THE DEVELOPMENT OF A TECHNIQUE TO DISCOVER HOW A CHILD PERCEIVES A DAY AT SCHOOL

by

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ABSTRACT

Most techniques for observing and analyzing classroom interaction involve the identification of significant elements by an outside observer. In this study an attempt was made to devise and refine a technique by which a student could identify and comment on significant elements in his own behaviour and environment. It was anticipated that an understanding of a child's perception of his day in school might lead to better understanding of the effects of schooling on children than other procedures for gathering data about classroom interaction.

A model was formulated from which evolved the conceptualization of a procedure which was tested and refined in a series of steps. The culmination of the study was the application of the procedure with one child for a full school day.

Preliminary extended interviewing was done with a dozen randomly selected elementary school children. This was followed by the videotape recording of university students and extended unstructured interviews using probing questions based on the replayed tapes. A radio microphone beaming to an FM receiver and audio tape recorder was used to record sound.

During the interviews questions were directed to each change in pupil activity; the Subject had a master control with which he or she could stop the tape and comment at will.

Four similar sessions were carried out with students in an open area classroom containing two hundred students and six teachers. Three sessions were in school and one out of school during recess. Finally, a grade six pupil selected by her teachers as typical for the grade, was videotaped for one entire school day. After the interviewing procedures had been followed the comments of the final Subject were coded for positive and negative statements in seventeen categories relating to elements of the school environment.

In enclosed classrooms and on playgrounds the videotape equipment tended to be distracting to children. In open areas the distraction appeared to be minimal. Noise and license were concerns to the final Subject in open areas. The unstructured nature of the interviewing and the fact that the Subject was encouraged to stop the tape and talk about it whenever she wished provided a constant flow of student perceptions.

TO ELLIE

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THE PROBLEM

Among the many changes in public education in recent years one of the more significant has been the establishment of large numbers of open area classrooms. In 1969 the School Planning Laboratory at Stanford University found that 50% of all schools constructed in the United States during the previous three year period had been of open design. This same trend is occurring in British Columbia where a recent study by Allen (1972) indicated that between May, 1970, and September, 1971, open area classrooms increased from 169 to 299. This evidence suggests how important it is for teachers to have a clear knowledge of the impact that open area schooling has on children.

In open area classrooms the supervision of the child is frequently a shared responsibility among several teachers. A danger that is often mentioned by teachers is the possibility that no one will know the child well and he could become overlooked. Little is known about the effects of the normal classroom on him. Because it is even more important to learn how this new situation affects him there is a need to find ways to discover the effects of the altered school environment on him. One important source of data is the child's perception of what happens to him in school.

Most approaches to studying classroom interaction are based on the researcher's determination of what elements are significant. These

elements may have significance for the particular research under way but may have little or no significