficiencies, et cetera - which thereby prevent disadvantaged minority applicants from revealing their true potential through test scores and grade point averages (p. 18).

In order to ensure that the effects of past discrimination are not allowed to mask an individual's merit, race is considered by a sliding scale of compensation to minority applicants' qualifications. But if a white applicant can show that he endured the same disadvantages, he is not entitled to the same compensatory attribution of qualifications, because racial discrimination has had deleterious effects upon minorities, regardless of specific conditions of disadvantage.

Martin brings to the fore a parable of achievement, reward, and equity found in the New Testament. He says:

> In the parable of the talents in Luke and Matthew, a departing master apportioned talents among his servants equally (in Matthew, "to every man according to his several ability"). On the day of his return, the master demanded an accounting of his servants, rewarded those who

> had multiplied their gifts, and punished those who had failed. In this story and in the competitive market model (another parable), inference of achievement is drawn from outcome. Positive qualities are attributed to the successful. In the parable of contemporary liberalism, however, inference of villainy drawn from outcome is unequal. Equity is still considered synonymous with equality - an enduring liberal tenet - but the notion of equality has been steadily redefined from equality of opportunity or treatment to equality of outcome (1978, p. 21).

Preparatory Departments. To help applicants review entrance examinations, higher educational institutions organize preparatory courses for full-time, part-time and correspondence applicants. This option is particularly valuable for employed young people, and for those who are resuming their studies after a long period since graduation from secondary school. Applicants enrolled in preparatory departments who succeed in their graduation examinations are admitted to the relevant higher institutions without having to take entrance examinations.

Preparatory departments have become an important factor in replenishing the ranks of the intelligentsia with young workers in the cities and the farm collectives who can be admitted after a minimum of one year of employment. The new students of these departments are offered state scholarships and accommodation in hostels.

Eliutin (1985) points out a new feature in admissions programs - personal interviews. These are taking place in all higher educational institutions. Interviews are conducted to help understand each applicant's objectives, interests, and aptitudes in their areas of speciality, but these interviews are separate from oral exams. These interviews are not designed for admission purposes but to facilitate student understanding of the procedures of higher educational institutions. Qualified instructors, department heads, and deans explain the nature of instruction at such institutions, and inform the applicants about their areas of specialization. The interview aims to help direct young people toward a career choice, but at the same

time aims to satisfy the enrolment quotas of the university and its various departments.

Competitive examinations prior to entry to the university also serve as incentives for secondary students to study and work hard. The system of rewards to the best graduates of secondary schools (those who have received gold or silver medals have priorities) and the monitoring of their preparation, also promotes optimum attainment upon entering higher institutions.

The main criterion used in entrance competitions is the examination grades. The link between secondary and higher education is established by the inclusion in the application of the average grade from secondary school. This was designed not only to determine a student's knowledge, but also his or her ability and attitude toward studies over an extensive period. Eliutin (1985) states that such criteria as diligence, a sense of responsibility, and keenness for study are thus included.

Humanities in the Secondary School Curriculum. The structure and level of general capabilities are different depending on the field of study. Verbal capabilities are much higher in students who choose to study at language departments. Those who choose to study mathematical disciplines - mathematical thinking, numerical capabilities and spatial imagination is greater. For future teachers of physics - both spatial and mathematical imagination are vital.

Applicants entering higher educational institutions in the Soviet Union are required to have knowledge of the humanities and sciences as indicated in the programs designed by The Ministry of Higher and Special Education of the USSR (1984). The required knowledge stated in the entrance programs to the institutions of higher training in the humanities includes subjects in Russian language and literature, national languages and literature of the republics of the USSR, history of the USSR and the various national republics, foreign language, and drawing. To specialize in mathematics, physics, chemistry, biology and geography, applicants must have a

knowledge of the science of their choice. Throughout the Soviet Union, the education of applicants entering higher pedagogical institutions includes the following: a knowledge of the Russian language, literature and history, a foreign language and physical education. The above mentioned entrance programs are designed to test the level of knowledge related to these five areas. In the following, the knowledge required in each subject upon entrance will be discussed.

The Role of the Russian Language. Russian language is the focus of education in the Humanities. Language skills are one of the requirements of a general education. In fact, the study of the Russian language precedes in time and importance other subjects that are incorporated into secondary school curricula. The great Russian educator, Ushinski (1861), points out that the study of the Russian language has three aims: first, to develop innate mental ability - the gift of speech; second, to appreciate the richness of the culture of the Russian language; third, to master the logic of the native language, e.g. its grammatical laws in their logical system. These three aims have to be realized simultaneously. One of the purposes of studying the Russian language is to help children appreciate culture through mastering the forms of language in literature, and as spoken by the people. In learning the Russian language the child is introduced to the world of people's thoughts, feelings and lives. The Russian language is the focus of Humanistic Education; it expresses national character and is an effective means of acquiring cultural knowledge. In addition, Ushinski believes that grammar has to be studied systematically in order to be effective. Such study develops conceptualizing in children, trains them to observe words, and teaches them a logical system.

Vygotsky (1962) notes that:

> Behind words, there is the independent grammar of thought, the syntax of word meanings. The simplest utterance, far from reflecting a constant, rigid correspondence between sound and meaning, is really a process. Verbal expressions cannot emerge fully formed but must develop gradually. This

> complex process of transition from meaning to sound must itself be developed and perfected. The child must learn to distinguish between semantics and phonetics and understand the nature of the difference. At first he uses verbal forms and meanings without being conscious of them as separate. The word, to the child, is an integral part of the object it denotes. Such a conception seems to be characteristic of primitive linguistic consciousness (pp.128-129).

J. Frank (1986) noted Bakhtin's thought on language:

> Language for the Bakhtinians is "utterance", which involves the relation between the self and the other person; it is a living word exchanged between existing people, and can only be properly understood in the full range and richness of the moral and social meanings contained in discourse... it is an "utterance" involving an exchange between the artistic self and the other , and must be understood within the ideological context of its time (p. 58).

Goncharov pointed out that Ushinski (1964), who had a profound knowledge and love of the Russian language, and an interest in the mental development of the child, established the Foundation of National Pedagogy, which defines the important role of the native language in the secondary school system. Goncharov (1964) discussed an article written by Ushinski entitled "Native Word" that argued persuasively the essential role of language in expressing national culture. Ushinski refers to the native language as an astonishing teacher. It enhances childrens' thinking, shapes their concepts and views, and develops logical thought.

> In mastering the native language, the student masters not only words, their composition and variations, but also an infinite number of concepts and views on subjects, a great number of thoughts, feelings and artistic forms, and the logic and philosophy of language. And he masters easily and quickly, in two or three years, more than twice what he could learn by diligent and methodical study in twenty years. Such is this great national teacher-the native word!" (Ushinski,1861, p.560).

Knowledge Requirements

formation, morphology, orthography; (2) a knowledge of syntax: of simple and complex sentences. The above form the basics of the Russian language. (See Appendix A for more detailed information.) Beyond the knowledge required in each of the preceding categories, students are expected to have a rich vocabulary and know about language styles (literary, scientific, and spoken). They must be able to distinguish stylistic properties of both new and archaic dialects, and borrowed and international words.

The importance of the Russian language in the educational system is considerable. Russian is one of the official languages in the United Nations. Its global significance grew especially after the rise of Fascism (in whose defeat during the 2nd World War the Soviet Union played a decisive role), and the subsequent formation of a socialist system. Shermuchamedov (1986) stated that the Russian language is one of the world's richest and most expressive languages and has become the means of cross-national communication between the peoples of the USSR. According to the statistics conducted in 1979, in the USSR (Popov, et. al., 1986) it is a language of 153,697,000 people. Besides, 61,300,000 people belonging to other nationalities speak fluent Russian and consider Russian as their second language. Today European socialist bloc countries learn and use Russian extensively in their social life.

Russian is taught in all grades for more hours than any other subject (15% of the total academic schedule). Russian language teaching in schools is based on communication principles. The curricular content and the quantity and nature of the material that is taught at schools are entirely defined by the system of standard modern Russian and its instructional goals. Although the schools' basic objective is communication, education and upbringing are also considered. This education includes a knowledge, as mentioned, of literature, history, earth sciences, life skills, manners and patriotism. The Council of Ministers' resolution and the related

documents issued from the USSR Ministry of Education present the Soviet teaching body with a number of teaching tasks (Shermuchamedov, 1986): "to teach Russian to the young people of all nationalities in such a way that, once having mastered the language of crossnational communication, they will be able to do literary work anywhere in the Soviet boundless motherland, thus performing [a] crucial economic, societal and political mission."{sic}

Knowledge of Literature. The study of literature can reveal much about the culture and the history of a nation. Kudriashev (1974) indicates that the selection of literary works for schools is guided by such principles as the high ideological and artistic quality of a work as well as its educational significance and comprehensibility to pupils.

The sophistication of student knowledge depends partly on the number of books read; and of course whether they are works of literary and artistic merit. The influence of the environment, home and the community can also add to a student's growth. To assist this end, the curriculum consists of three reading lists for schools. The first includes the most outstanding classic works of pre-Revolutionary and Soviet literature, such as Tolstoy's War and Peace, and Gogol's Dead Souls; such works are considered to have the greatest influence in education and character training. The second comprises works from the literature of the peoples of the USSR for the national republics; and the third list contains world literature.

However, a knowledge of Russian literature alone is the prerequisite for entrance programs into higher learning and institutions and a measure of the literary education of students. The entrance programs (1984), published by the Ministry of the Lithuanian Higher and Specialized Secondary Education's methodological department, state the following requirements:

1. To know Russian literary works of the prerevolutionary and Soviet period-to understand their ideological content and artistic properties.

2. To understand the artistic, historic and social significance of literary works in relation to social-political situations of the epoch and to be able to relate these works to social and cultural life.

3. To understand the wealth of ideas and artistic features of the Russian literature in the nineteenth century, and its world significance.

4. To understand the artistic essence of Soviet literature, the creative development of the best traditions of Russian classical literature, and its innovative character and significance to world literature.

5. To understand the general rules of the historic literary process (to have an overview of the main periods of development of Russian literature in the nineteenth century, and the Soviet literature).

In analysing the works of a writer, an applicant is required to know the most important facts of the writer's life to show the relationship between personality and creativity, and be able to explain characteristics of themes, ideas and style. In analyzing epic works, students are expected to bring out problems and ideas, characteristics of heroes, and how they are portrayed. With respect to drama, students must analyze the beginning of conflicts, their development and resolution. In analyzing lyrical works, students have to reveal the ideal of lyrical heroes, the context of their suffering and interrelations, and the means of their expression. The required knowledge in literary theory includes the classical foundations of literature, its ideology and its relation to people.

The entrance program includes two required lists of literature reading: one is for graduates from Russian schools, the other for graduates from national schools. The first one includes a greater number of authors and their works for examinations. Graduates from national schools are not required to know such classical authors as Jesenin, Blok, Ostrovsky, or Belinsky, but school graduates are not expected to

have this background. University faculty have to make a clear distinction between the applicants from Russian and national schools.

The content of literature courses in secondary schools include the study of scientific literature, its theory, history and methods, together with related sciences such as sociology, psychology and school science. Literature and all arts are taught using the socialist realism method, which views all literature from a Marxist perspective. Students are required to demonstrate artistic perception, including aesthetic appreciation and understanding of the literary, as well as the moral development of literature and other types of arts. These artistic perceptions and abilities presuppose a pupil's ability to read and analyse works on their own and to judge their artistic worth. They must also be able to demonstrate a knowledge of the theory and history of literature, and a familiarity with the most important events of world history.

As such the historical method principle is fundamental in the study of literary works in the Soviet schools. Kurdiumova (1974) distinguishes three demands in the analysis of a literary work in schools where teachers consciously intend to utilize the historical method principle:

First: Every possibility must be used to approach the problems of writers and their time, and to show that a work reflects concrete reality. When was the work created? What was the process of its creation? How was it accepted by its contemporaries? How do we perceive the reflection of reality in the work? On what did the author base his opinions? These are the types of questions that students are directed to use in their thinking when studying literature.

Second: It is essential to focus attention on the structure of a work, on the cause and effect relationships that determine not only the subject and composition, but also the logic of the characters and the specific literary techniques used by the writer. An analysis based on unity in form and content is also related to the historical method

principle; the choice of subject, the particulars of a character's behavior, and the nature of his relationships are seen as determined by the time in which a work was created.

Third: It is important to find the reasons that make a given work interesting in our day: to discover them in the work and in the possibility of their influencing the growing reader to whom the school curriculum is addressed.

Among the titles studied in the entrance programs are Chekhov's The Cherry Orchard, Tolstoy's War and Peace, Ostrovsky's Storm, Dostoyevsky's Crime and Punishment, Pushkin's Eugene Onegin, Captain's Daughter, Gogol's Dead Souls and Gorky's Mother. The entrance program includes some twenty-six authors and approximately one hundred works.

It is important to treat literature not only as an art of the word, but as a science of the theory and history of literature, and to understand the elements of aesthetics. Applicants are required not only to have a profound knowledge about the fundamentals of the theory and history of literature and aesthetics, but they must also be knowledgeable about language, vocabulary, phraseology and stylistics.

The Russian language and literature requirements include a written essay to be chosen from three or four essay themes of a literary and socio-political character, selected from a mandatory reading list of texts.

Knowledge of History. Knowledge of Russian history is considered vital in forming a sense of national identity. This identity is seen as linked to the ongoing struggle for national independence, from Mongol invasions in the 13th century, to Napoleon's invasion, to fighting the oppression of the tsar which led to the October revolution in the 20th century, fighting the German invasion during the Second World War, and finally, the formation of the new multinational socialist state. The entrance program

for higher institutions also includes a knowledge of primitive societies up to modern times. (See Appendix A for detailed information).

Nearly all Soviet students follow the same history curriculum. The formal study begins in grade 5 and continues each year through grade 10, the final year of secondary school. From grades 8 through 10, Soviet pupils study two history courses each year: one in the history of the USSR and one in world history, referred to as "modern history". In non-Russian republics students cover an additional course in the history of their own republic. Upon entering higher pedagogical institutions they are required to know the important historical events of their republic from the primitive society of that republic to the history of modern times.

The purpose for teaching history in Soviet schools (as stated in syllabi published by the Ministry of Education and called the Program for Eight-year Schools and Secondary Schools: History) is to instill in young people a Marxist-Leninist world-view. Such a view includes deep ideological convictions, a clear, class-oriented approach to the social life, Soviet patriotism, loyalty to proletarian internationalism, devotion to the Party's cause, development of a Communist attitude towards work, a feeling of duty and discipline, and irreconcilability to bourgeois ideology. The study of history is intended to promote a particular analysis of society and to document the superiority of a socialist system over capitalism. About the problem of adequate coverage of historical facts Mehlinger notes:

> Soviet students acquire more information about the United States from their study from history and geography textbooks than typical American students learn about the USSR from their study of history and geography (given that the majority are unlikely to study geography in high school and that for many students American history will be their only history course). Soviet youth learn about important events and topics of American history: founding of the original colonies, the Declaration of Independence and the American Revolution, the Constitution, the westward movement, the Civil War, Reconstruction and Industrialization, World War I, the great Depression, World War II, and major post-World War II events. In

> geography, students learn about important sections of the United States, its natural resources, and the growth of urbanization.
>
> Despite this generally positive appraisal, there are important oversights in the topical treatment of the United States. For example, little appears about the importance of religion in American thought; the role of political parties is given scant attention; reform movements such as Jacksonian democracy, populism, and the Progressive Movement are ignored totally or mentioned only slightly despite their significance. Nor are Soviet youth capable of learning very much from their textbooks about how typical Americans live: about their family life, schools churches and synagogues, recreation, work and other elements of existence. Attention is focused on the least attractive aspects of American life: poverty, unemployment, inflation, crime, social inequality, racism, hedonism and militarism. No one would deny that American society and culture contain elements of all of these, but few Americans understand these to be dominant features of American life. But what will Soviet students conclude from their tenth grade world history book that asserts: "It is not suprising that a typical trait of American Society, which is founded on social inequality, should be violence and terror (1981, p. 235).

Alexander Rabinowitch is a professor of Education and Director of the Social Studies Development Center, Indiana University, and author of "The Bolsheviks came to power: The Revolution of 1917 in Petrograd". He also served since 1977 as Director of the US/USSR Textbook Study Project. He observed that , according to recent research, historians suggest that the traditional view of revolutionary events in the Soviet Union is faulty, and that it is surprising that it has held sway for so long. Soviet history curricula were saturated with the faulty interpretations of Stalin's epoch. Rabinowitch notes: "At the time of rising East-West tension, the image of Lenin and the Bolsheviks as single-minded megalomaniacs bent on acquiring total power at whatever the cost fit neatly with the prevailing view of the internal and external behavior of the Soviet Union under Stalin" (1981, p. 246). However, this interpretation is taking a different course. With the publication of Rybakov's (1987) novel Deti Arbata [Children of Arbat] by Sovietsky Pisatel' some particular features of this historical period are becoming clearer in the Soviet Union.

Knowledge of Foreign Languages. Every post secondary student is required to know a foreign language, since such knowledge helps people communicate, exchange scientific information and cultural values. As well, it enables applicants who plan to become specialists in their areas to be able to read foreign literature, participate at international conferences, travel, and communicate with their colleagues in various languages. (See Appendix A for more detailed information.)

Applicants are required to be able to read, to know the basics of word relationships of the language, to have learned a number of words necessary for foreign language texts of medium difficulty (oral translation counting 1100 signs in 45 min., with permission to use a dictionary and be able to translate 1100 words in 45 min.)

Applicants must have pronunciation skills, knowledge of grammar and a minimal knowledge of lexis. These are ascertained through reading and conversation examinations; knowledge of grammar is tested in question form within a given text, and understanding of the text is checked by a question/answer test or by the translation of a part of the text.

Applicants also have to answer questions based on the material covered in the text, and be able to read texts from the popular works of literature which include typical phrases and grammatical material containing only 3% unknown words. The unknown content can be understood using elements of word-building relations, paying attention to the similarity of lexical phenomena in the native and foreign languages, and from the context. Content knowledge is tested in question/answer form and by translating a part of a text.

Applicants have to read informative socio-political literature with the help of a dictionary (newspaper articles about political, social and cultural life in the country and abroad) as well as simplified versions of original literature and popular science texts, each of which can contain 6-8% unknown words, reading 100-1500 signs per

forty five minutes. How well students have understood the text is checked by a question/answer form and by translating parts of a text. As well, applicants have to understand a 1-2 minute talk containing 7-8 known phrases with texts compiled from school language programs. Again, knowledge is checked by questions and by descriptions of the content in foreign and native languages where students have to communicate or speak logically with about 8-10 grammatical sentences.

Similar language knowledge is required of applicants who have studied foreign languages; those applicants have to know the spoken and grammatical aspects of those languages.

Prerequisites in Sciences. The Soviet launching of the first artificial earth satellite, Sputnik, attracted the admiration of Western observers for the first time to the teaching of mathematics and science in Soviet schools. It resulted in an outpouring of literature on the subject of Soviet education. Among this literature the journal *Soviet Education* was founded with the purpose of finding out how Soviet education developed a level of training in science and mathematics that has allowed Soviet aerospace technology to progress beyond that of the United States. (Suzuki,The Nature of Things "The Changing of Guards" CBC, Jan. 20 &27, 1988). Henry S. F. Cooper, Jr. (1988) who recently talked with people in the Soviet space program, suggested:

> At present, the Soviet lead in space is formidable. In 1985, when our space shuttle was still flying, the Soviet Union conducted ninety-eight launches, as against seventeen for the United States; and in 1986, the year the Challenger (and, later, two unmanned rockets) blew up, the Soviets conducted ninety-one and the United States six. The Mir space station, which is similar in many respects to the one we hope to have a decade from now, has been in operation since February of 1986, and is currently occupied by a crew that may be up for about a year. The Soviets have offered to carry American experiments aboard it - a service some of our companies are likely to try. An elaborate Soviet program for the unmanned exploration of Mars, possibly leading to manned landings in the next century, is under way. A pair of automated

> spacecraft that will rendez-vous with Phobos, one of the two moons of Mars, and will also orbit Mars to photograph its surface, will be launched this July. In 1994, the Soviets plan to launch another pair of Mars orbiters, from each of which will descend a small roving vehicle and a balloon carrying various instruments. And in the late nineties they plan to send a larger rover able to collect samples of rocks and dust, and a rocket for bringing the samples to earth. The Soviets would like the United States to participate in these missions, and in fact have suggested that we provide the rover for the sample-return mission. This proposal was embraced by most of the seven hundred American space scientists who attended last year's Lunar Planetary Science Conference at the Johnson Space Center, outside Houston. Despite their enthusiasm and that of many people within the National Aeronautics and Space Administration, the Reagan Administration has been cool to the idea - in part because of uncertainty concerning the future direction of our space program, and in part because the Department of Defense is worried about what it refers to as "technology transfer." However, a directive on national space policy issued by the White House on February 11th backs NASA's development of technologies for eventual manned missions to the moon and Mars, and also touches on cooperation with the Soviet Union, though without mentioning Mars in this context; (p. 43)

Szekely (1987), who wrote her doctoral dissertation on "The Establishment of the Academy of Sciences in the USSR" (1978) at Columbia University, and is at present an editor of the journal *Soviet Education,* observed that "Keen American interest in Soviet education did not by any means postdate the Sputnik launching, as the major publications of the Cold War era, such as DeWitt's Education and Professional Employment in the USSR (National Science Foundation, 1961) did" (p. 8). Soviet educational reforms have been taking place since the Sputnik era, including an academic school curriculum reform in 1964 and a new comprehensive educational reform launched in 1984. These reforms include 'Fundamentals of production; Choosing an occupation (grades eight and nine), "Ethics and Psychology of family life"; (grades nine to ten), and "Basic information Science and Computer Technology"; (grades ten and eleven) - these new courses represent how schooling has responded to economic and social needs.

New curricula are to be introduced into the schools in the 1986/87 school year, and are published in the journals *Mathematics in School* [Matematika v shkole] in

addition to materials on how best to teach these new programs in the monthly *Soviet Pedagogy* [Sovetskaya pedagogika] and *Public education* [Narodnoe obrazovanie]. First Deputy Minister Panachin states that "thousands and thousands" of school teachers took part in discussions of the curricula in their draft formats which preceded those finally adopted. Exemplifying the policy of "openness" [glasnost'], which has characterized the overhaul of various aspects of Soviet life that are figuring so prominently in the government of Michail Gorbachev, much of the public discussion of the new curricula, after, as well as before, their formal adoption, has been published in the thrice-weekly newspaper *Teacher's Gazette* [Uchitel'skaya gazeta]. The new curricula for all the subjects, not only mathematics, are being introduced into classroom use this year without new textbooks, which are also centrally produced in the Soviet Union" (p. 6).

All applicants to science specialties must take examinations in mathematics, physics, astronomy, biology, chemistry and geography. Various scientific theories and the structure of those theories are learned. Both general and specific methods of science are studied, and applicants have to demonstrate how to use these methods to solve problems.

Knowledge of Mathematics. Szekely (1987) notes that:

> The new Soviet secondary school mathematics curriculum is studied for six class periods weekly-the school week is six days-in the fifth through ninth grades, and for four periods weekly in the final, tenth and eleventh grades, when computer technology is taught for one or two periods with a large component of mathematics. As noted by Panachin, Zverev, and other authors translated herein, including the author of the summary of the editorial from *Mathematics in School,* arithmetic is taught in grades five and six, algebra and geometry, trigonometry, and begining analysis-also with apparent overlapping course scheduling - in grades ten and eleven. The curriculum document itself is fascinating for its format, which is standard for all the centrally elaborated secondary school programs. The seven headings - explanatory note, requirements, content, topical breakdown, interdisciplinary links, evaluation, and bibliography - are all embracing, but the introductory pages of the mathematics curriculum shows clearly that flexibility, diversity of means, and originality are

> expected in the execution of the program. Despite the high hopes of the education establishment to come up with a course of study that would prove acceptable not only to politically powerful critics but to the teacher training professionate, the mass of school teachers, and to parents-all of whom are being given a chance to register their opinions in the public press under the Gorbachev regime - problems in classroom adaptation and in teacher preparation do abound. After the publication of the geography and science curricula, a special issue will present a sample of this new wave of broadly based critique (p. 7).

The entrance exam to the mathematics program consists of three parts. The first is the basic concepts and facts in mathematics that the applicant must use in solving problems to prove theorems. The second part of the program involves the theoretical aspect of mathematics. The third part includes basic mathematical skills that examinees are supposed to use; these include basic concepts and facts. Applicants entering mathematics discipline must:

a) know precise mathematical definitions and be able to prove a range of theorems;

b) express precisely mathematical theories both orally and in written form;

c) use, fluently, particular mathematical knowledge and skills, and apply them to the solution of problems.

Dr. M. Dubiel (October, 1986) who obtained her doctorate in Poland and at present teaches Mathematics & Statistics at Simon Fraser University, British Columbia, Canada, notes that the mathematics programs of secondary schools vary in the different provinces of Canada. The Province of Ontario for instance, has longer schooling than B.C. (thirteen grades) and covers more statistics and more calculus. But generally there are two programs at the secondary schools: normal and enriched. In the normal schools little geometry is being taught, which may explain why there is little interest in geometry at North American higher institutions. A new program for high schools called "Challenge of the Unknown" has been developed

using video. It shows how mathematics can be applied to solve real problems in life which allows children to see the application of mathematics and thereby become more interested in it and aware of its importance. Graham (1983) shows that several years ago a few more than 100,000 American high school students were taking calculus each year, while 500,000 Soviet students did so. Clearly advanced mathematics receives more emphasis in the USSR. These statistics might change somewhat, since the United States has tried to improve its system of education in science and mathematics, but the serious shortage of science teachers has hampered a significant improvement of the system. Professor Izaak Wirshup of the University of Chicago, has maintained that "...the disparity between the level of training in science and mathematics of an average Soviet skilled worker, or military recruit, and that of a non-college bound American high school graduate is so great that comparisons are meaningless.....Moreover, advanced Soviet research in the psychology and methods of learning and teaching mathematics has been applied in the new curriculum, which now surpasses in quality, scope, and range of implementation that of any other country".. (1981, pp. 358, 360).

Knowledge of Physics. General requirements. The main emphasis in the physics examination that precedes higher education is on understanding the essence of phenomena in physics, on the ability to explain the meaning of formulae, and on the manner in which applicants solve tasks and analyze their results. They must also know the history of physics and the main discoveries in the discipline.

The entrance program consists of seven parts: mechanics, liquids and gases, molecular physics, phenomena of heat, basics of electrodynamics, oscillations and waves, optics, physics of the atom and atomic nucleus. (See Appendix A for more detailed information).

Knowledge of Chemistry. General requirements.

An applicant must know basic theoretical propositions in chemistry that help define nature. They must be able to apply theoretical propositions of combinations, revealing the dependence of properties of matter from their structure; know properties of basic matter used in everyday life; and understand scientific principles of basic industrial branches of chemistry. (See Appendix A for more detailed information.)

Knowledge of Biology. Applicants must:

a) know structure, biological basics, development of plants, animals and humans, main groups of plants and animals;

b) understand and explain basic developmental concepts, regularity and laws of plants, animals and people;

c) be able to base conclusions and utilize concepts, explaining natural phenomena by practical examples from agriculture, industry, health protection areas.

Admissions criteria stress practical knowledge, perhaps because it is considered an indicator of the examinee's awareness and understanding of the materials.

The biology program consists of four parts: 1. Botany, 2. Zoology, 3. Human anatomy; physiology and hygiene, 4. General biology; evolution science, Interrelation of organisms and surroundings (see Appendix A for a detailed information of required entrance knowledge).

Dr. C. Thong, of Simon Fraser University, Biology Department (October, 1986), who teaches first year biology courses, and is familiar with the Soviet biology requirements, observed that a North American applicant who took Biology 11 and 12 in the secondary school would have covered most of knowledge in the Soviet schools curriculum, but not in the same detail. Thong observes that North American students

do not have as much time and laboratory equipment with which to experiment and elaborate their knowledge as is available in Soviet schools.

Thong further observed that in the classification of plants, Soviet applicants go into detail within each group: such as blossoming, dicotyledous, monolytedonous, wild, domestic plants, their specific and biological features, while in North America students know about the classification of the plant kingdom, but no details within each group. In addition, North Americans cover photosynthesis in their first year, the environmental conditions that affect the rate of photosynthesis, as well as energy metabolism and how we can get energy from fats, lipids, carbohydrates and proteins. Knowledge of the chemical structure of a particle, and why certain atoms form molecules with other atoms, is also being expanded into atomic molecular chemistry in North America in the first year of study.

Knowledge of Geography. Applicants must be familiar with a variety of maps, and both USSR and capitalist economic systems. In addition, applicants must have the skill to work with appropriate instruments and material.

An examinee answers program questions, based on school books as well as other educational materials available to him. This geography program consists of two parts: general geographic review, and geography of the USSR. The first part general geographic review includes such topics as form and movement of the earth, weather, climate, atmosphere and water. The knowledge of the geography of Soviet Union includes a review of physical geography, population and resources. A general economic geographical review is also included, which is composed of such subjects as economics, industries and general economic geography. There is also a review of the Soviet republics and large economic regions of the USSR.

An understanding of the economic relations of the USSR and general economic development of the Soviet regions is also a prerequisite for entrance to institutions of higher learning.

Knowledge of Drawing. Applicants must produce two pencil drawings from nature; one from a head of plaster and another from architecture sketches. The examinee must show a knowledge of perspective, composition, proportions and shading.

Prerequisites in Physical Fitness Education As stated earlier, applicants must submit a medical state of health certificate to show their fitness upon entering an institution of learning.

Physical fitness is considered helpful to a well rounded personality. Contemporary society needs members who are physically strong, since those who are physically well-developed and accustomed to physical exercise and sports are more likely to remain in good health until old age, and have the ability to be hard workers and active in life for the social good. Thus, physical education is mandatory for all students. Its form depends on the student's age, physical preparation, and capabilities.

Physical education is related to labour education, and prepares young people for the work force. Physical exercise develops motor skills, cultivates coordination of movement, helps in the ability to analyze and synthesize movements, and to differentiate time and space. All these capabilities will help the student to acquire a more successful profession and achieve better work results.

This sports education activity creates an atmosphere for the moral education of students, since team sports are characterized by collectivism, mutual help, and require students to overcome difficulties. They inspire determination, self discipline, as well as friendship, a sense of duty, ability to adjust personal goals to the goals of

the collective, organizational capabilities and many other attributes necessary for a member of a society that is socially directed.

Defence of one's native country is another reason for physical education. Therefore, in the Soviet Union, physical development is a patriotic duty as well as being considered an honour when exercised in the field of sports. Those who have talent for sports can become prominent in mass physical culture and athletics.

Physical development is seen as related to aesthetic education, in that physical perfection raises aesthetic satisfaction. Public athletic events help form aesthetic taste and the proper images of human beauty.

Bitinas (1981) indicates the principal tasks of physical cultural development in the Soviet union as follows:

1. The physical development of students, the cultivation of their physical capabilities, fostering of their alertness; development of their motor skills and preparation for work.
2. Improvement of student health, and the formation of sanitary-hygienic habits.
3. Cultivation of student capabilities in the sphere of sports.
4. Education for the defence of the country, the formation of the necessary physical features of the soldier.
5. Fostering of the will, initiative, discipline and courage of the young generation.

In conclusion, the physical requirements are necessary for all students of this culture; their purpose is the good physical preparation of students for the society at large. Some school programs also foster sports skills and theoretical knowledge. Teaching material is written as normative in a pamphlet called "Ready for work and defence of the USSR".

> Are American youngsters as physically fit as their Soviet counterparts? No, says the President's Council on Physical Fitness and Sports. To prove it, the council has arranged for 20 000 Americans to take a fitness test given yearly in Soviet schools; in exhange, the U.S.S.R Commitee on Physical Culture and Sport will try the council's test on an equal number of Soviet youth. The experiment started in May, 1987 in El Segundo, California, where 250 students ages seven to 17 sweated through the Soviet test.
> Fitness Council Chairman George Allen expects that Americans will look bad compared with Soviet students, who exercise an hour daily. He hopes the test will spur the U.S. into putting physical education "back in the school systems, an hour a day, five days a week, kindergarten through twelfth (Time, June 1, 1987, p. 29).

Having demonstrated an acceptable level of knowledge of humanities and sciences, successful applicants are ready to begin studying the principles of pedagogy as presented in the following chapter.

Conclusion

There are two institutions in the Soviet Union preparing teachers: universities and pedagogical institutes. The difference between the two is that university graduates are more prepared academically, and as a consequence, teach senior grades at school, while graduates of pedagogical institutes normally have a better understanding of professional pedagogical matters.

Admission to Soviet teacher training institutions is defined by the Ministry of Higher and Special Education through oral and written examinations. Kresin suggested that oral examinations in the Soviet system cause religious and ethnic prejudices influencing grading and admissions, while praising the system of computerized aptitude tests used in the USA. However, the Soviet system excels at identifying talented individuals and channeling them to the best schools. Sobolev suggests that mathematical olympiads and science and humanities competitions, help select potential scientific talent which is seldom as obvious as musical talent. Moreover, advanced Soviet research in the psychology and methods of learning and

teaching mathematics, applied in the new curriculum surpasses in quality, scope, and range of implementation of any other country. (Wirshup, 1981).

The study of literature taught uncludes the socialist realism method, which views all literature from a Marxist perspective. The historical method principle is fundamental in the study of literary works in the Soviet schools.

The study of history in the Soviet schools is intended to promote a particular analysis of society to document the superiority of a socialist system over capitalism. The Soviet History curricula, which was saturated with the faulty interpretations of Stalin's epoch, are becoming clearer in the USSR, especially with Gorbachev's public criticism of Stalin's megalomania and his abuse of power internally and externally.

Szekely noted that level of training in science and mathematics in the USSR has allowed Soviet aerospace technology to progress beyond that of the US. Cooper observed that the Soviet lead in space is formidable. "Microsymposiums" - meetings of information exhange on a small scale to avoid attracting undue official attention, are held between Vernadsky Institute of Geochemistry and Analytical Chemistry in Moscow, and Brown University, USA. Wirshup suggested that disparity between the level of training in science and mathematics in the USSR and American higher school graduates is immense and that comparisons to this end are meaningless. Moreover, advanced Soviet research in the psychology and methods of learning and teaching mathematics has been applied in the new curriculum, which now surpasses in guality, scope, and range of implementation that any other country.

Prerequisites of humanities and sciences applicants entering higher education institutions in the USSR are indicated in the programs designed by the Ministry of Higher and Special Education of the USSR, and outlined extensively in this chapter.

As noted, Russian language is the focus of education in the Humanities, forming the backbone to the entire body of Humanistic subject matter.

Finally, all higher education is free in the USSR, with about 75 percent of full-time day students receiving governmental assistance in the form of stipends. In addition to stipends, students enjoy many miscellaneous benefits, such as free medical care, free use of many education-related facilities, and very low costs. A diploma and not a degree is awarded to students who have successfully completed their undergraduate studies. However, McFadden (1982, p. 124) noted that "subject matter preparation of the secondary teachers, which in most cases includes an education in the subject taught to a level which equates to a Master's degree on this continent." At the graduate level candidate and doctorate degrees can be obtained. Also, it is important to note that most teacher training graduates are required to work for up to three years at whatever jobs they are assigned and wherever the country needs their specialty.

CHAPTER 2

Teacher Education in the Soviet Union

Introduction

The educational system of the USSR has undergone major curriculum reforms (Ramanauskas, 1984) since April 12, 1984. These reforms were advocated at the Soviet Communist Party plenum in order to keep education alert to the changes in all spheres of life - industrial, social and cultural. The challenges of the developing socialist democracy (improving the Soviet way of life and education) all had to be met. Due to the broad impact of scientific and technical advances social and economic programs had to be implemented. All of these reforms require well educated citizens. As in North America, where curriculum reforms in the past quarter of a century have mainly concentrated upon science, technology and mathematics, the Soviet pedagogical academia has undertaken a similar revision of the secondary school curriculum.

Soviet teacher educators use the word "pedagogy"--science of teaching--in describing their discipline. The word 'pedagogue' (*paidagogos*) comes from the Greek word *pais* (=child) and *ago* (=guide). Yannicopoulos (1985) observed that Phoenix and Cheirod, Achiles' tutors, were the first mythical pedagogues in ancient Greece. In ancient times the position of pedagogue was popular. There are many references in classical and post-classical literature. In Herodotus (viii. 75) we find that Sicinnus was the tutor of Themistocles' sons: Euripides (Electra, 287) and Sophocles (Electra, 23) write about the elderly pedagogue of Agamemnon. Plato (Lysis, 223a) refers to the pedagogue of two brothers, Lysis and Menexenus. There was one basic motive for fathers to appoint child guides of their sons, which Libanius (Or., Iviii. 8) explained as: "Having appointed the pedagogue to be

supervisor of his son, "the father can absorb himself in other affairs, such as the care of the city or the responsibility of his lands or the labourers working on them. Sometimes, he may spend a whole day in the forum". Plato (Protagonist, 325c) thought that a child was considered to be the most unmanageable thing on earth, and his moral character in danger if he was left without good supervision. The pedagogue's place in those times was between slave and tutor. The concept of pedagogy has a broad range of meaning in relation to teaching and learning, and yet, different from North American education, there is less importance given to such courses prevalent in North America as reading, social studies or science. Wirshup (1981) points out that the reform of the curriculum has been expanded by applying advanced Soviet research in psychology, in methods of learning and in teaching disciplines in both humanities and sciences. New instructional theories supply strategies for teaching new content. The strategies involve wider use of discussion, emphasizing problem solving and "self education". "Self - esteem" is defined in the light of goals set for team work, not individualistically as is common in North America.

School reforms are related to the philosophy of the country and to the social duties which form the basis of the role of the school in a socialist country. The task of the Soviet school authorities is to form a socialist world view among the young. In order to achieve this task, Soviet pedagogical sciences have applied the philosophy of Marx, Engels and Lenin, called Dialectical Materialism, to the development and implementation of school curriculum. Marxist philosophy is based upon the social and historical development of thought, personality, and learning. Pedagogical theories are generally optimistic about the capability of teachers to implement state curriculum, create the conditions for learning, and instill that philosophy in students.

These Soviet school reforms affected the process of teacher education. As a consequence, new policies, methods, and content were incorporated into the programs of teacher education institutes and universities. I focus particularly on the directions that the reforms in higher education have taken. My interest is in the pedagogical theory that forms the basis of Soviet teacher education, and how such theories are relevant to the priorities of the state. (The discussion is based on my research done in the USSR in 1985 and 1987 on articles found in North American publications, journals and books on teacher education. The discussion of Soviet teacher education involves some comparisons with North American teacher education).

The Organization of Teacher Education. As in most nations in the world, secondary education is directed by the USSR Ministry of Education. The task of the Ministry is to develop, implement, and evaluate the national curriculum. Each of the fifteen Republics incorporated in the Soviet Union has a republic Ministry that directs the implementation of school curricula in teaching 150 native languages, national cultures, and national history.

The USSR Ministry of Education in Moscow employs 320 and is responsible for the administration of Soviet education. This Ministry consists of five levels. 1) Regional Education Boards; 2) City Education Boards; 3) Area Education Boards; 4) Republic Education Ministry; 5) Soviet Education Ministry.

The largest pedagogical institute in the Soviet Union is the Lenin Institute in Moscow; the second largest, the Herzen Institute of Leningrad, has about 13,000 students and 15 academic departments including humanities and sciences. There are departments for teaching Russian to foreigners, especially popular with Latin American and Third World countries. In contrast to the universities, departments

of pedagogical institutes focus upon methods of instruction and also offer graduate programs in pedagogy.

Students attend the Pedagogical Institute for four or five years depending on the program in which they are enrolled; those who study languages and sciences spend five years. The curriculum programs of the Pedagogical Institutes are implemented by the Ministry of Education and are developed in collaboration with various institutes. Students are awarded scholarships either by having a high grade point average, or a high average coupled with need. Hostels are provided by the pedagogical institute and are generally available to those who come from collective farms or show a need. There is a competition for admission to the humanities faculties like languages and literature, whereas smaller number of students apply to science faculties like mathematics, physics or biology. These faculties are strictly for teaching, and those who are interested in research in the disciplines usually apply to the universities rather than institutes.

As far as study time is concerned, usually two thirds of the teacher education program is spent in a specialist discipline and only one third in pedagogy. Because the curriculum content of the schools is supervised by the Ministry of Education, the purpose of teacher education is to learn the theory and strategies that effectively implement the curriculum.

Teacher education is related to the economic development and history of the Soviet Union. Soviet theories of pedagogy taught at the pedagogical institutes are purposely tied to the economic, moral, and political goals of state and school. In order to understand this practice in a comparative light we can refer to Dewey, who insisted that education should be placed in a social and economic context, which considered the moral and political issues of his time. In Art as Experience (1934), Dewey appears to be taking a straightforward socialist position:

> The labor and employment problem of which we are so actively aware cannot be solved by mere changes in wage hours of work and sanitary conditions. No permanent solution is possible save in a radical social alteration which effects the degree and kind of participation the worker has in the production and social disposition of the wares he produces. The psychological conditions resulting from control of the labor of other men for the sake of private gain, rather than any fixed psychological or economic law, are the forces that suppress and limit aesthetic quality in the experience that accompanies processes of production (pp. 343-344).

According to the Secondary and Professional School Main Directives (1984) the Soviet state not only sets teacher qualifications at the institutes, but is concerned to improve their well-being and living conditions, medical services, holiday privileges, and priority in getting state accommodation. It also promotes the practice of material reward to outstanding teachers, and recently announced the first of September as a people's holiday - Science Day.

The Soviets have bypassed the family as the major agent of socialization, because they feel that within that institution too many non-socialist customs, beliefs and sentiments prevail. The party feels that the family often coddles the child, and does not try making him a strong individual who can cope with the discomforts and challenges of life; a condition which the Party believes is necessary for the building of the communist State. The school, which has no emotional ties with the child, the party is more confident that its goals will be carried out. The party is paramount that schools override the conflicting aims the family may have established in the individual (Dawson and Prewett, p. 126).

Soviet educators are rather critical of Western moral education, claiming that it has no scientific basis. They point out that upbringing, like everything else, is governed by objective laws which are gradually revealed in pedagogy. They maintain that Soviet educators are engaged in continuous research to discover these objective principles in order to advance the methods of upbringing in the schools. Soviet educators are especially critical of the "I" emphasis in Western pedagogy,

whether it finds its expression in the pragmatism of Dewey, the existentialism of Heidegger, or the neo - Thomism, (originating in the middle ages with Thomas Aquinas). Neo - Thomists think that they have overcome the "one sidedness" of materialism, but in reality they represent an idealistic teaching. Striving to keep masses of working people under their influence neo - Thomists criticize the capitalist class system of the bourgeoise and its disregard of religious principles. However, they do not fight against the private - enterpreneural basis of the capitalist system, but merely diminish its exploitative side. The most influential theoretician of neo-Thomist pedagogy is the French philosopher Jaques Maritain, who claims that Neo - Thomist pedagogy places "God's revelation" above science. Maritain also claims that "Wisdom that knows eternal matters and creates order and unity of spirit, is above science or knowledge of private causes." Neo - Thomism stands against scientific knowledge, considering that "religiosity is more important than knowledge of fractions." Neo - Thomist pedagogy's primary purpose is to fight against the Marxist antireligious materialist concept, against the liberation movement, and the consciousness of masses who fight for exploitation and demand equality. Russians hold that this ideology is not progressive. They consider that the neo-Thomism approach makes the child self-centred, and further, prevents him from knowing the true happiness that ensues when one engages in meaningful activity with others in order to achieve a common goal (Vulfson, 1963).

Pedagogy of Existentialism. Existentialism is widely spread in West Germany, France, Italy, Austria, Japan, United States and Canada. The main representatives of it are: Jean-Paul Sartre, Maurice Merlean-Ponty, Albert Camus and Simone De Beovoir, Andre Gide, Samuel Beckett, Andre Malraux, Franz Kafka, Dostoevsky, Rilke and Karl Jaspers. It has deeply penetrated Western literature and art. The essence of Existentialism is extreme individualism. The Existentialist necessity always shows one's "existence", "one's I". Soren

Kierkegaard (1941) stated: "Each age has its own characteristic depravity. Ours is perhaps not pleasure or indulgence or sensuality, but rather a dissolute pantheistic contempt for individual man."

Existentialism juxtaposes individual and society (collective) as if man becomes a personality when he decides by himself he is always free in his decisions. Merlean-Ponty says: "I am not the outcome or the meeting point of the numerous causal agencies which determine my bodily or psychological make-up. I cannot conceive of myself as nothing but a bit of the world. All my knowledge of the world, even my scientific knowledge, is gained from my own particular point of view."

Existentialist pedagogy is threatened by "absorbtion" of the individual by the collective, and reflects the hopeless bourgeoise urge to maintain class distinctions.

Existentialism implicitly opposes Marxist principles of education emphasizing the collective. Existentialists reject the possibility of reshaping people through social structures and influences.

The Influence of Freudianism to Pedagogy. The Austrian psychologist Sigmund Freud analysed the role of the unconscious in the psychological activity of man. The influence was limited at the begining in psychology, sociology, medicine, ethnography, literary criticism and other sciences. Freudianism in Russia did not find such favour: the teaching of Sechenov, Botkin and Pavlov about the unity of organism and society argued against it.

Freud wrote that man is a biological creature. According to Freud - emotions, inclinations, and consciousness are determined not by social atmosphere, but unconscious impulse. From this position Freud noted conflicts between personality and society.

Freudianism stands against principles of social education. Viewing a child as a biological being who is in the conflict with a society that suppress his feelings, Freud thought the family to be the ideal setting for the child. According to him, by 5-6 years of age child had completed his development and his psyche had formed. According to Freud, a child like an adult, does not carry responsibility for his actions, since his actions are determined by unconsciousness instincts' suppressions. Yet this suggests education is futile.

Freud's theory touches many questions regarding preschool children, one of them being that of play. In play Freud saw a realization of suppressed feelings: a child in play breaks out and experiences that which he cannot have in life.

Play therapy, under the influence of Freudianism, became popularized. The essence of it is that play is viewed as a form of re-enactment of a situation which traumatized the child. Re-enactment is considered an effective means of healing this trauma. Freud's accomplishment lies in his attraction to a child's complex internal world, and, partially, to the relationship of conscious and unconscious in his psychology and its manifestations. Overall, Freudianism opposes the Marxist point of view on the dialectics of human development, as well as views of the foremost psychologists in the West.

The Soviet conception of individualism stems from the Marxist definition of man: "an aggregate of social relations" (Goncharov, 1965). While many Western educators are inclined to focus on the inner features of man by adopting a psychological approach, Soviet educators recognize the social and material essence of man, and assume a socio-historical stance. According to the Soviet view, the individual has no meaning. Rather, he is a part of society, i.e., part of nature, part of history, and a part of objective reality. They argue that man can only be considered in the context of his social relations (Korolev, 1968).

The Soviet theorists believe that the new man is born of the October Revolution, and that he is a being whose activity and works have changed his society into a communist one. The new man is defined from a historical point of view, according to Marxist-Leninist dialectics. A man's job is to undergo the qualitative change which will permit the building of such a communal society. Consequently, viewed historically, the new man represents the individual who exemplifies in word and deed that he has perfectly assimilated the goals of communism (Korolew, 1968). Soviet theorists believe that any system of education is the artificial creation of a culture, and a filter of that culture.

In Soviet pedagogy teaching must first be based on the philosophy of dialectical materialism of Marx, Engels and Lenin. Second, schools must provide moral and political education for the proper formation of the individual. Third, schools are required to produce a new socialist man, one who will work and fill the demands created by the technological changes constantly taking place in the economy. It is the purpose of this discussion to consider how these three points are manifested in Soviet teacher education.

Dialectical Materialism as a State Philosophy of the Soviet Educational System.

The Soviet revolution achieved the Soviets' chief aim, the good of the working people, the relation of people to production, and state organization and distribution of goods in society. As a philosophy of the Soviet state, Marx's dialectical materialism posits basic questions about the nature of man and of the world. Marxist philosophy forms the foundation of educational institutions, including the place of the teacher and pupils, as well as of the system of teacher education.

Dialectical materialism sees people as products of social, cultural, and historical processes where they respond to the environment in which they live in order to progress in the society and the world. The values of a society are made

manifest by the society's collective responses to the world. Man and society are unified in the Soviet theory of dialectical materialism. Work and production form the link between nature and man. Through the productive process man becomes transformed. Breines (1977) noted that Marxism proposed a critique of ideology (religion, liberalism, political economy) from the standpoint of universal human needs, and in ideology serving the provincial needs of socialist parties and states. Marxism has two souls, one democratic, the the other authoritarian, its history totalling to an internal battle between them. Lukacs (1987) posed a question : Who will save us from Western civilisation? He saw a problem of Western civilization that it entailed the advance of *Versachlichung* (the transformation of life and culture into things) . He proposed the concept of totality which comprised the methodological principle of the primacy of the universal over the particular, the whole over its parts. It included the notion that totality is historical, and that its movement in historical time consists of a coming-to - consciousness (Bewusstwerden) of the makers of history, the proletariat. Lukacs believed in the concept of totality as linked to a peculiar reality: that 'totality of being' or *gemeinschaft is* present in history only in the form of its dissolution in modern, bourgeois society, but the goal of history is to be recreated in the form of Communism. Lukacs conceived the Communist party not as a cadre of technicians of revolution, but as embryonic community of revolutionary combat, whose internal relations foreshadowed the world to be made, and whose actions must aim at unveiling the historical totality, thereby enabling the proletariat to fulfill its own revolutionary mission. Kosok (1970) noted that "Lukacs formulated in the early 1920's dual perception of capitalism that 1) it is a universal tendency of modern capitalism to make totality of social life and existence into an object of domination with the 'intention' of transfering all subjectivity and activity into reified objectivity, all human subjects into passive spectators of their own existence; and, 2) the

theoretical and practical critique of modern capitalism will be a critique of the whole or it will be nothing - but a repetition of the whole" (pp. 14-15).

Lev Semionovich Vygotsky, a founder of the Soviet pedagogical psychology, is described as the Mozart of psychology because of his wide-ranging intellectual work, starting from literature to neurophysiology, by way of linguistics and educational innovation (Toulmin, 1978). Vygotsky majored in literature at the University of Moscow before the 1917 revolution, and his initial research was in critical theory, which culminated in his book called *The Psychology of Art*. Having this background, Vygotsky was interested in the research done at the Institute of Psychology in Moscow concerning social and cultural structuring of "consciousness". He soon became a leader in this research. He enrolled in medical training in order to master the neurological and psychological phenomena relevant to comprehension, concept formation, and consciousness - and remained the leading scholar in this field until his early death in 1934. In ten years of professional work as a psychologist, Vygotsky wrote 180 works, out of which 135 are published. His wide-ranging research was followed by Luria, from literature to neurophysiology, by way of linguistics and educational innovation, all of which had been suggested in previous research with Vygotsky in 1930. Luria himself considered Vygotsky to be a genius of incredible analytical ability and foresight. Luria considers his own work as only the elaboration of the psychological theory which Vygotsky constructed.

At the Institute of Psychology in Moscow, Vygotsky developed an interest in the social and cultural structuring of "consciousness"; more precisely, in the modes by which consciousness is "represented"-- both mentally and neurologically-- in the life of the individual. Vygotsky thought that these problems cannot be approached by focusing either on our genetic inheritance and innate capacities, or on the influence of external environmental factors alone.

During a child's upbringing, education, and social experience, the child becomes socialized and encultured. The child's consciousness becomes structured as a result of cultural-historical conditions. Vygotsky's task was to find out how these changes take place, and what general processes they usually incorporate. He thought that they evidently implied psychological and neurological processes. His goal was to find out how enculturation, socialization, and the development of thought processes are formed in the child's inner life, especially by "inner speech". Likewise, in neurological terms, he wanted to find out how the social, linguistic, cultural and intellectual skills the child acquires during the formative years are aided by the cortical mechanisms of the maturing nervous system.

Because of Vygotsky's background in aesthetics and literary criticism, he was particularly interested in the evolving role of language in a child's mental life. He studied how the child uses and depends on language in acquiring new skills in social and instructional settings. His essays, which appear in the book *Mind in Society* , clarify the central role of language and symbolic thought in shaping the structure of adult mental life. He considered the psychological tools by which we impose specific forms on our mental "inner" world to be like the physical tools we use to impose specific forms on the material "outside" world.

Vygotsky interpreted social interaction as being analytically prior to individual conscious actions and categorical behavior (Vygotsky, 1978). Emphasizing the material basis of psychology, Vygotsky argued that development does not proceed towards socialization, but towards the conversion of social relations into higher psychological functions. These functions evolving since the birth of societies, continue as a part of historically accumulated experience. M. Cole and P. Griffin (1986) note that the unique form in which Homo sapiens learns from the experience of earlier generations is strongly emphasized by sociohistorical psychologists; therefore strong emphasis is placed on human language as the basic medium of

specifically human development, the capacity for which makes a clear link between higher psychological functions and speech. Vygotsky (1978) sought a comprehensive approach that would make possible description and explanation of higher psychological functions in terms acceptable to natural science. To Vygotsky, explanation was crucial. It required identification of the brain mechanisms underlying a particular function; explication of their developmental history to establish the relation between simple and complex forms of what appeared to be the same behavior; and, importantly, it included specification of the societal context in which behavior developed.

Toulmin (1978) notes that Marxist references in Vygotsky's works underlay his articulation of the developmental psychology:

> Vygotsky' and Luria's quotations from the Marxist fathers, and their respectful references to Marx and Engels as foreshadowing their views about "inner consciousness," represent something more than hagiography or political lip service. This is something that even Vygotsky's Western admirers have not always understood. For instance, when Evgenia Hanfman and Gertrude Vakar prepared the English translation of *Thought and Language* that appeared in 1962, they saw fit to omit many of Vygotsky's references to the ideas of Marx and Engels. Just as the salon Cartesians of the late seventeenth century read all of Descarte's references to God and the Creation as mere ecclesiastical face-saving, Vygotsky's translators too apparently assumed that his allusions to Marx were mere concessions to the ideological demands of the Party, and so irrelevant to the intellectual contents of his argument.
>
> That was a mistake. Working as he did before Soviet communism entered its most corrupt, Stalinist phase, Vygotsky was more than happy to call himself a Marxist. And in any event, leaving all political issues aside, the general frame provided by a "historical materialist" philosophy gave him the basis he needed for developing an integrated account of the relations between developmental psychology and clinical neurology, cultural anthropology and the psychology of art-an account that we in the West can afford to take very seriously today. This had nothing to do with the demands of ideological conformity, nor did it save the Soviet psychologists from trouble. In fact, the party ideologues became hostile toward academic psychology during the Stalinist years, especially toward the psychologists' unorthodox speculations, notably their weakness for Freud. (p.p. 56-57)

Friedman (1925) contrasted historical materialism and freudianism. He said:

> Historical Materialism proceeds from the study of the social phenomena of human aspirations to the satisfaction of basic life needs, taking them as already founded. In psychoanalysis the method of the formation of those aspirations is studied. Historical Materialism sets itself the goal of explaining the development of social conditions which determine the activity of man. Psychoanalysis, however, coming from social conditions already created, explains a way of their influence on the occurence of certain activity. Historical Materialism studies the influence of economic relations as a basis on all other spheres of activity in society. Psychoanalysis only has in mind their role. Historical Materialism limits itself by claryfing the influence of social conditions on the emergence of context of psychological phenomenon. Psychoanalysis tries to study methods (mechanisms) of formation of his forms..Historical Materialism relates man's psychology with sociology while (at the same time) Freud's psychoanalysis relates psychology of man with biology. To be more precise, Historical Materialism shows how the social environment creates the psychological being while psychoanalysis shows how biological factors under the influence of socialization are incorporated in the individual's psyche.

Toulmin (1978) noted the importance of the theoretical relevance of historical materialism to theories of human behavior and development. He cautioned scholars not to be distracted by their political attitudes toward the government of the USSR, and cautioned them not to make the same mistakes as the early British anatomists and physicians made when they denounced French physiology as "atheistical". Simon, of Leicester, England (1987), criticizing J. Wertsch's latest book *Vygotsky and the Social Formation of Mind* (1985) observed the distortion of Vygotsky's works by western scholars. She notes: "To revise and reorient another man's thought is a perilous procedure. When the operative philosophy is not shared, a leading interest in education is less well understood than the psychological aspects, and translation of Russian presents difficult problems anyway; misreading may result".

Marx's theory of society (historical materialism) played a fundamental role in Vygotsky's thinking. According to Marx, historical changes in society and material life produce conscious and behavioral changes in "human nature". Vygotsky was the first to attempt to relate these changes to concrete psychological questions. In this effort he creatively elaborated on Engel's conception of human labour and tool use as the means by which man changes nature and, in so doing, transforms himself. Vygotsky uses the concept of tool in a way that finds direct antecedents in Engels: "the specialization of the hand - this implies the tool, and the tool implies specific human activity, the transforming reaction of man on nature" (F. Engels, *Dialectics of Nature*).

> The animal merely uses external nature, and brings about changes in it simply by his presence; man, by his changes, makes it serve his ends, *masters it.* This issue aside, the general frame provided by a "historical materialist" philosophy gave him the basis he needed for developing an integrated account of the relations between developmental psychology and clinical neurology, cultural anthropology and the psychology of art-an account that we in the West can afford to take very seriously today. This had nothing to do with the demands of ideological conformity, nor did it save the Soviet psychologists from trouble. In fact, the party ideologues became hostile to the food as a physical thing from the actual consummation of the act, the consumption of the food. We should reach it and seize it with the teeth, and the very act of taking hold of it would be the act of eating it. But with the human animal the hand is interposed between the consummation and the getting of the object to the mouth. In that case we are manipulating a physical thing. Such a thing comes in between the beginning of the act and its final consummation. It is in that sense a universal. When we speak of a thing we have in mind a physical thing, something we can get hold of. There are, of course, "things" you cannot get hold of, such as property rights and imaginations of a poet; but when we ordinarily speak of things about us we refer to physical things. The characters that go to make these up are primarily determined by the hand. Contact constitutes what we call the substance of such a thing. (pp.184-85)

Vygotsky extended this concept of mediation in human interaction with the environment to the use of signs as well as tools. Like tool systems, sign systems (alphabetic writing, numbers) are created by societies over the course of human

history, and change with the form of society, and the level of its cultural development. Vygotsky believed that the internalization of culturally produced sign systems brings about behavioral transformations, and forms the bridge between early and later forms of individual development. Language facilitates the transformation of objects into ideas, concepts, and thoughts of consciousness. This process is not a linear one (material to subjective consciousness), but a dialectical one, in which thought and practice became interrelated, involving tensions and contradictions which produce change. In the tradition of Marx and Engels, Vygotsky views the mechanism of individual developmental change as being rooted in society and culture. Here again I find a parallel in Mead (1967). He said:

> There is, as we have seen, another very important phase in the development of the human animal which is perhaps quite as essential as speech for the development of man's peculiar intelligence, and that is the use of the hand for the isolation of physical things. Speech and the hand go along together in the development of the social human being. There has to arise self-consciousness for the whole flowering-out of intelligence. But there has to be some phase of the act which stops short of consummation if that act is to develop intelligently, and language and the hand provide the necessary mechanisms. We all have hands and speech, and are all, as social beings, identical, intelligent beings. We all have what we term "consciousness" and we all live in a world of things. It is in such media that human society develops, media entirely different from those within which the insect society develops (p.237).

Vygotsky repudiated the relating of Marxism to psychology, and was explicit on the way in he thought Marxist methodological principles might contribute to theory building in psychology: These principles are seen as being:

> necessary to discover the essence of the given area of phenomena, the laws according to which they change, their qualitative and quantitative characteristics, their causes; to formulate categories and concepts that are specifically relevant to them-in other words, to create one's own capital.

In much the same way, Marx analyses a single living "cell" of capitalist society, for example, the nature of value. In this cell he discovers the structure of the entire system and all its economic institutions. Those tiny details are essential to "micro-anatomy". "Anyone who could discover what a "psychological" cell is-the mechanism producing even a single response-would find the key to psychology as a whole" (Vygotsky's unpublished notebooks in Vygotsky, 1978). The dialectical materialist view has significant implications for the design of pedagogical theories. Dialectical materialism directs attention to a contradiction important for teaching: the nature of people is limited because of historical and cultural conditions, but also unlimited because of the possibilities of social, cultural and productive processes. This contradiction produces an optimism which suggests that upon the changing of social conditions, a better world can be produced.

Optimism is a part of child pedagogical psychology. Kirilenko (1985) points out that unlike idealists, materialists rejecting God do not seek assistance from powers of the other world. A consistent materialist believes in people, in their powers and abilities. The specific features of this optimistic world outlook, typical of a consistent materialist, directly stem from their view of the world and of people. In contrast to Western intelligence testing and behavioral psychology, which is concerned with where a child has been, the Soviet focus is upon how a child can become what society expects. Instructional activities are designed as important tools for this development. It is thought that the activity that a child carries out independently is first carried out with an adult. Vygotsky's discussion of the actual development, and the zone of proximal development, best summarizes this attitude. The relation of learning and development in school age children is the fundamental problem in the psychological analysis of teaching. Vygotsky unfolds two issues: first, the general relation between learning and development; and second, specific features of this relationship when children reach school age.

Any learning a child encounters in school always has a history. `When children begin to study arithmetic in school they deal with division, addition, subtraction, and determination of size. The initial mastery of the four arithmetic operations provides the basis for the subsequent development of a variety of highly complex processes in child's thought. There is no doubt that learning, in the preschool years, differs from school learning, which is concerned with the assimilation of the fundamentals of scientific knowledge.

By asking questions, children learn the names of objects in the environment. Through asking questions and gaining answers, children acquire a variety of information. Through imitating adults, and through instruction on how to act, children develop skills. Learning and development are interrelated from the child's first days of life.

In their play, children project themselves into the adult activities of their culture and rehearse their future roles and values. Thus, play enhances initial development, for in this manner children begin to acquire the motivation, skills and attitudes necessary for their social participation, which can be fully achieved only with the assistance of their peers and elders. During preschool years the conceptual abilities of children are evolved through play, and the use of their imagination. Vygotsky says that i magination is a new formation which is not present in the consciousness of the very young child, is totally absent in animals, and represents a specifically human form of conscious activity. Like all forms of consciousness, it originally arises from action. In the course of their varied games, children acquire and invent roles, or as Vygotsky describes it, "In play a child is always above his average age, above his daily behavior, in play it is as though he were a head taller than himself". While imitating their elders in culturally patterned activities, children generate opportunities for intellectual development. Through the dynamics of their imagination, and the recognition of implicit rules governing the activities they have

reproduced in their games, children achieve an elementary mastery of abstract thought. In this sense, Vygotsky argued, play leads development.

Vygotsky points out errors that Piaget, Koffka and Thorndike make in not distinguishing the specifically new elements that school learning introduces. School instruction and learning precedes a child's cognitive development. Vygotsky proposes a parallel between play and school instruction: both create a "zone of proximal development" and in both contexts children elaborate socially available skills and knowledge that they will internalize. While in play all aspects of a child's life become themes in their games, in school both the content of what is being taught as well as the role of the specially trained adult who teaches them, is carefully planned, and more narrowly focused.

Vygotsky defines two developmental levels: the first is called the actual developmental level - the level of development of a child's mental functions, established as a result of certain completed developmental cycles. When a child's mental age is determined by using tests, we are dealing with the actual developmental level. Giving children a variety of tasks of various degrees of difficulty, we judge the extent of their mental development. On the other hand, if we offer leading questions, or show how the problem is to be solved, and the child solves it, or if the child barely misses an independent solution of the problem - the solution is not regarded as indicative of his mental development. The assumption that what children can do with the assistance of others is more indicative of their mental development than what they can do alone has never been questioned before.

It was shown that the capacity of children with equal scores on tests of actual mental development to learn under teacher's guidance varied highly. Therefore, it became apparent that those children were not mentally the same age, and the course of their learning would obviously be different. This difference Vygotsky calls the zone of proximal development. "It is the distance between the child's actual

developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." Through this concept he telescopes, from the point of view of instruction, the central principles of his cognitive theory: the transformation of social process to an intrapersonal one; the stages of internalization; and the role of experienced learners.

The zone of proximal development defines those functions that have not yet matured, but are in the process of maturation. The zone of proximal development permits us to delineate the child's immediate future and his developmental state, allowing not only for what already has been achieved, but for what is maturing. The state of a child's mental development can be determined only by clarifying its two levels: the actual developmental level and the zone of proximal development.

Many educators, recognizing that the rate of learning may vary from child to child, isolate particularly "slow learners" from their teachers, as well as their peers, through the use of programmed and frequently mechanized instruction. In contrast, Vygotsky, because he views learning as a profoundly social process, emphasizes dialogue, and the varied roles that language plays in instruction, and in mediated cognitive growth. To implement the concept of the zone of proximal development in instruction, psychologists and educators must collaborate in the analysis of the internal developmental processes which are stimulated by teaching, and which are needed for subsequent learning. In this theory, then, teaching represents the means through which development is advanced; that is, the socially elaborated contents of human knowledge, and the cognitive strategies necessary for their internalization, are developed in the learners according to their "actual developmental levels."

In the Soviet Union there is a focus on the social and cultural conditions in which one lives. Also the question of education is related to conductive

environments. (see Tabachnik, Popkievitz, & Szekely, 1981). Soviet pedagogy is organized around the concept of activity emphasizing the importance of the social world in the development of individual cognitive processes.

The purpose of the study of dialectical materialism incorporated in pedagogical training is twofold. First, there is definite subject matter that a prospective teacher must master. It is related to the moral and political philosophy that is prescribed by the Soviet state. Without exception, all pedagogical students take courses in scientific communism, dialectical materialism, scientific atheism, philosophy and history. In addition, in pedagogical and psychological disciplines, topics are included incorporating more general views of social philosophy. For example, among topics found in the Vilnius Pedagogical Institute syllabus for pedagogical students are included "Marxist - Leninist Philosophy as a Methodological Basis," "Party Approaches to Soviet Psychological Sciences", and "The Psychic in Light of Lenin's Theory of Reflection," while the subject of upbringing is introduced into teacher education through diverse courses. In the Ministry syllabus for Age-Group and Pedagogical Psychology (1985) included "Modern Soviet Age-Group and Pedagogical Psychology" which emphasizes the most important theories of current Soviet psychology associated with Vygotsky. Another kind of integration lies in the specific activities and methods of analysis given to pedagogical students. There is an emphasis upon the social formation of consciousness and the unity of moral, political, and productive elements in human development. In Soviet education theory, for example, the focus is upon the teacher's role in establishing aims, interest, and motivation in a child's work. That theory implies concern for the social origins of psychological processes, and how teachers should organize school activities in order to promote motivation and interest. One might compare this with North American educational psychology, in which motivation and interests are considered to be individual attributes. The

social essence is underlined in other ways as well. In lectures and seminars students study such topics as the interrelation of people within collectives, the importance of labor in the formation of consciousness, and so on.

A large number of research studies were published in the Soviet Union from about 1920-1930 in the field of pedagogical psychology, and these studies contained research data which contributed significantly to modern psychology. At that time were developed the psychological and pedagogical theories which today form the basis of Soviet pedagogical science. In this connection it is important to mention the ideas of Makarenko, (1888-1939) in whose writings the Soviets found a blueprint for the formation of the new man. This Ukrainian school teacher was faced with the task, in the 1920's, of directing an estate of "besprizorniks"- children homeless as a result of the revolution, and who wandered the countryside creating their own laws for existence. In that setting Makarenko developed a system of character education whose principles would become the cornerstone of Soviet education in the twentieth century. Makarenko's ideas did not take hold during the Romantic period of the twenties when experimentation and Blonski's ideas about the flowering of the individual were endorsed by Soviet authorities. As a matter of fact, many educators opposed Makarenko's military approach and refused to take him seriously during twenties. On the other hand, Makarenko felt contempt for those who would analyse educational problems theoretically. Therefore, he searched for practical solutions to educational problems. The emergence of Stalinism during the thirties, and its consequent repression, provided a more suitable soil for the cultivation of the educational ideas of Makarenko.[1]

Makarenko accepted the broad tenets of communism yet without understanding Marxism-Leninism. He accepted the Marxist notion of man as a

1James Bowen (1968). Soviet Education: Anton Makarenko and the Years of Experiment. Madison : University of Wisconsin Press, p. 58.

social animal, and agreed with the view that man's significance was rooted in the environment. He rejected the Western regard for individualism and was quick to point out," in our pedagogy we can speak of bringing up a comrade."[2]

Makarenko supported the political aims of the Bolshevik regime and worked for years in his Gorky colony waiting to see their fulfilment through education. He felt that communism offered the opportunity for a more humane society. After seven years Makarenko recorded his results in a well known trilogy, Road to Life. Finally, through the organizational structure of the collective and the concept of the overall goal, Makaranko believed that he had developed a plan to implement the ideas of the Revolutionary leaders.

His psychological ideas focus on the shaping of the personality in collectives. Makarenko reacted strongly to the assertion by socio-geneticists that a collective is a collection of individuals reacting similarly to certain stimuli. He saw the collective as a meaningful complex of organized individuals. Petrovsky (1973) quoted Makarenko (1958): "And where there is an organization of a collective there are organs of a collective, there is an organization of authorized persons, that are trusted by the collective, and the question of the relationship of a comrade to comrade is not a question of friendship, nor a question of love, nor a question of being neighbours, but a question of responsible dependence".[3]

Makarenko (1958) paid great attention to the study of the qualities of personality, for he believed that the objective of the educational process is the development of personality. The features of a personality consist of " how a person feels in a collective, the character of his collective ties and reactions, his state of discipline, his readiness for action and its inhibition, capability of tact and

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[2] Bruce Baker, "Anton Makarenko and the Idea of the Collective,"Educational Theory, XVIII (Summer, 1968), 288.

3Makarenko, A.S. (1958). Collectted works in seven volumes, vol. v, p. 210 (in Russian). Academy of pedagogical Sciences of the RSFSR press, Moscow.

orientation, principle and emotionality perspective tendency"[4] Makarenko wrote another work in relation to the study of the method of the personality of pupils called *The Methodology of the Organization of the Educational Process.*

The motivational sphere of the personality, and the mechanisms governing the formation of its social qualities, were also studied by Makarenko. Of paramount importance was the problem of the formation and development of human needs. "A deep meaning of the work of education. consists in the choice and education of human needs, elevating them to high moral standards which are only possible in a classless society and which alone can stimulate man in the struggle for further perfection.[5] Makarenko's works contain a thorough study program related to motivation. Another important feature of Makarenko's work is overcoming the passive approach of the psychological study of the personality. " A knowledge of a pupil should come to his educator not in the process of an indifferent study of him but during a process of joint work and active assistance to him. The educator should view the pupil not as an object of study but as an object of education."

Upbringing: the formation of the socialist world view - requirements of the Soviet teacher. The optimism that is instilled in a new society and its individual members, grounded on the philosophy of dialectical materialism, takes a definite form in the Soviet educational system as the "all-round development of a citizen." Soviet theorists believe that school organization should incorporate moral, political and intellectual elements in order to form the consciousness and personality of the new socialist people. The qualities required of the teacher in such a system thus include the following:

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[4]Ibid., vol. v, p. 106.
[5]Ibid., vol. v, p. 91.

socialist people. The qualities required of the teacher in such a system thus include the following:

Social activity. In order for the teacher to perform effectively, he must possess certain personal features that are not inborn, but formed during years of study and in practical pedagogical activity. He must also strive to teach students by personal example.

Broad political outlook. A teacher has to possess a wide political outlook. He lives in a society, and prepares his students for that society, therefore, he has to understand the laws of that society's life, the means of its advancement, and any external and internal contradictions.

In order for the teacher to form a Marxist-Leninist outlook, to be able to evaluate social phenomena from the class position, a teacher has to master philosophical, economic and socio - political ideas then convert them into personal norms of behavior.

Teacher's erudition. In order for a teacher to succesfully convey to his students the values of scholarship, he himself has to master such material himself. Only then he will be able to teach scholarship in other than a merely formal manner.

A teacher cannot be a narrow specialist. A few years ago a teacher was the only source of knowledge to his students, today students acquire knowledge outside, through mass media, television, radio, cinema. Therefore a wide scholarly outlook in teachers attract students. Such a teacher easily finds a common language with students, and thus they study more earnestly.

Moral purity. Parents entrust to teachers their greatest wealth - children, and they want their child to be taught by a person of impeccable morality. This requirement is legislated by law: a person who violates the norms of socialist morality has no right to do pedagogical work.

One of the main moral features of a teacher is sensitivity to people, and particularly his students. A good teacher always understands what the student is going through, and knows how to help him.

It is of no less importance to believe in a student's capabilities, to see his positive features, and potential. Such a positive attitude requires faith in the teacher's role, and perseverence in overcoming the differences students face. A teacher has to be honest with his students, respect his personality, yet also be demanding.

Aesthetic culture. Teachers must see beauty everywhere, and teach this ability to the students. What is most important, then, is the development of an aesthetic relationship with reality, a sensibility to beauty, and an ability to feel pleasure in developing this relationship in students.

Pedagogical Mastery. The teacher's activity is complex, and therefore requires professional knowledge. Such knowledge should include the following points.

1. To be able to analyze a student's personality and the direction of development that will be most fruitful to both the student himself and society as a whole. Such analysis should include an awareness of the student's personal interrests, strengths and weaknesses, personality, and history.
2. To be able to plan and carry out a full effective curriculum designed to best serve the directions and needs of the students in reaching their goals.

3. In order to most effectively carry out this curriculum, the teacher should have a wide range of materials and methods for presentation of course content and student motivation. The teacher should encourage independence, yet be capable of organizing extracurricular activities, as well as offer advice on scheduling so that no one aspect of the student's life is neglected.
4. In order to actually carry out the first three steps, and especially the latter two, certain personal and interpersonal skills will be helpful, such as good speaking ability, and a knowledge of gesture and body language is important in offering information in a clear, unthreatening fashion.

The philosophy of dialectical materialism implies moral, social, political and philosophical positions. The task of teaching is to create an environment that absorbs and transmits this outlook. The purpose of upbringing is "to take an active stand for living" in which the dialectical materialist world view and moral code are manifested. Classroom and extracurricular activities should be planned so as to convey to the young the attitudes and relationships required by Soviet society.

Conclusion

In this chapter, educational reforms from 1984, regarding teacher training in specialized professions were introduced. These changes affect all spheres of human activity - economic, educational, cultural and scientific, requiring highly educated specialists. The new reforms are closely tied to the philosophy of the state, and are applied in specialist training based on the Marxist philosophy of Dialectical Materialism. This philosophy is based on the social and historical development of thought, personality and learning, and is ultimately intended to help teachers prepare the finest Soviet citizens. Initially we have identified who these teachers are, their origins, communal value, and thus status in Soviet society. Further, because of their importance, the expectations these teachers must meet

were presented. Finally, the contributions of these specialists to childhood education have been considered.

Teacher education is organized under the USSR Ministry of Education. In response to national need, this Ministry regularly develops, implements and evaluates the national curriculum. The main thrust of this revised curriculum is the Soviet emphasis on the collective, and the need to nurture and maintain moral integrity of the nation. This is in contrast to the North American method, where individual development is emphasized, rather than one's role in the overall social matrix. In the USSR, the pedagogical system developed by Vygotsky focuses upon the individual as a vital cog in the community, that is, a holistic approach. In contrast, we have seen how Freudian philosophy is inevitably inadequate for Soviet theory as an explanation of development and social interaction. The essence of existentialism is extreme individualism and is opposed to collectivism. They reject the possibility of reshaping people through social structures and influences. Neo - Thomist pedagogy places "God's revelation" above science. Russians hold that ideology not progressive. They consider that neo - Thomism approach makes the child self - centered, and further, prevents him from knowing the true happiness ensured when a child is engaged in meaningful activity with others with a purpose to achieve a common goal. However, man has a spiritual dimension to life.

Vygotsky emphasizes the social significance of man's being a tool making creature. Tool use not only distinguishes man from animal, but evolves his social and personal behavior. Vygotsky sees two categories of tool use. First, man mediates between himself and the world internally via the tool of language, and second, man operates externally via actual implements. Therefore, he explores the interplay of man, society, and the use of tools. Indeed, the significance of this same issue is seen in the work of Mead.

Vygotsky challenged the views of Piaget, Koffka, and Thorndike, by arguing that development should not be conceived of as only individual, independent, and inner. There must not only be recognition, but emphasis, upon what a child achieves in cooperative activity, which will indicate potential directions of personal development. Vygotsky's emphasis upon relational development links the child's mental evolution with practical action. Thus Vygotsky rejects the cultivation of isolated introspective activity. To Vygotsky, knowledge and skills in and of themselves are insufficient in developing a socially adapted person. He emphasizes promoting the mental activity of children in play, both with the child's peers, and under the supervision of an adult. In doing so, Vygotsky determined the distance between the child's actual level of development (as determined by independent problem solving) and the level of potential development (as determined through problem solving under adult guidance or in collaboration with more capable peers) as the zone of proximal development, or the zone of next development for which he became known. Through this approach he extends the central principles of his cognitive theory to include the transformation of social processes to intrapersonal ones, that is from the outer to inner, rather than moving from the inner (the individual) to the outer (the social). The zone of proximal development defines those functions in the process of maturation delineating the child's potential development. This approach "brings onto question all the theories about the relation between the processes of learning and development in the child". He also contended that school learning, by its nature, "brings something altogether new into the course of child development," making it necessary to determine "the specific relation" between learning and development "at school age." With this point of view, he discarded the practice of teaching being correspondingly adjusted to IQ level. Vygotsky emphasized that the zone of a student's proximal development

"allows for a formula which directly contradicts the traditional approach: the only good teaching is that which outpaces development."

The expectation placed upon a Soviet teacher is to effect the "all-round development of a citizen", which includes moral, political and intellectual elements, forming the consciousness of the new socialist people. The qualities required of the teacher himself include a broad political outlook and mastery of concepts of scholarship and its dissemination. A proficient teacher must be able to analyse a student's personality, plan school activities and utilize various teaching techniques.

Having identified the social and historical development of educational thought, and related it to the philosophy of the state and how it is best applied in teacher training, we can understand the social expectations these teachers must meet. The overall upbringing of a Soviet teacher is designed to help him master these essentials and lead to a program for the study of Russian language and literature.

CHAPTER 3

A More Detailed Example: The preparation of the Soviet Teacher of Russian Literature

This chapter concerns the professional preparation of a specialist in Russian literature and language. I have chosen this subject area because it best demonstrates what a Soviet specialist is considered to be, since it reflects those features of moral and intellectual development that are typical and representative of Russian culture and tradition. The description source is "Требования к профессиональной подготовке учителя литературы" (1977) [Requirements to Professional Preparation of Literature Teachers], Moscow, Ministry of Higher Education.

What follows is a description of the scientific-methodological preparation of students that is related to the continuous ideological/political focus of their education as well as to their non -academic work. Literature teachers are prepared for their careers in the following ways: professional/pedagogical, scientific (academic), methodological, and ideological/political. Each of these aspects of education is highly specific, and is represented by its own discipline in the educative plan of the faculties of Russian language and literature, but at the same time they are all closely interrelated.

As has been mentioned in Chapter 2, in the USSR the best teachers are not only good specialists in their professional sphere, but they are also the educators of the future shapers of the socialist society. Pedagogical educators take a clear moral stand in the preparation of teachers since they are considered to be the vehicles of the moral and educational values of their society. Nabokov (1988) said that reading classic Russian writers such as Pushkin, who has put an entire period of the 18th

century poetry at the service of his Russian muse (as opposed to ther French poetry of that epoch), 'is one of the glories of earthly life'. We are dealing here then with those specialists who are especially exposed to that privilege.

In this chapter I describe the educational requirements for students, as well as the educative and extra - curricular work intended to provide the knowledge and skills central to the teacher of literature. These requirements are followed, step by step, through individual course requirements by graduates of pedagogical institutes.

Methodological basics of a Literature teacher. The theoretical teaching courses, and the history of literature, are based on Marxist-Leninist principles of history and dialectics. It is also considered important for the student to understand the two main positions of Lenin regarding cultural heritage. The first position of Lenin underlines the significance of cultural heritage in the building of a new culture. Lenin states:

> Unless we clearly understand that only by an exact knowledge of a culture, created by the whole development of mankind, that by re-working this culture it is possible to build a proletarian culture; unless it is understood, we shall not be able to solve our problem. Proletarian culture is not something that has sprung from nowhere, it is not an invention of those who call themselves experts in proletarian culture. That is all nonsense. Proletarian culture must be the result of natural development of the stores of knowledge which mankind has accumulated under the yoke of capitalist society, landlord society and bureaucratic society. All these roads and paths have led, are leading and continue to lead to proletarian culture (1937, pp. 470-471).

Lenin's second teaching position concerning cultural heritage assumes that a cultural heritage presents an enormous value in itself. He stresses it in the following way:

> Marxism won for itself its world-historical significance as ideology of the revolutionary proletariat by the fact that it did

> not cast aside the valuable gains of the bourgeois epoch, but on the contrary assimilated and re-worked what was valuable in the more than two thousand years of development of human thought and culture"(Lenin,1937, p. 485).

Finding and researching the historical, socio-political, philosophical, and artistic relationships of a work and its "surroundings" is a basic task of the literature teacher. All of these related aspects of literature give an enlarged perspective to an artistic work; they cover the traditional and innovative, as well as athe essential attributes for literature which survive the centuries. In addition, the artistic interrelations between close literatures, for example, Russian and that of neighbouring slavic peoples, are studied, as well as Russian literature itself and that of the peoples of the rest of the USSR.

At the same time the literature teacher learns to appreciate the essential unity of an artistic text having its own laws of construction and movement, character development, and a unique language and style. Because of that, it is important not to "cut" a text mechanically, or in studying historical and artistical relationships, separate parts, but dialectically, to connect the individual aspects and themes into one whole.

Any work of art consists of a complex dialectical interrelation between ideology, theme, content, characters, and language. It is this dialectical unity of context and form that give an artistic work its life and influence upon the masses. Any significant work of literature reflects certain essential socio-political problems, the aesthetic and ethical concerns of an epoch and author. At the same time, any significant work always aims at the future because it reflects not only formed, but living characters and conflict, demonstrating the dynamic function of art. Major works of art, therefore, can be seen as important cognitive and educative tools.

The "projection" of a work is just as important to our time. Each epoch, each social group, and each individual, brings their own viewpoint and experience to

work of fiction. And that work, if truly a work of art, will transcend its own time and place, will live again through the fresh approach of each reader. A student must therefore be able to show the historical, as well as the contemporary, ideological and artistic significance of the work to be studied. These students are exposed to the vast ethical potential of classical and contemporary literature, and made aware of its role in instilling humanism, patriotism, spiritual endurance, and the moral potential of an individual.

Beginning in the first year, teachers start to explain the methodological basics of Marxist criticism, and, based on articles by outstanding democratic critics of the 19th century, evaluate the ideological and artistic content of works of the past and present. In the courses: Introduction to the History and Criticism of Literature ; Old Russian Literature and Folklore, students learn the shortcomings of formalism when all attention is given to "lower levels" of text - composition, syntax, strophics, rhythm, in isolation from the ideological-contextual essence of the work and in isolation from the external background. In essence, students are warned against the application of Chomskian mechanical principles of linguistic structuralism in analysis of an artistic text.

Further, especially in the course on literary theory and Russian literature of the 19th century, teachers pay particular attention to the undesirable methods of analysis, such as westernism, neoslavism, religious teachings. This methodological education continues until the student completes his term at the institute.

Requirements for the first year students The main task of teaching literature during the first year is to introduce new students to a scientific method of studying literature and to negate any previous training which may have taught a mechanistic view about the history of literature as being a simple sum of individual works and biographies of writers.

During the first lectures it is considered important to underline the dialectical relationships between history and art; the relationship of "human" and class features; the relationship between Russian literature and the literature of other peoples; of one writer with another; between poetry and prose; content and form; method and genre. It is important that a student understand the limits of historicity, yet at the same time see the originality of individual writers. In the process of these lectures students will acquire the basic knowledge and skills which they will be developing and perfecting in the later years.

Among the most important courses taught at this time is "Introduction to the History and Criticism of Literature" which outlines Marxist views and the principles of its teaching. First year students have to understand such problems as the interrelationship between class and people in art; the problem of the interrelationship between the writer's outlook and his artistic practice; and the dialectics of objective and subjective art. Particular attention is also given to the peculiarity of art compared with other forms of social product, and the degree to which this peculiarity can account for the complexity of art as well as its relationship to social reality.

The level of mastery of this course is expressed in the student's knowledge of literary history and critical terminology. The student's knowledge is judged on his ability to give examples, to grasp a variety of points of view (for example, in questions about style, method). A serious indicator of the mastery of this course is the ability to give concrete definitions of concepts wherever possible.

To be able to analyse literature, students must be aware of the literary sources which are relevant to certain literary problems; for example, they must understand the point of view of a literary work as an ideologically artistic whole, as well as the problems of composition, content, kind, genre, artistic speech and rhythmic intonation. During practical lectures a student "learns" to read literature as a structure. As a result of practice, students learn to see a work as a complex system

of elements which exist artisticaly only as a whole. Students acquire an understanding of analysis by studying the specifics of a given literary work, and learn to classify it through the use of various criteria. During the second semester of practicums in poetics, where, having already heard introductory methodological lectures, each student presents a paper wherein a general analysis of one artistic work is presented.

Practicums are conducted in a variety of ways involving independent student work. Among these methods are: familiarity with literary history and critical sources based on questions discussed in practicums; review of a given theoretical problem and a given artistic work; making notes; thesis; plans related to scientific research work; illuminating a problem that is presented during lectures or practicum; and, ability to use bibliographic inquiry and thematic catalogues for ordering literature into theoretical literary questions. Bibliographic inquiry in the Soviet higher institutions and libraries are still backward, since the library research systems are not yet computerized and also classified, and access to the study of such authors as Freud are restricted to the reader. which evidently does not help him to study the depth of an inquiry.

The initial work is followed by independent learning of sources of literary criticism and independent analysis of texts. Questions, suggested during lectures, allow the professor to determine the level of group preparation. Student performance is evaluated on the basis of objectivity, independence, and the ability to choose what is essential. One of the methods of determining the quality of the student's knowledge is by selective checking of notes, theses, plans, and bibliographies. These written tasks make it possible to judge the ability of the students to work with sources of literary criticism; their understanding of the depth of a given problem; and their ability to perform the academic requirements of the course, such as writing bibliographies.

The final method of determining the quality of student knowledge is by examination. During the exam students are given three questions; two of these are theoretical, presenting problems based on the lectures and the student's independent study of course material. The third question is of a more practical nature, and concerns an analysis of the rhythmical intonations and style of a poem, or an analysis of the composition and style of a short prose work, in relation to its ideological context.

As a result of taking courses in Russian Folk Literature, Old Russian literature, Classical literature, Literature of the Middle Ages, and The Epoch of the Enlightment, and in Foreign literature of the 17th-18th centuries, students are required to know the basic factual material: literary texts; biographies of outstanding collectors of folklore and writers; textbooks; lecture courses; articles and monographs; all chosen from the recommended list. Students must be able to restate the basic position in the works, and show knowledge of the chronology of historical events related to them.

Students must understand the relationship of literature and folklore with other kinds of art: music, theatre, and architecture. This understanding includes the ability to find information in the field of these arts, and the ability to compare them with literary works. They also have to analyze artistic works from a historical point of view, considering the world view of the author and the social atmosphere wherein the work was created. Students must also consider the artistic methods of the authors in revealing their ideology though characterization and the composition of the work. Students must be able to read and comment on texts of old Russian literature and foreign literature (from ancient times up to 18th century) and have the ability to use special scientific commentaries and critical terminology. They are also required to memorize certain poems, and excerpts from works of certain genres; works deemed ideologically valuable. The literature teacher must also understand the

essence of scientific argument, as well as in scientific research. The ability to work independently with resource material is vital.

One of the most important extracurricular activities in the student's first year at the school is as a young lector. At the Gertsen Pedagogical Institute those students who are capable prepare lectures and discussions under the guidance of their teachers. With their lectures prepared, these first year students appear at schools, as well as lecture on folklore at factories and plants. This form of non-classroom work helps student teachers practice teaching skills. It also helps them select and organize material, and by giving them an opportunity to speak in front of an audience, helps them to develop public speaking abilities.

The level of comprehension of first year students, as well as the quality of their knowledge, is checked during the semester. Forms and methods of such checking are as follows:

1. Listening to reports and term papers during practicums and selective checking of notes and term papers.

2. Conversation and colloqiums;

a) Conversation about works which students learn independently (for example: about the theoretical works of N. G. Tchernyshevsky, V. G. Belinsky, G. V. Plechanov);

b) Papers analysing books, articles and monographs that show insight into literary criticism;

c) Review of selected questions and problems which cause polemics in contemporary literary criticism.

3. Preparation of special questions. Types of special questions vary, but we can distinguish two general directions:

a) Questions which bring a student to analyze one or another branch of literature and literary criticism, and an acquaintance with specific methods of research;

b) Questions related to an author's vocabulary, and a detailed learning of one work and the available literature concerned with that work. While preparing special tasks, students engage in individual consultations among themselves. They prepare theses on questions and work which must be defended in open discussion with other students. Such a discussion not only acts as a control, but is also valuable for evolving the theses in a group effort.

4. Written works in literary disciplines undertaken during the year have to present the full picture of a student's knowledge in various aspects. This work is begun in the first year and is continued through all periods of teacher training. In each course the topic of control papers differs; at the second year they are determined on the results of the first year.

Requirements for second year students During the second year of literature studies, student knowledge becomes more thorough, and the skills for analysing literature acquired during first year, are reinforced. The character of the practicum, too, becomes more complex.

Knowledge of literary texts and development of professional skills. Students have to understand literary works as an organic unit. They have to be able to identify the artistic function in the context of a work; understand the specific nature of one writer compared to others, and indeed the artistic evolution of one writer; and be familiar with those processes characterizing artistic development in the first quarter of the 19th century.

Acquaintance with classical authors. During the second year students receive their first lectures on the various types of classic works . They are asked to understand the

significance of the introductory article, textual and historical/literary comments, and to be able to use different academic editions and variations of a text in the process of preparation for practical studies.

Understanding the significance of the writer's biography. An understanding of the biography and creative choices of a writer, although complex, is considered essential. Second year students have to acquire a knowledge of the general theoretical-historical aspects of such problems as " Man and Poet", "Poet and Citizen". On the basis of 19th century literature, students study path of each writer as a distinguishing feature of the literary process of his time compared with past literary epochs (in particular old Russian). They have to understand the individual development of the artistic conscience of an epoch in the creation of significant authors.

Understanding the essence of a classical work. During the process of studying literature, a second year student hopefully forms opinions about the value of literature in the moral, spiritual, and aesthetical searching of contemporary humanity. He learns to understand that the meaning of a work is not only realized in the context of its own historical epoch, but that a classic carries many potential meanings which can be applied to the contemporary reader. The precise distinction of classical literature from other forms of social conscience, and the understanding of the specifics of literary form and image related to civil history, as well as an understanding of the historical significance of the development of literary conscience are all viewed in relation to the various stages of an author's creativity. At the same time the student must be able to distinguish the essential differences between Russian literature and the literature of other nations.

Improvement of skills in the analysis of literature. The second year student continues to acquire analytic skills overcoming the tendency towards metaphysical analysis, mastering instead the artistic form. These skills, which a student begins developing

in the first year, are now significantly enriched. The second year student comes to understand that the creativity of each writer of the 19th century requires the study of particular ways and methods of analysis, the specifics of which are determined by the following factors: a) originality of the writing: b) place of analyzed work in the process of the creative evolution of a writer: c) general picture of artistic conscience of a given epoch: d) characteristics of a historical situation which received a specific break-through in an artistic work.

Understanding the specific nature of literary criticism. During the process of learning, second year students begin to understand new processes in the development, not only of arts, but of other forms of related social consciousness, particularly literary criticism. In order to analyse the works of Belinsky, Dobroliubov, Tchernyshevsky, students have to be armed with an understanding of the specific nature of literary criticism, ie. that it takes an intermediate place between art and public knowledge.

Analytical approach to learning both educational and scientific literature: ability to determine one's own point of view.. During the process of practical studies, students become acquainted with various types of criticism monographs and with various methods of research in literary criticism. As well, a student is required not only to express various points of view, but to interrelate them. The analytical approach to scientific and critical literature is designed to develop a student's ability to form his own point of view, and the ability to debate successfully. In short, the student's critical skills at this time become well honed.

Improving bibliographic skills. During the second year students widen their bibliographical knowledge. They learn to select among various editions. They also improve methodology in writing notes and theses, and also become acquainted with the various ways of organizing.

Ability to prepare a brief scientific report (written and oral). The integration of educational and scientific literature helps lead the student closer to the highest standards. A student passes from writing brief descriptions in the first year, to the preparation of a scientific report on a literary problem in the second. He brings all his acquired knowledge to this activity. The scientific report is seen as a preparation leading a student to eventually write independent course work.

Acquaintance with contemporary literature. Learning the literary process of the 19th century is accompanied by a deepening of the students's interests in contemporary Soviet and foreign literature; therefore various extra activities are encouraged, such as work in literature groups and literary evenings. Attention is paid in group meetings to the experience of systematic reviews of journals and special editions of literary criticism Русская литература, Литература ("Russian literature", "Literature"). Such reviews are considered a valuable enrichment of the general philological culture of students.

Acquaintance with the basics of classical pre-revolution Russian and Soviet Russian children's literature. It is addressed to children, teenagers and youth, as well as folclore literature, classical and contemporary literature, which organically entered a reading list for children. A significant part of a course is devoted to children of younger age that most express specifics of the subject. Soviet publisher called "Children literature" publish yearly approximately 500 children's book titles. It includes the best from the golden fund of Russian classical literature as well as classic works. The main purpose of this course is to:

1. To reveal specifics and basic principles of children's literature development as an organic part of a general part of culture.
2. To help students to understand an aesthetical nature of literary works for children, its educational, cognitive and pedagogical significance.

3. To introduce to students to the best examples of various genres, styles of writers, poets, dramaturgists, publicists.

4. To introduce to the main stages of literature of pre-revolutionary and Soviet periods, showing their historical, social objectivity.

5. To help future teachers to acquire to analyse of literary works considering their specific aesthetical nature, educational and cognitive functions.

6. To help future teachers to acquire critetia of selection of works for various children ages, to understand scientific basics of including of works of certain writers in the reading list for certain age groups. Reviews of historical development of literature are also included.

Ability to organize various kinds of outside class work in literature

These skills are achieved through literary newspapers, evening discussion groups and excursions which are put to practical use during summer pioneer practice. The forms and methods of determining the quality of knowledge of these students are the same as in the first year.

Requirements for the third year student. The third year of training plays a decisive part in preparing students in the field. In the third year students cover 19th century Russian literature, and the methodology of teaching literature at the secondary school. At this time the students write course papers on literature, and on methodology (or in the disciplines of psychology and pedagogy), participate in special seminars, and undergo their first teaching practice at school. The following qualifications are required in the third year.

Precise knowledge of the biography and creative path of a writer At this point the nature of the requirements become more complex. A student must be able to do comparative work, for example, give a comparison of several works written by a variety of authors, as well as compare certain stages of Russian and Western

literatures such as Romanticism in both the West and in Russia. The historical aspects have to be accounted for in an analysis of literary phenomena and the student must demonstrate the ability to show what preceded these phenomena, as well as subsequent developments. Third year students have to be able to explain the international significance of great writers and their works.

Ability to work with scientific literature. In the Soviet Union all fields of endeavour are approached from a scientific perspective. Literature is no exception. Here, the term "scientific literature" means a systematic analysis of all literature using academic methods. In the first year, students use a prescribed text-book; during the second year, however, they become acquainted with academic literature in a significant way and gradually add material to the text book. In the third year, the main form of the student's work becomes the study of selected works, monographs, and other scientific literature. A text book helps students to organize this knowledge. Moreover, in addressing several textbooks, the student learns to evaluate the strengths and shortcomings of each work.

Perfecting bibliographic knowledge. In the third year students learn to work freely with the library catalogue and with basic bibliographical indexes. When given the date, nature of a book, and its references, they have to be able to choose the necessary monograph for a theme like "Tolstoy", "Dostoevky", " Tchechov". Then they must know the methods of the main researchers in the field, be able to evaluate an article or monograph, and read such journals as Literary Issues (*Voprosy literatury*), and Russian literature (*Russkaya literatura*). The student must also be familiar, with and be able to use, the interlibrary loan system.

Skills of independent work. In the third year knowledge of the methodology of writing notes, including the design of a bibliographical card index, is required. As well, materials that are analysed during research have to be preserved for future use. General literacy, precision of organization, and adherence to rules of

bibliographical source description are the main requirements that must be demonstrated in the note system of every student.

Ability to prepare a report on issues in literary criticism. Using basic scientific literature, the student prepares a report in order to demonstrate his level of learning on a chosen theme and compares various points of view on questions that may be raised. The student not only has to prepare a report, but must be present at the discussion of another point of view concerning it.

Knowledge in contemporary literature. The third year student must also keep abreast of what is new in Soviet literature, follow what is written in Литературная газета [Literary Newspaper] and regularly read one or two literary journals.

Literary folklore preparation. A student is expected to know his city and surroundings well, and their historical and literary past, and be able to conduct an excursion demonstrating this knowledge.

A level of general cultural awareness. Practically speaking, it is difficult to determine the concrete requirements of the general cultural awareness of a student. It is important that a student attends the theatre, concerts and art exhibitions, that she reads literature on theatre, music and applied arts and generally develops an artistic taste. The student also learns to organize trips for students of pedagogical institutes to theatrical events in the big cultural centres. The student, therefore, has to be informed about such major cultural centres as the Tretyakov gallery, the Russian museum, etc. Each institute has a role in the aesthetic education of literature teachers.

Pedagogical direction of knowledge. While working in each literature course, and particularly in the history of Russian literature, a student also becomes aware of the problems associated with teaching it in the schools. In practical and special seminars, and in course papers, the student learns to integrate theoretical material with the concrete tasks of teaching literature. Learning at this point takes on a new

character. In the course on methods, students learn to use the structure and content of school programs along with the text books, and in the process of taking their first teaching practice, acquire skills in compiling lesson notes and acquire the basics of conducting a lesson. They also learn to use teaching aids and gain the ability to assess the pupils in their class. At the end of the third year, the student is theoretically ready to conduct a seminar at the school.

Skills of social activity. The literature teacher becomes an organizer of culture on a mass level not only at the school, but outside too. Therefore, an ability to edit a newspaper, to lecture to the population, write an article in the newspaper, and lead the discussion of a book at a library, become necessary requirements for the third year student.

Formation of elementary skills of scholarly research. It is necessary for future teacher's to be able to demonstrate skills in the area of scholarly research. Students are evaluated on their participation in expeditions to select folclore materials and their work in archives, and also in research seminars. In choosing the themes of such seminars, the following are to be taken into consideration: first, seminars have to have a research component and be created on the basis of the best interests of teachers; second, the themes have to be historically interesting and demonstrate some theory of literature; third, the themes of these special courses and special seminars have to bear a direct relation to instilling in the students a love for their profession.

Extracurricular work with students is related to educative seminars. Their purpose is to help broaden the scope of the educative process, expand student knowledge in the field, and raise the level of their general cultured awareness. As well, these various forms of extracurricular work help students acquire practical abilities and skills necessary to teach in schools.

Various extracurricular fields are considered with the aim of enhancing the study of literature, among them children's literature groups, foreign literature, methodology, organization of literary museums. Plans of groups are reviewed and confirmed at the department. Participation such as appearances at scientific conferences and at schools and organizations of a city and region encourages students in research work, and is basic to writing a diploma thesis or preparation of reports. Participants in these groups initiate meetings with relevant people, and hold literary evenings, reading conferences and tours.

Requirements for the fourth year students At this stage students acquire a wide knowledge of the history of socio-literary development, as well as of the creative development of the greatest Soviet writers.

Fourth year students require:

1. Knowledge of the methodological basis of artistic creation, Lenin's theory of reflection applied to arts.
2. Understanding of categories like ideology, class, nationality, as well as their significance to literature, understanding of genesis and features of social realism and its forms.
3. Recognition of the class character of Soviet literature and comprehension of it in relation to anti-Marxist theories and views.
4. Ability to generalize, summarize discussion problems (in the sphere of literary theory, critique arguments about contemporary works) and defend one's own position.
5. Ability to determine artistic taste in the light of contemporary ideals.
6. Understanding the main problems in the process of creation (artistic objectivization, intuition, artistic perception).

7. Ability to argue and give critical evaluation of contemporary Western concepts including Intuitivism, Freudianism, Existentialism.

In the study of Soviet literature, particular attention is given to the stages of the development of social realism which stress ideology, and the portrayal of reality in the Revolution. To understand the processes of development of socialist society, the aesthetic principles and moral basis of Soviet literature have to be seen as closely interrelated. Humanism, optimism, and the life affirming stance of Soviet writers, along with their patriotism and proletarian internationalism, are studied in this light.

These pivoting positions are outlined at lectures in the introduction to the course, yet the important point is that the student's knowledge is not abstract, but is strengthened through the study of the development of Soviet literature in different periods and by a concrete analysis of the creativity of her writers.

Together with all the above mentioned practices, new methods of studies help better prepare students to teach Soviet literature in the school. These methods include:

1. Lectures for fourth year students have to be more problematic and orientate students toward independent work while aiding them to develop their points of view on issues.
2. Practical knowledge requires study of Soviet party documents on questions of literature, and on which the students must demonstrate understanding of how it affects the system.
3. Preparation of essays in special historiograph seminars and courses as well as systematic reviews of the latest literature.
4. Acquaintance of students with new bibliographies of Soviet literature, and bibliographical research methods.
5. Follow current literary criticism in a chosen magazine: a. follow literary criticism and prepare review for a new work; b. organize a periodical

"Chronicle of literary life"; c. organize a literary artistic evening. One of the practical studies can be devoted to reference of new works in Soviet literature.

6. Understand the development of literature in the country, the relation of "the programmed" writer like "Gorki", "Mayakovsky", "Fadeev", also meetings with local writers, discussion of their works, conducting an interview, compiling of questioneers, notes of discussions, research of local archives.

7. In learning about Russian literature of the 19th century it is important to utilize all the possibilities of having students visit locations and museums of significance. Organizations of this sort of work with students will help them acquire skills for conducting similar work in the schools.

Because many fourth year students will practice at a village school (and consequently get a job there) they must understand something about village life and the conditions of work there.

Requirements expected of graduates of the pedagogical institute. Graduates of the faculty of Russian language and literature have to be active social workers, propagandists of ideas, and be examples to students. They must have a broad knowledge in subjects taught during all the years of teaching at the Soviet higher institutions. They have to be able to present that knowledge interrelate it with other disciplines, understand the dynamics of the historical and artistic processes, as well as the dialectical interrelation of the process and individual work. They must be able to analyze historically and dialectically literary phenomena in the light of the ideological/literary requirements of Marxist-Leninist science, and be able to apply this knowledge to any literary phenomena.

Graduates must be skilled in theory and practice and be able to pass this on to students. They have to be able to organize, be acquainted with literature programs and be ready to teach at least a faculty course at the secondary school. As

well, they must be able to organize basic kinds of outside class work with students. In addition students are required to take the following courses: Russian children's literature, Practicum and methodics in expressive reading, Basics of cinematography (optional), Contemporary literary Russian language (state exam), Stylistics of the Russian language, History of the Russian language, Methodics of teaching the Russian language in the national school, General linguistics, Literature of the Western Europe and North America.

It should be noted that these students are also trained to become teachers of language for Russian and national schools. The course " Contemporary literary language" is a central in the system of linguistic disciplines, which is coordinated with other courses (Old slavonic language) and serves as a basis for historic-linguistic courses as well as "Stylistics of Russian language', "General linguistic analysis of a text" which gives a systematic description of Russian literary language in its present state. A state exam is mandatory for this course. Language is viewed as a concrete historical category and the method of teaching it differs significantly from dominant North American Chomskian mechanistic, accumulative approach. G. Lakoff (Discussing Language) noted that transformational grammar only provides a recursive mechanism for generating sentences and there is nothing creative about this. It is like constructing a computer for arithmetic. The program could perform an infinity of arithmetical operations, but no one would say that it accounted for mathematical creativity. Soviets back S. M. Lamb's notion (Discussing Language) that people's capability to build new sentences presents only one side of creativity, the other more interesting form of creativity is our ability to create new idioms, which are new lexemes. Von Humboldt was talking about this form of creativity as well. Chomsky's formulation is unable to deal with the ability to create new idioms. There is also the ability that people have to create new concepts, new collocations in which we take two ideas that were separate and discover that they can

be put together and this involves a building connection between two different points in the conceptual network. The main shortcoming of Chomskian theory is that language is separated from man and the social milieu in which man exists. Language is viewed as totally autonomous, isolated from all relations following only its determined rules. Besides, it is said that language serves as a means of expression of thought and when used it is geared to various situations. But man thinks. He finds himself in many situations in the world he lives in. At the same time, man does not blindly follow recursive rules in his behavior. Chomsky thinks that communication is a secondary function of a language, while Martinet (Discussing Language) notes that language contains instrumental qualities and is in the first place an instrument of communication. He says: "An instrument that would serve only to help people think would never be a language. Let's define communication as the transfer of experience from one person to another". McCawley observed that language is closely related to culture, and that mastering language is equal to mastering knowledge, which is fixed by language. If we review language functions separately without relating them to man and his social characteristics, we inevitably ask why man should think, what is thinking. Why should he react to situations, why should he pass an experience from person to person and why should we acquire knowledge? Besides language affects man's ever-changing social, cultural and historical conditions. This concept was long ago determined by linguists who used a historical approach to language analysis. Humboldt suggested that language, like nature, presents itself to people, contrary to all that has been known and thought of, in the form of an inexhaustible treasure, in which man again and again discovers inexperienced riches and inexperienced feelings. The quality of language is expressed in a totally new form. Zvegintseva (1987) noted that in order to implement language activity it is necessary to have a mastery of language, which, in turn, is recreated and transformed in to language activity. This age- long relationship exists while language exists and

dissappears only with the death of a language. This intercausal relationship is the source of creativity in language, inseparable from man's capabilities, piercing the whole sphere of his life activities.

Conclusion.

The teachers of Russian literature reflect the moral and intellectual development of Russian culture. They are well prepared academically, methodologically and politically, to educate Soviet children. Their technique is based on Marxist - Leninist principles, and Lenin's maxims are prominent in their approach to pedagogy. Lenin insisted that proletarian culture taught in Soviet schools reflect the breadth of human knowledge accumulated over the ages, and he emphasized that this knowledge was the historical - materialistic synthesis. All Soviet educators begin their instruction with this political tenet in mind. In this way future citizens are reminded of their revolutionary heritage as they learn. Naturally the literature instructor must study and understand all aspects of the works they teach. His or her students benefit from this study learning from great authors the value of humanism, patriotism and moral issues. Other features of this curriculum include an examination of the dialectical relationship between men, and between classes. Future teachers compare and contrast Russian literature with that of other nations. The course "Introduction to the History and Criticism of Literature", " History of Literary Critizism", "Theory of Literature" is vital to the student's development. This knowledge is then applied to analysis of various works. Studying courses such as Russian Folk Literature, Old Russian literature, Children's Literature, Classical literature, Literature of the Middle Ages and The Epoch of the Enlightment, Foreign literature of the 17th century, "Introduction to expressive reading" students gain broad and comprehensive background. Also, their courses in criticism enable them to both evaluate as well as compare and contrast various works. However, it is also

the case that lack of computer facilities in libraries drastically slows research. As students progress they gain valuable lecture experience by speaking in factories. Such practice accustoms them to organizing material and speaking in front of audiences.

During their course work students appreciate the cultural scope and contemporary relevance of literature, an appreciation they must pass on. It has also been noted that students are expected to have a broad cultural background, and, to know the historical and literary past of their city so to conduct excursions for the benefit of their future students. Thus the literature teacher becomes an organizer of cultural activities outside school as well.

Pedagogical study includes learning the use of existing school programs in practicums, skills in compiling lesson notes, teaching methodology, as well as how to assess pupils.

In the fourth year students evaluate Western philosophies such as Intuitivism, Freudianism and Existentialism, and compare them with the Soviet methods of social realism which stresses ideology and the process of developing a socialist society, including its aesthetic principles and the moral basis of Soviet literature. Teachers of Russian literature become also teachers of Russian language for Russian as well as national schools. Language is viewed in the USSR as a concrete historical category and the method of teaching differs from North American dominant Chomskian method of transformational accumulative theory. Language is viewed as totally autonomous, isolated from all relations following only its determined rules. Chomsky thinks that communication is a secondary function of a language, while Martinet notes that language contains instrumental qualities and is in the first place an instrument of communication that transfers experience from one person to another. McCawley observed that language is closely related to culture and that mastering language equal to mastering knowledge, which is fixed by language. Besides

language affects man's ever-changing social, cultural and historical conditions. Humboldt thinks that language presents itself to people in the form of an inexhaustable treasure in which man discovers inepressed riches and inexperienced feelings. Zvegintseva noted that in order to implement language activity it is necessary to have a mastery of language, which, in turn, is recreated and transformed into language activity. This intercausal relationship is the source of creativity in language, inseparable from man's capabilities, piercing the whole sphere of his life activities. Having acquired a broad literary background, these students then undergo their final teaching practicums.

CHAPTER 4

BASICS OF THE EDUCATIONAL PRACTICUM

The educational practicum is included as part of the complete development of every Soviet teacher. Physical, psychological, spiritual and cultural values are included in educating teachers who then pass these values on to children, enhancing social cohesion. Thus teachers participate in the country's socio-cultural maintenance and evolution. The practicum has four phases: socio - pedagogical in the second year - twice; professional teaching in grades iv - vii and grades viii - x.

The student's first socio - pedagogical practicum involves leading a class in which he uses both individual and group exercises, as well as simply becoming accustomed to working with students. Similar practicums are held in pioneer or suburb camps, covering various topics such as labour and economic education, nature preservation, aesthetics, physical education and hygiene.

In the last two practicums students first teach in grades four to eight, and then grades nine to ten. In the first practicum students plan content, do scheduling, try various teaching methods, and the use of visual aids. During the practicum it is important they learn how to organize and style their course material to the different age groups of students. Evaluation of the student's practicum is based on in depth knowledge of psycho - pedagogical theory and creative independence in the selection of teaching materials. .

The aim of the Soviet school, as I have indicated earlier, is nothing less than the development of the well rounded personality. Not only is the aim to enhance the physical and psychological dimensions of the individual, but also spiritual and cultural values are to be developed.

In preparing the student for his or her educational practicum it is made clear that all aspects of a child's personality are to be considered. A typical form in

which one of these aspects is outlined is that by L. Jovaisha (1985) on physical education. He observes that in developing individual physical powers, a school performs the tasks of physical education, the features and values of which are shown in the following manner:

Physical education

Features	Values
1. Ecological	1.Physical and cultural adaptivity in the surroundings
2. Hygiene	2. Health
3. Physical	3. Athletical ability
4. Sports	4. Sports fitness

Toward the goal of developing the individual's psychological powers, the schools present psychologically educative tasks, and organize school work.

Psychological education

Features	Values
1. Mental	1. Knowledge, forseeing creativity
2 Operational, practical	2. Abilities, skills
3. Motivational	3. Self motivational
4. Developmental character	4. Behavioural style

The school prepares a growing generation not only for personal life, but also social life, which can be classified as microsocial and macrosocial. In microsocial life--family, school, plant, organization - an individual can exist successfully

only if he is able to use and adapt to societal values. Therefore, the school also organizes work through socially educational tasks:

Social - labour education

Features	Values
1. Economic	1. Preservation
2. Labour	2. Usefulness
3. Moral	3. Harmony
4. Disciplinary	4. Order
5. Collective	5. Unity

The school also focuses attention on general socio-political matters.

Socio-Political education

Features	Values
1. Ideological-political	1. Conscienciousness
2. Patriotic	2. Love of fatherland
3. International	3. Friendship among peoples
4. Legal	4. Righteousness
5. Aesthetical	5. Beauty

Society depends upon the education of the younger generation and also on the cultural education of adults. Education for both groups is provided by the secondary and professional schools. These schools organize education around the concept of value to the general society:

General and special (cultural) education

Features	Values
1. Scientific (nature, social,	1. Cognition of reality

humanitarian)

2. Technical	2. Ability to use technology
3. Industrial	3. Industrial experience
4. Philosophical, ideological	4. Wisdom, truth
5. Ethical	5. Goodness
6. Artistic	6. Aesthetic
7. Educational	7. Ability to teach and lead

In summary, a well rounded education is thought to be comprised of three main parts:

1. Individual (physical and psychological education)
2. Social (social work and social-political education)
3. Cultural (general and special education)

Interrelation among these features are conditioned by cultural, social and individual forces.

When a teacher or class supervisor performs educational tasks, they must consider both the specifics of teaching a subject and a sense of wider duty. The success of the school depends not only upon the individual talents of the teacher, but more importantly, by study of the latest achievements in the subject area. These must be considered in their broadest application to teaching and to the general social life.

The education of the whole person is conducted not only at schools, but in extracurricular activities and social organizations such as comsomol (youth) and pioneer organizations. Class or group supervisors are especially concerned with

developing a well adapted person, and themselves be active members of the school.

Student practicum. Approximately two-thirds of the teacher education program is in a particular discipline, and one-third in pedagogy. The curriculum content of the Soviet secondary schools is directed by the Ministry of Higher and Special Education, and the task of the teacher is to learn theory and appropriate strategies, and also to effectively implement the curriculum. There are intensive practica during the four years. In the first year, special sessions are prepared with children; for example, study of mathematics is organized around lectures related to a specific topic, such as the man's first flight to outer space. In the second year, three days per week during the semester are devoted to student t teacher practice, while the summer is spent working at a pioneer youth camp. An eight week student teaching practicum takes place during the final year, with supervision from a higher tinstitution. I will describe each of these practica below.

In the USSR, a successful student practicum has to demonstrate knowledge of theory and its application in a systematic way. Pedagogical practice is designed to increase the theoretical knowledge of students, as well as to instill a positive attitude toward the teaching profession. More specifically during their practice students are expected to:

-learn about the personality of a student, and a collective of students, for diagnostic purposes, and make projections regarding both individual and group development.

-plan specific educative tasks which take into consideration age, individual differences, and socio-psychological features of the group;

-implement course planning ;

-use various methods to shape the cognitive activity of students (set and decide educative tasks, choose and apply organizational forms and methods of teaching, establish subject relationships;

-develop the pupils' self educational process to solve relatively complex tasks;

-analyze and generalize on pedagogical experience and outline apppropriate experimental work;

-conduct mass-political and socio-pedagogical work among parents and communities.

The content of the pedagogical practicum is defined by the programs of the pedagogical institutes. The actual implementation of those programs is carried out according to instructions from the Ministry of Education of the USSR.

So the three general tasks of the pedagogical practicum are:

1. Application of theoretical knowledge acquired at higher institutions in teaching practice;
2. Formation and development of pedagogical knowledge, skills and professionalism;
3. Development of an interest in, and love for, the teaching profession.

Socio-pedagogical practicum. The pedagogical practicum of the Soviet system includes a socio-pedagogical practicum in second year and in summer sessions. During the third year, students work with grades IV-VII and then grades VIII-X in the fourth year. This first practicum is conducted in the student's second year. Students of pedagogical institutes undergo socio--political practice, which includes agitatory-propagandistic, labour and socio-pedagogical activity. This practice is organized to include educative and non-educative activities which serve to strengthen the relationship between the students' education, everyday lives , and the building of socialism.

The practicum is usually conducted in schools of general education, preschools, and also institutions such as kindergartens, Pioneer Palaces, sport schools, Houses of Young Technics, childrens' medical organizations, special secondary and professional-technical organizations. During the process of socio-pedagogical practice students:

-get acquainted with the work; teachers, and documentation;

-learn about children and young people.

During socio-pedagogical practice students may perform functions as a class leader, teacher's aid, or leader of a club. They may also take care of neglected children and adolescents. Each student chooses an activity, such as having in mind the preparation and interests of students. The class leader's program consists of: 1. Purposes and tasks of an individual and group; 2. Teaching content of a supervised group; 3. Forms and methods of work with a group; 4. Return information about educative results; 5. Planning and organization of new educative actions.

Students' practicum teaching is based on courses taken before practice such as: "Introduction to Teacher's Specialty", "Adult Physiology and School Psychology", "Pedagogics". In taking those courses, students get to know specifics of the pedagogical profession, its essential tasks, and content, as well as the methods of a socialist education.

In combining the psychological/pedagogical disciplines with socio/pedagogical practice it is intended that the students will be able to raise their practice to a more scientific level. Because of their knowledge in the psychological/pedagogical sphere, they can become more influential, and be better able to teach the theory and practice of a socialist education.

The system of preparation of students for socio-pedagogical practice also provides for their education at the faculty of social science, by organizing practica,

seminars, consultations and active participation in various types of other activities.

Student summer practicum. The second practicum, held in summer, conducted in the students' second year, is intended to broaden the professional - pedagogical knowledge and give experience in the independent organization of child and youth collective. These experiences can be gained in city pioneer and suburb camps. Camps are also provided in comsomol youth, sport and tourist places, in children's health squares, work brigades, labour and recreation camps, in out of school institutions (childrens' sport schools, excursion-tourist stations, Pioneer Palaces and Houses) stations of technical creativity, young technologists, and young naturalists.

During their practice, future teachers conduct educative work with children in the following areas:

-*educating children in the revolutionary labour traditions of the Soviet people* (meetings with war veterans; excursions to revolutionary places, solidarity rallies with peoples fighting against colonialism and facism; (friendship festivals) with pioneers and children of all ages).

- *labour and economic education* (conversations about labour and its socio-economical effectiveness, about representatives of various professions, gathering of curative flowers, socially useful work in the neighbouring colective farms, industrial excursions).

- *work of nature preservation*, (organization of forest week, bird week, making flower beds, discussion about preservation of nature and rational use of its wealth, excursions around the city, gathering of materials about the history and ethnography of the country for the use in the class and exhibitions, decorating expository corners, etc.);

-*aesthetical education* (discussion about art and poetry, story telling evenings, festivals of songs, competitions among young artists, attendance at amateur performances).

- *work that broadens one's outlook*(competitions, olympiads, knowledge days, extracurricular work).

- *physical and hygienic education* observance of sanitary-hygienic rules, sports and games.

In the summer practicum, students become familiar with the specifics of work in the pioneer and comsomol organizations (methods of preparing and conducting pioneer gatherings, comsomol meetings, marches of pioneer brigades, lines and songs, fireworks and festivities). They help to assure the unity of the collective by forging strong bounds with one another through such activities as group and individual work, in the form of election and training of the most active campers, and engaging the students in mutual activities. Students also participate in meetings and in pedagogical councils; they analyze the work experience of the best leaders, educators and methodologies; and they keep a pedagogical diary.

The system of preparation for the summer practice also includes study in the psychological/pedagogical disciplines. Students are prepared for the summer pedagogical practice in faculties of social sciences.

Teaching and educative practicum. Teaching practice designed to prepare students to perform the functions of professional instructors occurs during the final year of training, and is conducted under conditions approximating conditions students will encounter in their professional activity. This practice takes place in various types of secondary schools (elementary & secondary schools are secondary schools in the Soviet system), as well as in special and professional-technical institutions.

During the fourth year of studies, students, as a rule, practice on grades four to eight. During that practice they become acquainted with all aspects of teaching and the institution. Through personal files, diaries, class journals, and student work they learn about the students and teachers. They also learn by observing students both during the class and in outside activities, as well as through conversations with students, pedagogues, and parents. They then are required to write psycho-pedagogical descriptions of individual students. More specifically, all students are required during pedagogical practice to:

-plan and conduct lessons in their subject area, first in the lower grades;

-make drafts of those lessons, and later an expanded plan for other lessons;

-analyze lessons and out-of-class activities for a teacher in their specialty;

-analyze themes and parts of a study program;

-become more familiar with methodical literature;

-research and prepare materials;

-conduct lessons in ideological/theoretical and scientific/methodological theory;

-organize out-of-class activities in their subject field, eg. a subject evening, activity, or excursion;

-attend and analyze lessons of other students performing their practicum;

-act as a class supervisor. In this capacity students independently conduct various kinds of educative work with students; such as, conduct a discussion regarding the hymn and flag of the Soviet Union and the fifteen republics, or organize field trips and excursions to famous places; or learn the history of near-by collective farms and industrial organizations, or meet with veterans of war and labour.

-conduct parent/teacher interviews which involve visits to students' homes and conducting individual interviews with parents.

During the practicum, future teachers analyze their pedagogical activities and write pedagogical diaries. During seminars conducted by supervisors they collect materials on the themes relevant to their course work and participate in conferences on school practice. They also prepare an accounting of their practice, based on the results. These are used for exhibition of laboratories at the faculty.

In contrast to previous practice, this activity is characterized by a high level of student independence and responsibility, and a growing complexity of work.

In their final year, students take their practicum in grades eight to ten in the secondary schools, as well as in specialized and professional/technical schools. This is their fourth practice. It begins in discussion with the administration, teachers, class supervisors, methodologists, masters of labour education, and other pedagogues working at those particular schools. They get to know the material and technical inventory of the school, the plans of work of the institution, comsomol organization, as well as a variety of other details. They conduct lessons in their subject area for credit, conduct one educative activity with the class, and guide a selected student and write his/her reference.

All aspects of the student' s year are discussed, and lessons evaluated from subject, methodological, pedagogical and psychological points of view.

Interaction with the parents also forms part of the curriculum. The purpose of this activity is to strengthen the unity of the family and school, and encourage family responsibility for the education of their children. In the class meetings with parents, and in parental conferences, the propagation of political, scientific, psychological and pedagogical knowledge among the people takes place.

The criteria for the evaluation of the student's practicum.

Evaluation of the course work in the subject area.

An *Excellent* grade is given if a lesson is conducted at a highly ideological/political, scientific, and organizational/methodological level. These students must have shown that in consideration of the age and individual characteristics of their students, good discipline was preserved, and they were able to express in depth knowledge of psycho-pedagogical theory. It also means that they were able to demonstrate independence and creativity in the selection of teaching materials.

A *Good* grade is given if class activity is conducted at a high ideological/political and scientific level, if tasks were fulfilled, (but the methodology of the learner not entirely effective) and if the student exemplified good knowledge of psychological-pedagogical theory, and also showed independence in the choice of educative material, with only minor mistakes in the planning and conducting of the lesson.

A *Satisfactory* grade is given to students if they made mistakes in the realization of formative-educative tasks, and were not sufficiently effective in applying psycho-pedagogical theory in the methods and means of education. This means that a student teacher engaged the cognitive activity of students, but could not always establish a personal contact with them. They failed to adequately pinpoint mistakes and weaknesses while analyzing student works.

An *Unsatisfactory* grade is given if educative tasks are not well performed; if serious mistakes occur in the presentation of materials, if there is an absence of discipline, and if students do not know the theory of psychology and pedagogy nor are discriminating of their work.

Chapter 5
Findings, Conclusions, Implications

The aim of socialist society is to bring about a unity of physical and intellectual effort for everyone, and this is to be achieved by combining instruction with production. Increasing the proportion of students from peasant families in Soviet pedagogical institutions has been an objective of the government since the Great October Revolution in 1917. Prospective students are not restricted to the higher pedagogical institutions in their own republics. T hose who wish may enroll anywhere in the country. Especially if a student has ability, ambition and loyalty to the government, the opportunities to obtain a higher education in the USSR are ample. Kresin suggested that oral and written examinations in the Soviet system cause religious and ethnic prejudices influencing grading and admissions while praising the system of computerized Aptitude tests used in the USA. However, the Soviet system excells at identifying talented individuals and channelling them to the best schools. Universities in the USSR differ in academic preparation from pedagogical institutes, which in turn, usually have better understanding of professional pedagogical matters.

Prerequisites in humanities and sciences for applicants entering higher institutions in the USSR are indicated in the programs designed by the Ministry of Higher and Secondary education of the USSR, as outlined in Chapter 1. Language is the focus of education in the Humanities, forming the backbone of the entire body of humanistic subject matter. J. Frank (1986) noted Bakhtin's view that "language is utterance which involves the relation between the self and the other person; it is a living world exhausted between existing people, and can only be properly understood in the full range and richness of the moral and social meanings contained in discourse it is an 'utterance' involving an exhange between the artistic

self and the other, and must be understood within the ideological context of its time" (p. 58). The study of history in Soviet schools is intended to document the superiority of a socialist system over capitalism. Mehlinger noted important oversights in the topical treatment of the USA in the Soviet schools. The Soviet History curriculum, which was saturated with the faulty interpretations of Stalin's epoch, is becoming clearer in the USSR, especially with Gorbachev's criticism of Stalin's megalomania and his abuse of power internally and externally. The study of literature includes the method of socialist realism, which views all literature from a Marxist perspective. The historical principle is fundamental in the study of literary works in the Soviet schools. The level of training in science and mathematics in the USSR has allowed Soviet aerospace technology to progress beyond that of the USA. Aerospace exchanges between the two superpowers are taking place in the form of "microsymposiums". Wirshup suggested that the teaching of mathematics has been applied in the new curriculum and now surpasses in quality, scope, and range of implementation than that of any other country, and that comparisons are meaningless. I suggest adaptation of Soviet teaching methods in science as the present North American system may not seem to sufficiently challenge the average student and bores the bright students to death. While Soviet social sciences are too rigid and should be more open to dialogue.

Resnick D. (1977) noted that pedagogy is an extra-human force conveying culture by instilling methods that induce learning habits which promise success in the future. Literacy is tied to curricula that are framed by the pseudo-distinctions of disciplines, or fields of study, of knowledge camps. This mental bias to production satisfies immediate intellectual anxieties and needs by "coding" the future and the past in forms lacking in immediacy and sensuousness. The new textual literacy is based on the assumption that students must master the interpretative tools necessary "to understand an unfamiliar text, rather than simply declaim a familiar one."

Zaslove J. (1988) notes that one of the determining factors of the bureaucratic power of the textual critic in the West is the inability of teachers to recognize their distribution of cultural pedagogy in an impersonal market of ideas containing formalistic languages under disguise. Generations of students are taught literary works that they have no historical relationship to. The cultural worth of English studies as a profession is conveyed through the consolidation of analytical techniques applicable to the marketplace, conflating marketplace values and the individual reception of students treated as clients. Literacy is institutionalized through a legalistic, pseudo-scientific language where the ' self' is located in the shadow of authority.

Providing students assistance in the form of stipends is a significant contribution toward creating a more egalitarian society. Approximately 75% of all full time undergraduate students receive state scholarships or stipends, which are financed by the national budget. Students in the evening and corresponding programs do not receive stipends, however they are given paid leave by their employers for a project, consultation, and for preparation of examinations. Mc Fadden noted that secondary school teachers in the USSR in most cases have the equivalent of a Master's degree in North America. Peoples' Universities of Culture which provide non-credit, non-diploma adult education for Soviet citizens, help to reduce elitism and snobbery based on intellectual superiority. As well as monetary assistance, Soviet students receive various benefits such as free medical care and free use of educational facilities. Requiring graduates from full-time educational programs to work for up to three years in positions and locations planned by the government promotes a respect toward work by all graduates within society.

In 1984 educational reforms regarding teacher training in specialized professions were introduced. These changes affect all spheres of human activity - economic, educational, cultural and scientific, requiring highly educated specialists.

The new reforms are closely tied to the philosophy of the state, and are applied in specialist training based on the Marxist philosophy of Dialectical Materialism. This philosophy is based on the social and historical development of thought, personality and learning, and is ultimately intended to help teachers prepare the finest Soviet citizens. This thesis has identified who these teachers are, their importance, the expectations they must meet, and contributions of these specialists to childhood education.

Teacher education is organized under the USSR Ministry of Education. In response to national need, this Ministry regularly develops, implements and evaluates the national curriculum. The main thrust of this revised curriculum is the Soviet emphasis on the collective, and the need to nurture and maintain the moral integrity of the nation. This is in contrast to the North American method, where individual development is emphasized, rather than one's role in the overall social matrix. Lukacs (1987) posed a question: Who will save us from Western civilization? He proposed a concept of totality which comprises the methodological principle of the primacy of the universal over the particular, the whole over its parts. The notion of totality is historical, and its movement through history consists of a coming-to-consciousness of the makers of history, the proletariat: that 'totality of being' or *Gemeinschaft* is present in history only in the form of its dissolution in modern, bourgeois society; but the goal of history is to be recreated in the form of Communism. Lukacs perceived capitalism as making the totality of social life and existence into an object of domination, with the intention of transfering all activity into reified objectivity, all human subjects into passive spectators of their own existence; and the theoretical and practical critique of modern capitalism as a critique of the whole.

Pedagogical discussion especially sharply criticizes the administration of the national educational system in the USSR, as this system was the cause of national

stagnation. However, bureaucratism hinders change. Soviet society needs to create an educational administrative system based on a democratic basis, where bureaucratism and inertia are ousted, where the structure becomes simplified and controllable by teachers and society. Such an administrative system of education is the main precondition for teachers to function creatively.

I have looked through the pages of the Soviet edition of "Istoria pedagogiki" [History of pedagogics] (1981), editor Shabaeva. To my surprise I did not find even a mention of Vygotsky's name as a founder of Soviet Educational Theory in Psychology. Chapters relevant to the creation of the theory of school education and working systems of pre-school institutions, mention the name of Kornilov, who was the director of the Institute of Psychology in Moscow. At the Second Psychoneurological Conference Vygotsky's paper about the methodology of reflexological research and the teaching of psychology at the Soviet secondary schools as a binding tie between sciences and humanities was presented. Kornilov liked Vygotsky's paper and called him from Vitebsk to work at the Institute of Psychology. The USSR Ministry of Education, responsible for the publication of "Istoria pedagogiki", which is used for teacher training programs at Soviet pedagogical institutes, is evidently behind the times.

Stalin compaigned against experts and innovators, particularly in education, during the decades of his power when he chose to endorse the kind of teacher who taught in a traditional way. Even though Vygotsky's ideas and methods were politically correct in a Marxist-Leninist fashion, they were unsatisfactory and even antagonistic to Stalin's needs at that time. Socialism feared innovative pedagogy because it threatened his sence of control. Stalin could not afford the luxury.

Toulmin (1978) observed that Vygotsky became a target of Stalin's criticisms. Vygotsky sought to integrate natural and cultural phenomena, to blend two sciences. However, Stalin insisted that all phenomena were culturally conditioned, thus be

amendable to technological transformation by human intervention. After the great October revolution, in the postwar years, Vygotsky remained a non-person as a result of his views, and Soviet psychology then revived more on a physiological 'reflexological' or Pavlovian basis. Not until Stalin's death were Vygotsky's closest associates free to lecture about his work. If Vygotsky's ideas were neglected because of Stalin's position, then it is not surprising that Vygotsky has been little known inside the country and in the West. A breakdown in communication has kept American psychologists ignorant of significant developments in Russian psychology since the end of the World War I. Soviet work in psychology from 1920s and 1930s remain basically unknown in North America. Michael Cole, an editor of Soviet Psychology republishesd in English papers originaly written by L. S. Vygotsky written fifty years ago. He is doing this not as 'an archival effort', but because Soviet educational psychology from 1920s and 1930s has greater relevance for contemporary American research. Differences of theory, method, and philosophy between the two countries have given rise to differences in organization of psychological and neurological research. Intellectual and institutional factors have distracted most Western behavior scientists from the importance of Soviet work. As a result now Americans are ready to digest some of its results and incorporate them into their own scientific ways of thought. Simon (1987) notes that one of his books, innacurately translated in English as *Thought and Language*, was heavily edited because the translator thought 'polemical digressions' interfered with the train of thought. To revise and reorient another man's thought is a dangerous procedure, especially when the operative philosophy is not shared. Another book *Mind in Society: The Formation of Higher Psychological* process was edited with 'significant liberties' and 'omited material that seemed redundant to the editors and 'added material that seemed' to them, 'to make his point clearer', occasionally from work of others. The outcome is a significant degree of error. Nabokov (1988) called

this a criminal mutilation of a text: "As the law prohibits an individual from defaming his fellow man, how, in the name of logic, can you allow the first comer to assault the work of a genius, pillage it and mix in a generous portion of his own - making it hard to imagine anything more totally fatuous" (p. 39).

In the USSR, the pedagogical system developed by Vygotsky focuses upon the individual as a vital cog in the community, that is, a holistic approach. In contrast, we have seen how Freudian philosophy is inevitably inadequate as an explanation of development and social interaction. Bakhtin's viewpoint differs from the Freudian in principle: he analyzes the unofficial folk language formed in specific situations of unofficial social communication, like the festival, the carnival, the fair. Ivanov (1976) notes that Bakhtin's carnival language has at its disposal a number of symbols related to the 'I-experience', namely, images of the bodily stratum, but one cannot speak about the carnival language as 'subconscious' or as 'the collective subconscious' because carnivalesque symbols function in Rabelais as deliberate communicative devices. The essence of existentialism is extreme individualism and is opposed to collectivism. Both of these philosophies reject the possibility of reshaping people through social structures and influences. Neo-Thomist pedagogy places 'God's revelation' above science. Russians disagree, believing, the neo-Thomism approach makes the child self-centered, and further, prevents him from knowing the true happiness of engaging in meaningful activity with others toward a common goal. All these philosophies have been a part of continuing discussion in the USSR up till recently. Now it is clearly changing. Also they do not represent the most recent other philosophies that are known in the West. Vygotsky challenged the views of Piaget, Koffka, and Thorndike, arguing that development should not be conceived of as individual, independent, or inner, but what the child achieves in cooperative activity, by imitation . Vygotsky's zone of proximal development as 'the divergence between the level of performing tasks which are accessible under

guidance with adult help, and the level accessible to independent activity' presents an approach that 'brings into question all the theories about the relation between the processes of learning and development of the child.' He also observed that school learning 'brings something altogether new into the course of child development', requiring it to define the specific relation between learning and development 'at school age'. Based on this he rejected the applied method of teaching which is adjusted to IQ level. Vygotsky pointed out that recognizing the zone of proximal development ' allows for a formula which directly contradicts the traditional approach: the only good teaching is that which outspaces development.'

Another major literary critic of the 20th century - Michail Bahtin - receives a different reception in the West. J. Frank (1987) noted that Bakhtin accepted the Russian Revolution, and in his devotion to Christianity revered the infinite value of the human personality. Most importantly, Bakhtin remained true to his highest values 'great dialogue' of which he saw all human life composed, means to reject all those forces that impoverish the human spirit in Russia and elsewhere, and against which Bakhtin labored ceaselessly (p. 60). However, reviewing the program for pedagogical institutions on the course *Introduction to Literary Criticism*, in the section on genres of literature, we can see that only two books by Bakhtin *Voprosy literatury i estetiki* [Literary and aesthetical problems], published in 1975, is recommended, and in the course called *Foreign Literature of the Middle Ages and the Epoch of Rennaisance (in France) , Rabelais and His World,* which is hardly sufficient. [Nemo est acceptus propheta in patria] . Recently, in the West this author is considered to be a major figure in the field who brought to literary criticism many original ideas, among them *'zone of contact'* where the reader will participate, address, response . In the North American universities Bakhtin is still peripheral.

C. Gattegno in his lecture about an educated teacher at SFU, Burnaby on May 13, 1988 noted that what matters most to teachers is to accept responsibility, for as teachers what happens in the classroom has impact on every child's beliefs. Four components are essential to the class: t eacher, curriculum, approach and students. A teacher takes care of his qualifications, while curriculum is a historical phenomena that the teacher is given. Unlike the Soviet Union where education is free, Western society pays for schools, taxpayers want it to work so that children can eventually get into the job market. Curriculum targets are to prepare people for society and satisfy the conditions that employers and institutions put forth. Curriculum is the parcelling of knowledge through the perspective of curriculum designers. For example, Gattegno thinks that teaching of arithmetic before algebra is a historical error. The movement of eye and neck are guided by algebra. In order to deliver a syllabus teachers have to be psychologically ready to teach, have a clear curriculum and functional approach.

It is the teacher's breadth of understanding which helps to avoid an error. Soviet teachers living in an absolutist, ideological world, the world of a utopia that is totalitarian, coming from the state and society that interpenetrate are taught to be atheists. They base their ideological knowledge on Darwin's theory of evolution, and must pass on such ideas to children. All thought is ideological and what is related to it can be approached by investigating ideology. In the West, education philosophers do not talk about religion since God's existence cannot be proven. Hirst (1983) 'forms of knowledge' thesis as a philosophical foundation to the curriculum is inadequate and not total. It excludes the belief and existence of God. His educational philosophy has not reached the heights of early Lukacs. Here the West and the USSR reach the same conclusion through different means. The only person who freely spoke about God and Christianity was Ivan Illich at his lectures at SFU, Burnaby, Canada , in March, 1988. Georg Lukacs in The Theory

of the Novel saying that "the novel is an epic of a world that has been abandoned by God and a writer's characters are objective to the extent that man is free in his relationship to God . .because the lofty norms of his actions and of his substantial ethic are rooted in the existence of the all-perfecting God, are rooted in the idea of redemption, because they remain untouched in their innermost essence by whovever dominates the present, be he God or demon" (p. 91). A distinction should be made regarding those two authors: Hirst and Lukacs. The former is being referred to in the Western Education departments, which do not exist in the USSR, while the latter is refer red to in Literature departments of the West. While Soviet social sciences are too rigid and should be more free to the c choice of an ideological thought - belief of evolution of humanity or God's creation of the universe, and consequent transfer of opinions to the younger generation.

Teachers have to be specialists in their subject matter, bee sophisticated, and be able to see what schools are really all about. The teacher education curriculum is based on a useful education - content, not process. The teacher curriculum is based on the best material that has been written through the centuries. Teachers must talk sense - have notions about love and death, imagination, understanding and emotions. A teacher's k nowledge must be adapted to the child's needs and interests. Children are most fascinated with the unknown and the world of imagination . "Knowledge is only the raising of a veil, according to Lukacs. Arts and aesthetic consideration helps to understand the world, has the power to control and generate thought. Lukacs also thinks "that the very disintegration and inadequacy of the world is the precondition for the existence of art and its becoming conscious" and because it relies heavily on forms since it has to produce out of itself all that was once simply accepted as given. The impossibility of achieving the necessary object and the inner nullify their own means and therefore it "caries the fragmentary nature of the world's structure into the world of forms". The concept of

'should be' of its object can never arrive at a real definition of life and that is why the philosophy of art is so much more adequate to tragedy" (p. 38, 48). Here arts contribute greatly to education and the job of educators is to determine which sorts of things to utilize in teaching.

The thesis discussed 'a specialist' in a certain sphere of the humanities. Averintsev (1977) speaking about the specialist noted the thinker who could retain the whole in his mind and take the particular in its interpretative relation to the whole without being tempted by the simplified or abbreviated image of the world. A 'specialist' is concerned with particular problems which fall within his specialty. Bakhtin's particular specialty was the whole: that same 'unity of human culture' understood as a continuing dialogue which began before us and in which humanities students are called upon to participate. Memory as a part of the communication channel concept of a genre is central for historical poetics and is Bakhtin's major achievement. (Ivanov, V. V., 1976, p. 7) . Art is understood as meaningful gesture from human being to human being. Personality, according to Bakhtin's conception, has an 'inalienable nucleus' about which it is possible, and also morally permisible, to know only what the personality itself is willing to reveal within the free dialogue, while the means of this revelation remains inconclusive and open.

Language is viewed in the USSR as a concrete historical category and the method of teaching differs from North American dominant Chomskian theory. The main criticism of his theory is that language is separated from man and social milieu in which man exists. While Soviets believe that language is in the first place an instrument of communication that transfers experience from one person to another and is closely related to culture and that mastering language equals to mastering knowledge, which is fixed by language. Besides language affects man's ever changing social, cultural and historical conditions. Zvegintseva (1987) noted that in order to implement language activity it is necessary to have a mastery of language,

which, in turn, is recreated and transformed into language activity. This intercausal relationship is the source of creativity in language, inseparable from man's capabilities, piercing the whole sphere of his life activities. Bakhtin , in Rabelais and His World, thinks that languages are philosophies - not abstract but concrete, social, penetrated by a system of values inseparable from living practice and class struggle. That's why every concept or point of view in linguistic philosophies are drawn into an intense ideological struggle.

Glasnost' and Perestroika [Openness and reorganization]

As the restrictive atmosphere of Soviet society eases, the USSR progresses toward becoming a truly open and democratic society - one that places high priority on individual freedom, human dignity, free unfettered inquiry and an expanding public authority - that consciously and deliberately seeks its self-improvement by providing and using means for bringing about peaceful and orderly change -*glasnost* and *perestroika.* This task follows the CPSU 27th Congress in the January and April plenary sessions of 1984. There is abundant literature on this subject now which was not available during the writing of this thesis. The 27th Congress outlined a more liberal course and opened pedagogical discussion. Educational problems became of interest not only to sociologues, philosophers and economists, but also leaders of the industrial collectives. The June, 1987 Central plenum of the CPSU stressed that "Having begun the reform of the secondary and higher institutions, we are making a great step towards the creation of a contemporary educational system".

Pedagogical discussion touches upon the teacher's role in implementing *perestroika* and the speeding of strategy requirements. Finally, Lenin's evaluative concept of the teacher is being implemented. Lenin wrote that the teacher has to be raised to an unprecedented level, a level he has never known and cannot know in

bourgeois society. We have to reach this goal in a direct systematic manner and raise the student's spiritual level and prepare him for his calling. Only lately has the teacher's status changed.

Teachers today think in new ways and strive for change. The destiny of reforms are in the hands of the teacher. However, changing teacher psychology is more difficult than changing factory technology, for it requires a change of mind, and this means evolving the educational system.

Presently almost all higher pedagogical institutes in the USSR are coeducational and secular, with women having the same rights as men. However, women are dominating pedagogical institutions. They make up 73%, Anichas (1986), Smolowe (1988) which create a problem and is considered to be negative, especially in the process of teenage male education . Schools without men are like families withiut fathers.

A dominant concern in pedagogical discussion is *perestroika* - a change in the attitude toward children. The style of relations between teacher and student must change to alter the view of a teacher having absolute power over a child. Teachers and children have to shift from antagonism to working together. A. Zacharenka, Director of Tcherkas region, Sachnovke secondary school, said in [Pravda, December 22, 1986] , that school is not merely a building with instruction labs and visual displays . A school is a noble spirit, a dream, an idea that enchants three people at the same time: teacher, child and parent . In absence of these features it is less a school than an accounting office, where people come and leave by the bell, collect pay, get grades and count their days until the holidays, or minutes to the next bell. Another school teacher S. Amonashvili, in Utchitelskaya Gazeta [Teacher newspaper, August 18, 1987] , observes that teachers are too often angry at children, and seldom smile, rarely sympathize, and often instill fear. Vilnius Salininkai secondary school teacher A. Samolavichius, in Tarybinis

mokytojas [Soviet teacher, May 20, 1987], thinks that suppressive educational methods are ineffective, and create negative reactions. One way to combat this is to apply the pedagogical methods of Ushinski and Makarenka concerning a more humanitarian view towards children. This view also holds that a class supervisor' s work is evaluated not by the number and variety of activities, but on relationships between children in the class, intellectual and moral levels , and weather the group can work collectively. In the past the teacher lectured. V. Karankovsky, Director of Moscow 825 Secondary school, noted in [*Pravda*, September 15, 1987] that 'true pedagogical masters' were considered to be teachers who were able to keep their class silent for 45 minutes.

Michail Gorbachev [Tiesa, October 2, 1986], stressed at the Council of Soviet Social Science Chairmen, 1986, that "Dialogue, not monologue, is the necessary element of truly creative education". Dialogue helps ccreate a favourable emotional climate, helps avoid "psychological barriers ", and creates conditions for revealing the best features of a pedagogue. In order to implement dialogue a teacher has to see all his pupils face to face both in actuality and figuratively. As well Humanities specialists must smile more, be better listeners, take an interest in other people's problems, not to show anger, nor rudely demonstrate one's superiority. Although these points seem to be elementary, the very need of a course designed to implement them suggests how lacking they have been.

Another theme of pedagogical discussion is teacher creativity. It is believed a teacher becomes a true master when he becomes spontaneous. Indeed there are several envigorating sources that feed pedagogical creativity: social ordering for the educational system, new breakthroughs in science and education, past and present pedagogical experience, and finally, pedagogical and personal experience of each teacher. Yet what is creativity? Igor Bestuzhev writes in Uchitel'skaia gazeta [Teachers newspaper, September 2, 1987] , that a bitter fact of life is that 90% of all

work the world over is dull and oppressive. How are such statistics turned around? Moscow 1133 Secondary school teacher S. Marjasin said in [Sobesednik, No 2, 1987], that dissatisfaction with one's work (not profession) virtually never disappears. Thus the Soviet teacher must not limit himself to school, he must also be active socially and participate in clubs and sports and other activities. Only a healthy, well adjusted person can teach successfully and Soviet education can only improve with good teachers.

Today's teacher does not need any more recomendations, recipes and methodologies. More importantly, he requires self analysis and self criticism. Does a teacher understand his own duties and shortcomings? This self analysis should be systematic, without which growth can not take place. Differentiation in salaries is being proposed evaluating those who work creatively and have experience.

Selection to the pedagogical profession is taken seriously. K. Ushinski said that in education everything should be based on an educator's personality, because educative power is flowing from a living human source. No laws, programs, no artificial educative organization can change personality, only a personality can form personality, only character can form character.

What are the principles involved in selecting and educating Soviet teachers? There are two views: first, that the teacher's profession is massive, therefore one should not wait for skills, one can learn this profession as any other; second, the teacher's profession is based on skills, and one should be born with them. L. Kolesnikov, a teacher, in his article "School: in Changing Times ", in Russian, *Science*, 1987, p. 113, said that what is most important in teachers' profession is the *instilling of pedagogical direction.* This position does not diminish the professional significance of teachers, but on the contrary, opens possibilities to every willing person to master teaching. Attaining professional skills and retaining individual style is essential, and is what distinguishes the master from an ordinary specialist.

However, M. Schetin, a teacher in his article "To cover what is uncoverable" in Russian, *Science* , 1986, p. 102, said that teachers do not begin from children, but from love to one's fatherland. He understands that a teacher is a link, a conduit to his nation. He is a faithful and principled fighter for socialist ideals. Where love for children is born on the basis of citizenship, when love for one's country's future is essential to a child's spiritual elevation, only then we can say that we have a pedagogue. This is an essential difference from the N orth American concept. But the question arises whether citizenship is replaced by other former values such as religion .

With current *perestroika* and *glasnost* and educative reforms, Areshka, who is a professor at the Vilnius University, 1987, notes that the reorganization of all higher, as well as humanitarian education today, is related to the transition from general to specialized activity, from an extensive, to an intensive educational format. This transition is formulated to increase a student's independence and responsibility for the results of his study, decreasing his load of lectures and increasing time for his independent work. It is a direct responsibility of an instructor to help students to make this transition. The principle : the more the better, must be replaced by that of: fewer graduates but superior quality. The bureaucratic notion that the more knowledge we force into each student's head, the better teacher he will be must be revised. This outmoded and inefficient attitude explains the fact that during the past thirty years a number of subjects in the Humanities departments have nearly doubled. Areshka (1987) compared educative plans of 1952 and 1986: formely there were 26 teaching disciplines, today they have 40. An increased number of subjects increases the number of exams: formely there were 36, today - 41. In 1952 there were 36 credits, today - 51. Also, the number of mandatory lectures increased increased from 32 to 36 per week. Barringer, F. (1988) noted that Ligachev, No 2 Party Leader advocated a reduction in the number of required

courses for high school students, more spending and leeway for teachers, merging of Education Ministries and creation of regional, national councils of parents, teachers and local industrial representatives to monitor schools.

As mentioned, over bureaucratization has long been a problem. Those in the particular education departments are best acquainted with specific problems of specialist preparation. Therefore, one should trust their competence. Comparing educative plans of 1952 and 1986, the latter were prepared by departments in the fields. Those departments prepared educative plans and determined the number of teachers for each subject, secquence, order, and accountability, with exception of the general social science ones, which are not departamental responsibility. Yet in 1952 a plan had to be confirmed at the ministry, though there was freedom to argue and defend one's own variant of a plan. It is also now considered to accept more students and graduate fewer - only those truly able to acquire the basics of scholarship and independently evaluate cultural values. Areshka proposes that a practicum program be implemented including work in various cultural, media and social centres. An educator should be prepared from the first years of the university, therefore, his practicum should be organized in an educational institution. A humanities teacher should continue research work even after graduation. Areshka proposes the criteria of evaluation of a specialist with a well formed materialist Marxist view, the ability to organize, lead and have a positive influence on people, be cultured and most importantly, be a true professional in the field. A specialist must think creatively and be able to express himself.

The Soviet society is a modern and politically conscious system, based on 'democratic centralism', aimed at building an egalitarian socialist system and a new Man, yet easing on citizens having other than Marxist beliefs, among them teachers.

Implications

Comparative and intercultural influences clearly deserve further study. Cross-cultural, semiotic, and language studies and particularly study of Bakhtin's reception and cross-cultural influence, should lead to further understanding of the Soviet education system. Bakhtin's influence, after years of neglect in the USSR, is becoming felt on pedagogical programs. He is rehabilitated. Bakhtin's influence on Lotman is enormous, for example, and on the study of symbols and zhests [gestures] , [see Lotman (1986) and Bakhtin (1986)]. Further study of liberalization is, of course, necessary, as the flames of a gay carnaval fire burn an old world.

APPENDIX A

Knowledge Requirements Entering Higher Institutions in the USSR

Source: Stojamuju Egzaminu i Aukstasias Mokyklas Programos [The Entrance programs to higher Institutions] (1984). Vilnius: Lietuvos TSR Aukstojo ir Specialiojo Vidurinio Mokslo Ministerija, Metodikos Kabinetas. [Ministry of Higher and Special Secondary Education, Methodical Department].

APPENDIX A

Knowledge of Russian language. This information is based on the entrance programs to the Soviet universities, Lithuanian SSR (1985). Its significance can be marked in comparing this prerequisite knowledge with transformational-structural grammar studied in the Western universities, in preparing specialists in languages.

The entrance programs to higher institutions require the following knowledge of phonetics:

- sounds of speech and letters;
- hard and soft consonants;
- meaning of softness in the written language;
- stress and stem;
- unsterssed vowels and their transcription;
- ten vowels: a, e, ø, i, o, u, y, z, ¨, å;
- twenty one consonants: b, v, g, d, Ω, z, k, l, m, n, p, r, s ,t, f, x, †, c, ß, w, i;
- that letters y and q do not represent sounds;
- voiced consonants: l, m, n, r, b, v, g, d, Ω, z;
- voiceless consonants: p, f, k, t, ß, x, †, ç, ß;
- that sounds: Ω, ß and † are always hard in the Russian language, (e.g. Ωila, ßilo, Ωiznq, †ygan)
- that these words above have to pe pronounced as if a letter y followed letters Ω and ß: Ωil, ßil;
- that words ßel, Ωeltyj are to be pronounced as if a letter o followed Ω -sel, Ωeltyj;

- that letters ç and w in Russian are always soft, etc.

With respect to lexics, applicants are required to have knowledge of the following:

- word meanings, synonyms, antonyms, homonyms
- professional lexics
- dialectical, borrowed, obsolete words and neologisms
- ending and the core, suffix, stem, prefix of a word
- alternation of consonants and vowels in the stem
- the vocals o-a in the core of gor-gar, kos-kas
- writing of words with alternation o-a in the core of loΩ-lag, ros-rast
- writing of prefixes pri-pre
- kinds of word formation in the Russian language
- complex words and complex shortened words and their written form.

Applicants are required to have the following knowledge in morphology:

-Noun-significance and grammatical features

Animated and non-animated nouns

- Proper and common nouns
- Gender, number and case
- Types of declinations and writing rules of declined endings

Writing of main suffixes.

- **Adjective**
  - Significance and grammatical features
  - Qualitative, relative, possesive adjectives. Full and short forms.
  - Declination, comparative degrees
  - Conversion to nouns
  - Writing rules of declined endings of adjectves
  - Writing rules of the most important suffixes of adjectives.

- **Numerals**
  - Significance
  - Quantitative and ordinal numerals
  - Peculiarities of declinations of numerals
  - Writing rules of numerals

-Pronouns

  - Significance
  - Categories (classes)
  - Declination of pronouns and their written forms

-Verb

  - Significance
  - Grammatical features
  - Indefinite form
  - Transitional and non-transitional verbs
  - Kinds of verbs
  - First and second conjugations
  - Moods (indicative, conditional, imperative)
  - Tense, person and number (present, future)
  - Gender and number (in the past)
  - Participles and verbal adverbs
  - Writing of forms of a verb

- **Adverbs**
  - Significance
  - Writing of adverbs
  - Preposition
  - Understand use in the language
  - Various parts of language in the role of prepositions

- Writing of prepositions

- Conjugation

- Understanding and use in the language
- Co-ordinative and subordinate conjunctions
- Writing of conjunctions

- Interjection

- Significance and punctuation
- Relationship of words
- Agreement, government, adjoining
- Types (narrative, interrogative, motive)

-Exclamatory sentences

- Types (meaning, narrative, interrogative and motive)
- Parts of a sentence (subject, predicate-simple and complex, addition and attribute, adverb) and means of their expression
- Types of sentences: personal, impersonal, complete, incomplete, etc.
- Homogenious parts of a sentence
- Generalizing word with homogeneous parts
- Punctuation between homogeneous parts and with generalizing words.
- Isolated secondary parts (attributes, objects, adverbs) and punctuation.
- Apposition, introducing words and introductory sentences and punctuation.

-Complex sentence

- Types with conjunctions and their punctuation
- With conjunctions and conjunctive words
- Main kinds of subordinate clauses

Applicants must also have the following knowledge of speech

- Direct and indirect speech.
- Punctuation of direct and indirect speech

Knowledge of Foreign Language

Spoken language. Applicants are engaged in an oral examination that requires discussion of the following themes:

1. My Biography
2. My Family
3. My Appartment
4. My Work Day
5. My Parents' Work day
6. Holidays
7. My School
8. My Friend
9. My Favourite Book
10. My Favourite Writer
11. Excursion
12. Cinema
13. Sports
14. The Seasons of the Year
15. My Work at a Collective Farm
16. Lithuania
17. The Capital City of the republic in which one lives
18. My Native City, Village
19. Moscow-the Capital of the USSR
20. State Holidays
21. The Life of the Youth in the USSR
22. The Country of the Studied Language (ie. England, France, Germany)

23. The Capital of the Studied language (ie. London, Paris, Berlin)

24. Famous people of the Country of the Studied language

Required language habits are formed on the basis of grammatical materials: lexics 800 language units. Words composed from known stems with prefixes and suffixes, nouns with suffixes -er, -ing, -ment, -tion (sion, -ness, -ity; adverbs with suffixes -ly; verbs with prefixes re- adverbs with un, dis.

Grammar. Spoken language. Syntax.

The knowledge of a simple sentence (extended and not extended) with a simple and compound predicate. To know about the use of impersonal sentences like "It is warm". "It is raining". "It is late". To know about the use of compound predicate-"I want him to help me".

Morphology. Noun. The use of plural and forms of possesive case.

Article. The principle muments of the use of indefinite article.

Adjective. The use of a comparative and superlative degree adjectives with suffixes and auxiliary words.

Verb. The use of present indefinite for the usual, regular and consequent actions. The use of Past Indefinite to express actions that took place in the past in the completed time. Future Indefinite Time use for the actions that will take place in the future. The use of present Continuous for the actions that are taking place now. The use of Present Perfect for the action that took place in the past, but the results of which are being felt now. The use of present Indefinite to express actions of the future after conjunctions if and when. The use of present, Past, Future tenses, Indefinite and Passive voices.

Adverbs. The use of a comparative and superlative adverbs with suffixes and additional words.

b. Reading

Applicants are supposed to read and recognize sentences

containing past Continuous, Past perfect, Future in the past Indefinite tenses, also forms with-ing (gerund participle one).

Syntax. Aplicants are required to know and understand conditional sentences, expressing unreal and impossible actions.

Knowledge of History. The program itself is most voluminous and consists of nine parts. It should be noted that applicants from national schools must know the history of their republic in addition to a knowledge of the Soviet Union. They have to know the important historical events of their republic from the primitive society of that republic to the history of modern times.

1. Earliest history and the Ancient Russian State. Primeval order of the society in Russian territory. The development of the stone and bone techniques (prehistoric). Foundations of religion.

The begining of metal workmanship. Foundation of inequality. Dispersing of the primeval society and transition to the classless society, and the creation of the state.

1. The East slavs in the ancient Russian state. The slavs as the oldest inhabitants of Europe. The teritory of slavs, occupation, social structure, everyday life and religion.

2. The emergence of Feudalism and its development with the centre in kiev.

3. The downfall of Feudalism and the development of Capitalism in Russia.

4. The downfall of Feudalism and the crisis in Russia. The beginnng of a revolutionary fight against Tsarism and serfs.

5. The establishment and development of Capitalism in Russia. The stage of the revolutionary and democratic movement. The begining of proletarian-democratic fight.

6. Russia during the time of imperialism. The proletarian stage of the revolutionary movement and the downfall of Tsarism.

7. The great october revolution and the victory of Socialism.

8. The strengthening of the Soviet social society and its development.

9. The Soviet Union during developed Socialism and creation of the Communist society.

Knowledge of Mathematics

Examinees are required to know:

1. How to carry out operations with members, given in decimals and simple fractions; to round off numbers and the results of calculations with precision; to forsee an appropriate result and to be able to use tables.

2. How to identically change multinominals, fractions that have variables, expressions with degree, exponent, logarythmic and trigonometric functions.

3. How to draw rectilinear, quadratic, power, exponent, logarythmic and triginimetric function graphs.

4. How to solve first and second degree squations and inequations, equations and inequations brought together in them, to solve first and second degree equations and systems of inequations; also systems that are brought together in them (including simple equations and inequations with expressions of power, exponent, logarithmic anf trigonometric functions).

5. How to make up equations and systems of equations.

6. How to draft geometrical figures and to be able to solve simple construction tasks on the plain surface.

7. How to apply knowledge in geometry, solving apgebraic and rudimentary tasks of analysis; to apply methods of algebra and rudiments of analysis to a geometry problem.

8. How to caryy out operations with vectors (to add, substract, to multiply vector from a number) and use peculiarities of those operations.

9. How to use the concept od deduction in checking the increase (decrease) of a function, and in drawing graphs.

Applicant must know basic concepts and facts.Arithmetic, algebra and rudiments of analysis.

1. Numbers. Primary and complex numbers. Divisor. General divisor. General smallest divisor.

2. Indications of divisions from 2, 3, 5,and 10.

3. Rational numbers, their composition, subtraction, multiplication and division. Comparison of rational numbers.

4. Real numbers, their expression in decimal fractions. Comparison for real numbers. Composition of real numbers, subtraction, multiplication and division.

5. Intervals of numbers. An absolute value of a real number and its geometrical meaning.

6. Numerical properties. Phenomena with variables. Same equal phenomena. Subtracted multiplication equations.

7. Power with a natural exponent. Definition and characteristics of arithmetic root.

8. Power with a rational exponent. Power with irrational exponent.

9. Monomial and polynomial. Standard shape of multinomial.

10. Multinomial with one variable. Root of multinomial.

11. Function. Means of expressing a function. A domain of function, range. Function that is reverse to a given one.

12. A graph of a function. Increasing and decreasing of functions, periodicity, comparability, incomparability.

13. A sufficient condition in the increasing interval of a function. Concept of a function extremity. A necessary condition of function extremity (Fermet's Theorem). Sufficient condition of extremity. The greatest and the smallest significance of a function in the interval.

14. Definitions and main features of a linear quadratic $y=ax^2+ bx+c$, degree $y=ax^n$ (n=z) experimental $y=a^x$,a>o, logarithmic, trigonometric (y=sinx, y=cosx, y=tanx) and arithmetic root y= x root n(n=N).

15. Equation. Equation roots. Graphing of equations with two variables. Equivalent equations.

16. Inequalities. Solution of inequalities. Equivalent inequalities.

17. Systems of equations and inequalities. Solution of inequalities. Systems of equivalent equalities.

18. Arithmetic and geometric progression. Formulas for arithmetic progression's n member and first n members' sum. Formulas for geometric progression's n number and first n member's sum. The sum of infinite series in geometric progression.

19. Formula for the sum of two arguments and the difference of sine and cosine.

20. Sin a+ sin B, cos a+- cos B changing by product.

21. Conception of derivative function. Its geometric and mechanic meaning.

22. Derivations of functions $y=a^x$, $y=\log^a x$.

Knowledge of Geometry. Applicants must know:

1. Straight line, radius, segment, a length of radius. An angle, size of an angle. Vertical and adjacent angle. Circle. Parallelism.

2. Moves. kinds of moves. Axial symmetry, central symmetry, parallel move. Turn.

3. Vectors. Actions with vectors. Collinear vectors. Coplanar vectors.

4. Rounded figures. Polygon, its top, sides, diagonals. Axis and centres of the symmetry of polygons.

5. Triangle, its medians angle, bisectors, altitudes. Kinds of triangles. Middle line of triangle.

6. Quadrangles: parallelogram, rectangle, rhombus, square, trapezium. Middle line of trapezium.

7. Circle. Centre, chord, diameter, radius. Tangent to a circle. An arc of a circle. A sector.

8. Central and inscribed angles.

9. Inscribed and circumscribed polygons. Regular polygons. Length of regular polygon side given the radius of circumscribed circle.

10. Area of polygon. Formulas for triangle, rectangle, parallelogram, rhombus, square, regular area of trapezium polygon.

11. The circumpherence of a circle. The length of an arc of a circle. A measure of radian angle. Areas of a circle and sector.

12. Similarity. Similar figures. Relationship of areas of similar figures.

13. Plane. Parallel and intersecting planes.

14. Parallelism of straight lines and planes.

15. An angle between a straight line and a plane. Perpendicular to a plane.

16. Dihedral angles. Straight angle of a dihedral angle. Perpendicular into two planes.

17. Polyhedrons. Their apex, diagonals. Upright and slant prisms; pyramid.

18. Curred surfaces: cylinder, cone, sphere. Centre, diameter, radius of sphere and globe. Touching plane of the sphere.

19. Area and size of polyhedrons and curved surfaces.

20. Formulae for the area and volume of the surface of prism.

21. Formula for the area and volume of the pyramid.

22. Formulae of the area and volume of the surface of a cylinder.
23. Formulae of the area and volume of the surface of a cone.
24. Formula of the volume of a sphere.
25. Formulae for the surface area of the sphere.

Basic Formulae and Theorems: algebra and beginnings of analysis

1. Properties of function y=ax+b and its graph.
2. Properties of function y=k and its graph.
3. Properties of function $y=ax^2+bx+c$ and its graph.
4. Formula for the roots of a quadratic equation.
5. Vijeta theorem (direct and reverse).
6. Square trinomial division by rectilinear multicand.
7. Properties of reader inequalities.
8. Logarithms of product, quotient and degree.
9. Definition and properties of functions y=sinx, y=cos x, their graphs.
10. Definition and properties of function y=tan x and its graph.
11. Solution of equations sin x=a, cos s=a, tan x=a.
12. Identities.
13. Interdependence of trigonometric functions of the same angle.
14. Formulae for the sum of two angles and difference of tangents.
15. Trigonometrical functions for double and half angles.
16. Derivative of the sum of two functions.
17. Derivative of product of two functions.
18. Derivative of quotient of two functions.
19. Derivative of functions y=sin x, y=cos x, y=tan x, $y=x^n$ (p=R).

Knowledge of geometry. Applicants must know:

1. Properties of the equilateral triangle.
2. Property of points that are equally distant from ends of a segment

3. Properties of parallelism of a straight line.
4. The sum of triangle angles. The sum of the polygon's interior angles.
5. Properties of the interior lines of a triangle and trapezium.
6. The centre of a symetry of parallelogram.
7. Properties of parallelogram.
8. Properties of the middle perpendicular of the side of a rectangle.
9. Existence of a circle drawn around a triangle.
10. Existence of a circle inscribed in a triangle.
11. Property of a tangent circle.
12. Measurement of inscribed angle.
13. Properties of triangle similarities.
14. Pythagorean Theorem.
15. Cosinus Theorem.
16. Sinus Theorem.
17. Formulae for parallelogram, triangle and trapezium.
18. Properties of parallelism of a straight plane and an inclined plane.
19. Property of inclined plane parallelism.
20. Vector expansion by three independent vectors.
21. Property of a straight plane and inclined plane.
22. Three Perpendicular Theorem.
23. Property of Pependicularity of Two Inclined Planes.

Knowledge of Physics

The mechanics part consists of the following knowledge:

1. Material point. Trajectory. Way and improvement. Straight equal movement. Speed. Units of speed. Graphic representation of movement (graph of body cordinate that depends on time; graph of speed). Relativity of movement.

Speed structure. Equally increassing movement. Momental speed. Acceleration. Units of acceleration. A speed graph of equally changeble movement with initial speed. Easy fall of bodies. Acceleration of easy falling body.

2. Equal movement by circle. Linear and corner speeds. Their interrelationship. A unity of measurement of corner speed. Centripetal acceleration.

3. First Newton's law.

4. Mass. Power. The second Newton's law. Units of measurement of mass and power. Density. Unity of density.

5. Third Newton's law.

6. The law of universal gravity, gravitation constant, power of heaviness.

7. Power of resiliency. Huk's law.

8 Powers of friction. Coefficient of friction.

9. Impulse of movement. A law of tenacity of the movement impulse. The significance of K. Ciolkovski's works in the science of the cosmos.

10. Mechanical work. Power. Energy. Kinetic and potential energy. Energy tenacity law in mechanics. Measurement units of work energy and power.

11. Composition of power. A moment of power. Balance conditions for a body with a rotation axis.

Liquids and gas.

1. Pressure. Unit of pressure. A law of Pascal for liquids and gas. The principle of fixing of hydraulic press. Liquid pressing to the bottom and wall of a vessel. Communicating vessels.

2. Atmospheric pressure. Experiment by Toricelli. A normal pressure of atmosphere. Unsystematic unit of pressure-mercury column milimeter. Mercury and metal barometers.

3. Archimedes power effecting bodies in liquids and gas.

Molecular physics. Heat phenomena.

1. Basic theoretical propositions of molecular theoretical theory and its experimental substantiation. Brownian motion. Diffusion in gas, liquids, hard bodies. Molecular movement of gas, liquids and hard bodies. Interrelationship of molecules.

2. Laws of Boyle-Mariott, Gay-Lussak and Charles. Graphs of those laws. Understanding of absolute zero. Absolute temperature scale. Equation of ideal gas condition/state.

3. Quantity of heat. A unit of measurement of heat quantity. Specific heat of materials. Calculating formula of heat amount, necessary for body warming. Internal energy heat and its changes. The first law of thermodynamics and its application in gas.

4. Heat motors, its operating physical basics. Means of increasing useful coefficient.

5. Liquefaction. Specific liquefaction heat. Evaporation. Specific evaporation heat. Boiling. dependence of boiling temperature from pressure.

6. Absolute and relative hygrometer.

IV Basics of Electrodynamics.

1. Two kinds of electricity. Interaction of electro load. Colomb's law. Dialectic penetration of materials. Electro load units.

2. Electric field. Electric field power. Power of a point load of a field. Work when transfering load in the electric field. Understanding of a potential. Differences of potentials. Potential of a point load of a field relationship between the difference of potentials and strength of a field in the monolythic field. Electrical capacity. Units of capacity condensors.

3. Electric current. Strength of a current. Unit of a strength of an electric current. Condition of origins of electric current. Ohm's law for the circuit's part.

Resistivity of a conductor. Unit of resistivity. Specific resistivity. Dependence of specific resistivity from temperature. Rheostats. Consistent and parallel of connection of conductors. Sources of a current. Electromotive power. Ohm's law for all circuits.

4. Work and ability of electric current. Energy of electric current and its conversion to a different energy. Giaul and Lenz law.

A unit of current work and energy called kilowatt-hour.

5. Electrolysis. Laws of Faraday electrolysis.

6. Phenomenon of thermoelectric emission. Electric current vacuum. Electric lamps-diod and triod. Electronic pipe.

7. Mutual interaction of conductors when electric current runs through them. magnetic field. magnetic induction. Lines of magnetic induction. Magnetic field affecting current. Lorenzo's power.

8. Electromagnetic induction. Stream of magnetic induction. Power of electromotive force. Lenz rule. Phenomenon of selfinduction. induction. Unit of induction.

V. Fluctuation and Waves.

1. Harmonious fluctuations. period and frequency of fluctuation. A unit of frequency of fluctuation. A unit of frequency measurement. A period of fluctuation of mathematical pendulum. Resonator.

2. Electromagnetic oscillations. Oscillating contour. Energy change in the fluctuating contour. Dependence of a period of oscillator from inductivity and capacity.

3. Alternating current. Generator of alternating electric current. Period and frequency of alternating current. Effective values of current strength and the

tension, transformer. Conveyance and distribution of electro energy. The use of diode for smoothing (rectifying) of changeable electric current.

4. Cross and longitudinal waves. the speed of a wave. The length of a wave. Interrelation of the wave length, speed and period of fluctuation speed.

5. Waves of a sound. Speed of a sound. Strength of a sound and height of a tone. Reflection of a sound. ultrasound (features and application).

6. Reception of electromagnetic waves and radiation. Properties of electromagnetic waves. properties of electromagnetic waves. A. Popov-inventor of the radio.

VI. Optics.

1. Rectilinear diffusion of light. A speed of light and means of its determination.

2. Laws of light reflection.

3. Laws of light fracture. Indicator of fracture. Full reflection. Limiting reflection corner. Motion of rays in the prism.

4. Knowledge about lenses. Formula of a lense. Drawing of received images from lenses.

5. Projection apparatus. Photoapparatus. Magnyfying glass. Motion of rays in those equipments.

6. Dispersion of light. Spectrum. Spectroscope. Infrared and ultraviolet parts of a spectrum. Emission spectrum. Spectrum of absorbtion. Understanding of spectrum analysis.

7. Photoelectric effect. Works of A. Stoletov in the sphere of photoelectric effect. Laws of photoeffect. Equation of Einstein. Photoelements and their application.

8. The nature of electromagnetic light waves. Understanding of the nature of light wave and quant. Electromagnetic wave scale.

VII. Atom and nuclear atom physics.

1. Phenomenon confirming a complex structure of atom. Experiments of Rutherford. Structure of the atom-electronic casing. Postulates of boron. Emmision of energy and absorption of atom.

2. Experimental methods of observation of particles-camera of Wilson, Geiger counter, photoemulsive method.

3. Nuclear atom-protons, neutrons. Interelating energy of atomic nucleus. Chain reaction. Diverging of energy, distributing to heavy nuclei.

Knowledge of Chemistry. Applicants must know:

The object of chemistry:

1. Chemistry as a science. Physical and chemical phenomena. The place of chemistry among the science subjects. Main classes of nonorganic combination: oxides, bases, acids and salts.

2. Basics of atoms amd molecular sciences. Molecules. Atoms. Constancy of material structure. Relative atomic and relative molecular mass. law of mass tenacity, its significance in chemistry. Clay - a unit of material quantity. Clay mass. A law of Avogard and volume of gas clay.

3. Chemical element nuclear atoms and their electronic casing structure by the example of first and second periodical system elements. Isotopes.

4. D. Mendeleyev's discovery of periodic law and creation of its system. Formulation of periodic law. Significance of periodic law to an understanding of phenomena of nature. Periods, groups and subgroups, dependence of element properties from their position in the periodic system.

5. Types of chemical combinations: covalentic (polic and nonpolic), ionic, hydrogenous metalic. Examples of combinations of various combines. Valency and degree of oxidation.

6. Chemical element, simple materials, complex materials. Chemical formules. Their graphic representation. Calculation of mass of chemical element in combination according to its formula.

7. Classification of chemical reactions: joining, splitting (division), substitution, exchange reactions. Oxidation/reduction reactions. heat effect of chemical reactions.

8. Speed of chemical reactions. Dependence of speed on the nature, concentration, temperature of reacting matter. Catalysis and catalyzers. reversibility of chemical reactions. Chemical balance and conditions of its improvement.

9. Solutions and their significance in technology, agriculture and daily life.

10. Electrolithic dissociation. Weak and strong electrodes. Ionic equations of reactions. Properties of acids, bases, salts from the point of view of electrolithic dissociation theory.

11. Electrolysis of salt water solutions and melting. Processes that take place with the presence of catode and anode. A table of the activity of electrochemical metals.

12. Acid, base and amfoteric oxides. properties of oxides and means of producing them.

13. Bases, their properties and means of producing them. Alcali, properties of acquisition and application.

14. Acids, their properties. Neutralization reactions. Salts, their hydrolysis.

15. Hydrogen, its physical and chemical properties; reactions with non metals, metal oxides, organic matter. producing hydrogen in laboratory and technology, its application.

16. Oxygen, its physical and chemical properties. Alotrophy. Producing oxygen in laboratory and technology. Significance of oxygen in manufacture and application in technology.

17. Water, its physical and chemical properties, reactions with metals and oxides. Cristalohydrates.

18. Chlorine, its physical and chemical properties, reaction with organic and non-organic matter. Producing chlorine in industry by electrolysis. Chlorine hydrogen, its producing properties. Application of chlorine.

19. Halogens, their nature. Comparison of properties of fluoride, brown, iodium with chlorine properties. Combination of halogens in nature and their application.

20. General nature of periodical system's sixth group main subgroup elements. Sulphur, its physical and chemical properties. properties of sulphur hydrogen and sulphur oxides. Sulphur acids, their properties, chemical basics of producing by contact.

21. Nitrogen, its physical and chemical properties. Ammonia, its industrial synthesis, physical and chemical properties. Ammonia salts.

22. Nitrogen oxides and nitrogen acids. Chemical properties of nitrogen acid. Salts of nitrogen acids. Nitrogen fertilizer.

23. General nature of periodical system's fifth group's main subgroup elements. Phosphorus, its alothropical change, physical and chemical properties. Phosphorus V oxide, phosphorus acid and its salts. Phosphoric fertilizer.

24. Coal, its alothropic change. Chemical properties of coal. Coal and oxides, its chemical properties. Coal acid and its salts.

25. General nature of periodical system's fourth group main subgroup elements. Silicon, its physical and chemical properties. Silicon oxide and silicon acid. Silicon combination in nature, its application in technology.

26. Metals, their place in periodic system, physical and chemical properties. metal electrochemical activity line. Metal corosion and means of stopping it.

27. Alkaline metals, their nature based on place in the periodic system and composition of atoms. Combination of natrium and potassium its nature, its application, fertilizer of potassium.

28. General nature of periodical system's II group main subgroup elements. Calcous combination in nature, water solidity and means of its elimination.

29. Aluminium, nature of element and combination based on its position in the periodic system and composition of atom. Amphotericity of aliuminium oxide. Combination of aluminium in nature, its significance for technology.

30. Metals, their oxides and hydroxides, their properties of dependence discerned from the level of iron oxidation; chemical reactions of cast-iron and steel. Significance of metal and its fusion.

31. Metals and fusions in technology. Means of obtaining metals and fusions.

32. A.Butlerov's means of obtaining organic combinations, theory of structure. Properties of dependence of organic materials discerned from chemical structure. Izometry. Electronic nature of chemical relationships. Breaking of relation of organic combinations in molecules, understanding
of free radicals.

33. Homological line of saturated hydrocarbon, its electronic and special structure. metan. Alcaline nomenclature, its physical and chemical properties (burning, chlorinating, term decomposition). use in technology. replete carbohydrates in the nature.

34. Ethylene carbohydrates. Sp^2- hybridization. (sigma) o and t junctions. Ethilene. nomenclature, chemical properties (polimerization of hydrogen, halogen, halogen hydrogen. Application in industry.

35. Common chemical basics of large molecular combinations: monometer, polimeter, elementary chain, degree of polymerization, stereoregularity of polymer. Polietilen. natural rubber, its structure and properties. Synthetic rubber.

36. Acetilene, its properties of structure (sp-hibridization, triple juncture). Producing of acetilene by means of carbide.

37. Benzene, its electricone structure, chemical properties (substitution and connection reactions). Industrial production and application of benzene.

38. Natural sources of hydrocarbon: oil, natural and jointly separating oil, gas and coal. Distillation of oil.

39. Alcohol, its structure, chemical properties, reactions with alkaline metals, halogene hydrogen, etherification, dehydration, oxidation. relationship of hydrogen and its influence on the physical properties of alcohol. Industrial synthesis of etanol and its application. properties of glycerine.

40. Fenol, its properties. Interelation of atoms in the molecule. Chemical properties of phenol compared to properties of alcohol. Application of phenol.

41. Aldeludes, their structure, chemical properties. Producing and application of an vinegar aldehide.

42. Carbonic acids: carboxyl group structure, physical and chemical properties of carbonic acids. Basic unibase acid representatives: ants, acid,stearia, oneine acids.

43. Esthers and their structure. chemical features of eterification reaction. Fats-representing esters, role in nature, chemical processing (hydrolysis).

44. Glucosis, its structure, chemical properties (reaction with metal hydroxides, oxidation and reduction, turning sour), role in nature. Sacharosis, its hydlolysis.

45. Starch and cellulose, composition, chemical features, role in nature, technical application. understanding synthetic fabric.

46. Amine as organic base, its reaction with water and acid. Aniline, its production from nitrobenzol.

47. Amine acids, their structure, chemical properties. Synthetic fabric, kapron. Alpha-amine acids as units of Whites' structure. Structure of Whites and biological role.

Knowledge of Biology.

Botany: plants as a part of nature, their variety and expansion on the earth.

Blossoming plants and their composite parts.

Seed, its structure, composition, conditions of growth, intake of nitrogen, food and growth, time of seeding, depth of introducing seeds.

Roots, their structure, parts, general knowledge about tissue. Root suction of water and mineral salts. Fertilizers, breething of roots, etc.

2. Leaves. External structure of leaves. Nervate simple and complex leaves, their distribution. properties of leave's internal structure, skin and basic texture of leaf. Nutrition. water evaporation through leaves, falling leaves, significance to plants, nature and human life.

Stem. Understanding about its length. Leaf and blossom buds, their structure and distribution on the stem. growth of a stem, branching, formation of corona. Stems' thickening, movement of minera and organic matter along the stem, significance of a stem. Changed sprouts: rhizone, tuber, bulb, their structure, biological and economic significance.

Vegetative multiplication of blossoming plants. Multiplication of plants by sprouts, roots and leaves in nature and plants. Biological and economical significance of vegetative multiplication, formation of a stem and fruit. Significance of blossom fruit and significance of stamen to nature and people's lives.

Plant. Interrelation among organs, main life functions of plant organism its relationship to surroundings.

Classification of blossoming plants. A variety and classification of wild and cultured plants, knowledge about systematic groups-kind, generic family, class.

A class of dicotyledous plants. Families of cruciterae, blackthorn, leguminous potatoe, aster/thistle.

Monocolytedonous plant class. Families, specific features, its biological features and significance to agriculture.

Typical wild and domestic plants. Agricultural influence on the variety of blossoming plants. protection of rare animals.

Basic groups of plants.

Bacteria-structure and life, multiplication, spreading in the air, land, water, living organisms. Significance of bacteria for medicine, agriculture and industry. Bacteria causing illness and the fight against it.

Knowledge of silts, mushrooms, lichens, moss, ferns, etc.

Gymnosperms, angiospermae-their structure multiplication, spreading and significance to nature and economy.

Plant development on earth.

Plant community.

Zoology Significance of animals for nature and human life. Similarities and differences between animals and people. Classification of animals.
Protozoa type-description. Hizopod class. A simple amoeba-lifestyle, movement, feeding, breathing, disposing, multiplication, becoming a cyst.

Flagellum class. infusoria class.

Flat worm type-description, outward description, double-sided symmetry. Muscles. Nutrition, breething, disposing, nervous system regeneration.

Tapeworm class. Rounded worms.

Ringed worm type-description of a type, activity, nervous system, regeneration, multiplication, significance for land.

Molusca-description of a type.

Crustacea class, Arachnida class, insect class and description.

Lancelet class. Fish class, frog class, reptile class, bird class, mammal class-general description, significance for nature and people's lives. Human influence for abundance of them, their kinds and preservation.

III. Knowledge of human anatomy, physiology and hygiene as a science analysing the structure of the human organism, function and health preservation conditions. Hygenic aspects of preservation of surroundings.

General review of human organism-organs, recognition. Knowledge of structure, functions. Multiplication. reflex. Structure of tissue and functions. Tissues (epitelic, joining, muscular and nervous).

Support movement system and its significance. Human bone structure, joints, muscle nerve regulation, movement in joints, reflectorial field.

Blood, liquid of tissues, lymph.

Blood structure, groups of blood; significance of blood coagulation as a protective reaction. Eritrocites and leucocytes, their structure and functions. Anaemia. Flight with epidemics. Immunity.

Blood circulation organs: heart and arteries. Structure and activity of heart. Nervous and humoral regulation of heart work. Blood pressure. Hygiene of heart and blood artery system.

Breathing. Significance, breathing organs, their structure and functions. Voice apparatus. Gas circulation in lungs and tissues. Beathing movement. Volume or liveliness of lungs. General knowledge of nervous humoural breathing regulation. Breathing hygiene.

Digestion, metabolism, disposal, skin, nervous system, organs of feeling, high nervous system, internal secretion glands, development of human organism.

Knowledge of general biology-its significance to medicine, agriculture and other branches of national economy.

Science of evolution. Ch. Darvinism. Development of organic world. Proof of evolution of organic world. Human origin. Ch.Darvin about human origin from animals.

Chemical structure of a particle. particle theory. Structure and function of particles. Metabolism of substance and energy in a particle, multiplication of organisms and individual development. Origins of life on earth. Basics of genetics and selection. Inheritance laws. laws of changeability. Selection of plants, animals and microorganisms.

Interrelation of organism and surroundings.

Basics of ecology. Biosphere and people.

APPENDIX B

PLAN OF EDUCATIVE PROCESS

SOURCE: Schedule copied from Vilnius Pedagogical Institute, 1985.

PLAN OF EDUCATIVE PROCESS

Specialty **History 2108 with an additional specialty Pedagogics**

Schedule by semesters

	Exams	Credits	Course Papers	Total	Lectures	Labs	Practice	Seminars
1. History of CPSU	1.3	2		200	100			100
2. Marxist & Leninist Philosophy	4.5	3		140	80			60
3. Political Economy	6.7			140	70			70
4. Scientific Communism	8.9			80	40			40
5. Basics of Scientific Atheism	7			36	28			8
6. Basics of Marxist Leninist Ethics	7			36	24			12
7. Basics of Marxist & Leninist Aesthetics	8			36	24			12
8. Logics	2			40	28			12
9. Soviet Law	8			60	40			20
10. Economics of National Education	10			40	28			12
11. Foreign Language	4	1,2,3		230	230			
12. Physical education		1,2,3		140	140			
13. Computer Science & Technical Means of Education	7			54	18			36
14. Basics of Language Culture	1		36	6	30			
15. History of Russian and Soviet Culture	9			80	60			20
16. History of Russian/Native and Soviet literature	9			7050	20			
17. Introduction to Specialty				36	20			12
18. Adult Physiology and School Hygiene		2		54	42			12
19. Psychology	2,3	4	9	160	114			34
20. Pedagogics	2,4		9	140	8	20		40
21. History of Pedagogics	5			60	50			10
22. Methodics of Educational Work	6	4	9	200	60	50		30
23. Theory & methodics of Pioneer and Comsomol Work	5		90	40	20			30
24. Basics of Pedagogical Mastery	5		36	18	8	10		
25. Methodics of Teaching History	7		90	40	10			40
26. Methodics of Teaching Social Science	8		50	22	6			22
27. History of Ancient World	1,2		180	120	60			
28. History of Middle Ages	3,4		180	120	60			
29. History of the USSR	123456		5	580	350			230
30. New History of Asia &Africa	8,10		7	220	140			80
31. New History of Europe and America	5678			360	240			140
32. Historiography of the Soviet History	8	7		70	50			20
33. Historiograhpy of New History	9			50	40			10
34. Auxiliary Historical Disciplines	2			70	50			20
35. Archaeology of the USSR	1			40	40			
36. Historical Local Lore	1			36	24			12
37. History of the Comsomol & Pioneer Organizations	7			60	40			20
38. History of International Childrens' &Pioneer Movement	10			50	30			20
39. Disciplines Introduced Considering Peculiarities of Republics	46910			190	120			70
40. Disciplines by Choice	591011			300	200			100
Total hours of education	4740	2646		218	492			1384

Number of course papers	3
Number of exams	34
Number of credits	39

Educative practice
Museum, archive, archaeological practice-two exams, 8.9 seminars fifteen weeks
Pedagogical practice-6.8 seminars, fifteen weeks
Pedagogical-ten seminars, two weeks

State exams:
Scientific Communism
History of the USSR
Methodics of Educative Work
Pedagogics with Methodology of Teaching History

Elective Subjects
History of International Communist and Workers' Movement
Foreign Language
Physical Education
Basics of Lector's Mastery
Practicum of the Russian Language
Basics of Contemporary Production
Preservation of Work
Methodological Problems of Historical Sciences
Military-Patriotic Education
History of World's Artistic Culture
History of Russian and Soviet Art
Tourist and Excursion Work
Practicum in Artistic Creativity: music, dance.

Distribution of Hours in **Psychology** **Schedule** by Semesters

	Exams	Credits	Total	Lections	Labs	Seminars	First yr	Sec.yr	Third yr
General Psychology	2		70	48	16	6	2	2	
Age and Pedagogical Psychology	3		52	28	18	6			3
Social Psychology			20	20					
1									
Psychology and Ethics of Family Life			18	18					

Elective Subjects

Socio-Economic Politics of CPSU
Critique of Antimarxist Theories and Views
on the development of the Socielist Society
in the Courses of Social Sciences
Politics of the CPSU in the Sphere of the National Education
System of Education of Children on the Example of Lenin
Formation of the Communist Outlook of Students
Methodics of the Atheistic Education of Students
Atheistical Preparation of the Teacher
Methodics of the legal education of students
Methodics of Economic Education of Students
System of labour education of Students
Actual problems of Didactics of the Secondary School
Critique of Contemporary Borgeoise Pedagogical Conceptions
Methods of Learning of Present and Collective of Students
Psychology of Self-Education
Culture of Intellectual Work
Scientific Organization of Pedagogical Work
Schoolkeeping
Theory and Methodics of Teacher to Propagandistic Activity
History of International Relations and Internal Politics of the USSR
Critique of Borgeoise Conceptions in the Course of the History of the USSR
Lenin about Three Russian Revoliutions
Sources of New History
History of National Economy
History of Science and Technology
History of the Russian Army
Problems of Political Economy in the School Course-Social Sciences
History of Legal Ideas
Legal Preservation of Nature
Legal Preservation of Historic and Cultural Monuments
Socio-Pedagogical Problems of Law.

Plan of Educative Process
Specialty Foreign Language 2103

	Exams	Credits	Course Papers	Total	Lectures	Labs	Practice	Seminars
1. History of CPSU	12			120	60			60
2. Marxist-Leninist Philosophy	34			140	80			60
3. Political Economy	56			100	50			50
4. Scientific Communism		78		180	40			40
5. Basics of Scientific Atheism	5			30	28			8
6. Basics of Marxist-Leninist Ethics & Aesthetics		6		36	24			12
7. Soviet Law		7	40	28			12	
8. Physical Education		1,2,3,4		140			140	
9. Computing Science & Technical Means of Education		4		154	18	36		
10. Basics of Language Culture		3		54	6		48	
11 Introduction to Specialty				36	20	12		4
12. Adult Physiology & School Hygiene			2		54	42	12	
13. Psychology	23	3	6	140	94	34		12
14. Pedagogy	47	35	6	200	128	28	18	26
15. Methodics of Teaching a Foreign Language	6	5	6	110	80	30		
16. Russian Language	13	24	110	40		70		
17. Introduction to Linguistics	2			50	30		20	
18. General Linguistics	5			24	16		8	
19. Latin Language		12		70		70		
20. Practical Course of Foreign Language								
a) practice of oral & written speech	12458	367		840		840		
b) practical phonetics	13	24		122		122		
c) practical grammar	5	124		222		222		
21. Theoretical Course of Foreign Language								
a) History of Language	4	3		54	34		20	
b) Theoretical Phonetics	5			30	20		10	
c) Theoretical Grammar	7	6		60	40		20	
d) Lexicology	6	5		60	40		20	
e) Stylistics	7	6		40	20		20	
22. Interpretation of Text		8		24	14		10	
23. Theory & Practice of Translation			8		40	10		30
24. Comparative Typology of Native & Foreign Language	8			40	30		10	
25. History of Literature of Learned Language	4			64	44		20	
26. Culture of Foreign Country	7,8			70	50		20	
27. Second Foreign language	8	67		176		176		
28. Disciplines Introduced Considering Peculiarities of a Country		78		76	46		30	
29. Disciplines by Choice		78		50	34		16	
Number of Hours of Study	284			3562	1166	152		1968
Number of course papers				2				
Number of exams				34				
Number of credits				39				

State Exams:
Scientific Communism
Foreign Language
Pedagogics with Methodics of Teaching Foreign Language

Elective Subjects
Logics
Basics of Lectors Mastery
Physical Education
Preservation of Nature
Preservetion of Labour
Basics of Contemporary Industry
Basics of Pedagogical Mastery
Military-Patriotic Education.

Schedule

Disciplines	Exams	Credits	Course Works	Total	Lectiures	Labs	Practice	Seminars
Psychology:								
General Psychology	2			70	48	16		6
Adult and Pedagogical Psychology	3			52	28	18		
Psychology &Ethics of Family Life		3		18	18			
Pedagogics								
Pedagogics	4	3	6	80	54	10		
Methodics of Educational Work		5		60	24	18	18	
Methodics of Work of Class Supervisor								
Methodics of Work of Supervisor of Pioneer and Comsomol Work								
Methods of Educational Work in Outside School Institutions								
Methods of Labour Education								
Methods of Professional Orientation Work								
History of Pedagogics	7			60	50			10

Elective Subjects

Socio Economic Politics of CPSU
Critique of Antimarxist Theories & Views About Socialist Society in the Courses of Social Science
Politics of CPSU in the Sphere of National Education
System of Education of Students by Example of Lenin
Formation of Communist Views of Students
Methodics of Atheistic Education of Students
Methodics of Legal Education of Students
Methodics of Economical Education of Students
System of Labour Education of Students
Actual Problems of Didactics of Secondary School
Critique of Contemporary Borgeoise Pedagogical Conceptions
Methods of Learning About Personality & Collective of Students
Professional Orientation of Students
psychology of Self education
Psychology of Pedagogical Activity
Culture of Intellectual Work
Scientific Organization of Pedagogical Work
Basic Stages of History of World Literature
History of Linguistics
Problems of Contemporary Linguistics: linguistics of text, phonostylistics, sociolinguistics, psycholinguistics
Management of Cognitive Activity of Students in Learning Foreign Language in Secondary School
Outside Class Work in Foreign Languages,

Plan of Educative Process
Specialty 2116 **Russian Language and Literature in the National Schools**
(for persons who graduated from schools in Russian Language)
Schedule by semesters

	Exams	Credits	Course papers	Total	Lectures	Labs	Practice	Seminars
1. History of CPSU	1 2			170	84			86
2. Marxist & Leninist Philosophy	3 4			140	80			60
3. Political Economy	5 6			140	70			70
4. Scientific Communism		8 9		80	40			40
5. Basics of Scientific Atheism	7			36	28			8
6. Basics of Marxist Leninist Ethics & Aesthetics		8		36	24			12
7. Soviet Law		8		40	28			12
8. Logics		8		40	28			12
9. Foreign Language	4	128		220			220	
10. Physical Education		1234		140			140	
11. Computing Science & Technical Means of Education		7		54	18	36		
12. Basics of Language Culture		70		54	6		48	
13. Introduction to Specialty				36	20	12		4
14. Adult Psychology and School Hygiene		2		54	42	12		
15. Psychology	2 3	3	10	140	84	34		12
16. Pedagogics	4 7	35	10	200	128	28	18	26
17. Methodics of Teaching Russian Language at the National School	7	5 6	10	120	46	30	44	
18. Methodics of Teaching Russian Literature at the National School	7	6	10	84	44	16	24	
19. Expressive Reading		7		50	10	26	14	
20. Introduction to Linguistics	2			70	40		30	
21. General Linguistics	10			50	40		10	
22. History of the Russian Language	6 7	4 6		150	76		74	
23. Practicum in Russian Language	3 6 8	1245		430			430	
24. Contemporary Russian Literary Language	5 9	467810	6 8	508	192	104	212	
25. Stylistics of the Russian Language	9			60	20		40	
26. Linguistic Analysis of Literary Text		30		50	12		38	
27. Introduction to History & Criticism of Literature	2			50	36		16	
28. Theory of Literature	10			50	36		14	
29. Russian Folk Poetical Literature	3			36	20	10	6	
30. History of Russian Literature	34568910	7	6 8	414	250	56	108	
31. History of Foreign Literature	5	3467		180	130	20	30	
32. History of Russian Literary Criticism		10		40	40			
33. Children's Literature		4		50	50			
34. Literature of the Peoples of USSR	10			70	70			
35. Discipliones by Choice		56789		160	100			60
36. Disciplines Introduced Considering Peculiarities of Republics	9	11223		700	242		458	
Number of Hours of Total Education				4902	2143	384	1974	402

Number of Course Papers 3
Number of Exams 37
Number of Credits 62
Educative Practice 6,1
Pedagogical Practice 2,3,4,5,6, 8, 9 -4 8 13

State Exams
Scientific Communism
Russian Language
Russian Literature
Pedagogics with Methods of Teaching Russian language and Literature in the National School

Elective Subjects
Foreign Language
Physical Education
Preservation of Nature
Preservation of Labour
Basics of Contemporary Production
Economics of National Education
Basics of Pedagogical Mastery
Patriotic Education
Fine Arts
Basic of Cinematography
Aesthetic of Cinema & Television
Methodics of Expressive Reading
Methodics of Development of Speech
Aesthetic Education
History of the USSR
Basics of Oratory Master

Schedule of Subjects

	Exams	Credits	Total	Lections	Labs	Practice	Seminars	I	II	III	IVyrs
Psychology											
General Psychology	2		70	48	16		6	2	2		
Adult & Pedagogical Psychology	3		52	28	18		6		3		
Ethics & Psychology of Family Life		3	18						1		
Pedagogy											
Pedagogics	4	3	80	54	10	16		2	2	1	
Methodics of Educative Work		3	60	24	18	18					2
Methodics of Work of Class											

Supervisor						
Methodics of Work Of Supervisor of Extended Studies Day Groups						
Methodics of Pioneer & Comsomol Work						
Methodics of Educative Work of Outside Organizations						
Methodics of labour Education						
Methodics of Agitational Work						
History of Education	7	60	50	10	2	2

Elective Subjects

Socioeconomic Politics of the CPSU
Politics of CPSU in the Sphere of National Education
Critique of Antimarxist Theories & Views About Socialist Society in the Courses of Social Society
System of Education of Students by Example of Lenin
Formation of Communist Views of Students
Methodics of Atheistic Education of Students
System of Labour education of Students
Actual problems of Didactics of Secondary School
Methodics of Learning of Students' Personalities & Collectives
Critique of Contemporary Borgeoise Pedagogical Conceptions
Psychology of Self Education
Psychology of Pedagogical Activity
Culture of Intellectual Work
Scientific Organization of Pedagogical Work
History of Linguistics
Introduction to Slavic Philology
Norm of Literary Language as Historic Category
Latin Language
Psychology of Acquisition of the Second Language
Interrelation of the Languages of the USSR
Basics of Functional Grammar
Use of Means of Mass Communication in Teaching Students Russian Language
Actual Problems of Lexicology & Phraseology
Morpheme & Word-Formative Analysis in the School Course - Russian Language
Actual Questions of Methodics of Teaching Russian Language in the National School
Expressive Possibilities of Russian Text
Contemporary Soviet Prose

Contemporary Soviet Poesy
Literature & Cinema
Literary Local Lore
Moral problems in Contemporary Multinational Soviet Literature
History of Art
Outsideclass Work in Russian Language & Literature in the School
Scientific Organization of Work of LanguageTeacher
Theory & Practice of School Composition
Analysis of Literary Work at School

Plan of Educative Process
Specialty 2104 **Mathematics**
Schedule by Semesters

Discipline	Exams	Credits	Course papers	Total	Lections	Labs	Practice	Seminars
History of CPSU	1,2			170	84			86
Marxist-Leninist Philosophy	3,4			140	80			60
Practical Economy	5,6			140	70			70
Scientific Communism		8,9		80	40			40
Basics of Scientific Atheism	7			36	28			8
Basics of Marxist-Leninist Ethics & Aesthetics		6		36	26			10
Soviet Law		10		40	28			12
Foreign Language	4	1,2,3		224			224	
Physical Education		1,2,3,4		140			140	
Technical Training		7		36	16	20		
Preservation of Work		7		36	30		6	
Introduction to Specialty				36	20	12		4
Adult Physiology & School Hygiene		2		54	42	12		
Psychology	2,3	3	9	140	94	34		12
Pedagogy	4,7	3,5	9	200	128	28	18	26
Methodics of Mathematics Teaching	6,8	6,7,9	9	184	76	52	56	
Methodics of Teaching Mathematics & Computing Science	9	10	9	78	26	32	20	
Practicum in Solving Mathematical Tasks	1234	48810124		214			214	
Mathematical Analysis	6,7	5,7	8	604	330		274	
Algebra &Theory of Numbers	1245	1345	8	396	200		196	
Geometry	1356	12456	8	408	208		200	
Theory of Relativity & Elements of Mathematical Statistics				86	44		42	
System of Numbers	9	9		48	36		12	
Mathematical Logics & Theory of Algorhythms	4	3		84	60		24	
Computing Technics & Algoryth misation		2		50	18	16	16	
Basis of Informatics & Computing Technics	6,7	5,6	8	122	70	32	20	
Tcislennye methods	8	8		78	38	40		
Use of Computing Technology in Educational Process	10	9		94	30	44	14	
History of Mathematics		10		56	44		12	
General Physics	8,9	789		318	96	126	96	
Astronomy	10			70	36	34		
Disciplines Introduced Considering Peculiarities of a Country		1,8		100	40		60	
Disciplines by Choise		78910		168	66	68	34	
Total Hours of Education		4666		2110	482	1700	374	

Course Papers -2
Exams - 38
Credits - 56
Educational practice: 6 1
Educational practice: 7,9 4
Pedagogical practice: 2,3,4,5,4
6 8
4,9 11

State Exams
Scientific Communism
Mathematics
Informatics & Computing Science
Pedagogics with Methodics of Teaching Mathematics

Elective Subjects
Logics
Foreign Language
Physical Education
Basics of Culture of Language
Practicum in Russian Language
Basics of Lectors Mastery
Preservation of Nature
Basics of Todays industry
Economy
Basics of Pedagogical Mastery
Military - Patriotic Education
Organization & Methodics Outside
Class Work in Mathematic-Informatics &
Computing Science
Practicum in Technical Modelling
Drawing

Schedule by Semesters

Distribution of Hours by Disciplines	Exams	Credits	Course papers	Total	Lections	Labs	Seminars I
Psychology			9				
General Psychology	2			70	48	16	6
Adult & pedagogical Psychology	3			52	28	18	6
Psychology & Ethics of Family Life	3		18	18			
Pedagogy:			9	80	54	10	16
Pedagogy	4	3					
Methodics of Educative Work		5		60	24	18	18
Methodics of Work of Class Super							

visor
Methodics of Work of Educator
of Extended Day Group
Methodics of Pioneer & Comsomol
Work
Methodics of Educative Work in
Outside School Organizations
Methodics of Labour Education
Methodics of Professional Work
History of Pedagogics 60 50 10

Elective Subjects
Socioe-conomical politics of CPSU
Critique of Antimarxist Theories & Views
About Socialist Society
Politics of CPSU in the Sphere of National Economy
System of Education of Students by Example of Lenin
Formation of Communist Views of Students
Methodics of Atheistic Education of Students
Methodics of Legal Education of Students
Methodics of Economical Education of Students
System of Labour Education of Students
Actual Problems of Didactics of Secondary School
Students
Critique of Contemporary Borgeoise P edagogical Conceptions
Methods of Learning about Personality & Collective of
Students
Psychology of Self Education
Psychology of Pedagogical Activity
Culture of Intellectual Work
Scientific Organization of Pedagogical Work
Functional Analysis
Theory of Analytical Functions
Conduction of Mathematical Physics
Theory of Multitude Geometry
Theory of Groups. Theory of Ralua
Functions of Complex Variables
Mathematical Statistics
Theory of Games & Investigation of Operations
Selected Chapter of Differentiated Geometry
General Topology
Basics of Theory of Graph Amorhthmical Language
Mathematical Obespetchenie of Electronical Computing Machines
Linear & Non - Linear Programming
Polytechnical Direction of Teaching Mathematics
Methodics of Facultative Lectures on Mathematics

Peculiarities of Teaching of Mathematics at Schools
with Specialization in Mathematics
Methodics of Teaching in Solving Problems in the School Course
on Mathematics
Psychological - Pedagogical Basis of Use of Computing
Technology in the Educative Process

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REFERENCE NOTES

1. Dr. M. Dubiel (Simon Fraser University, Department of Mathematics and Statistics) gave an interview held on October, 1986 regarding comparison entrance programs in mathematics programs to the Soviet and Simon Fraser universities.
2. Dr. C. Thong (Simon Fraser University, Department of Biology) gave an interview held October, 1986 regarding comparison of Biology entrance programs to the Soviet and Simon Fraser Universities.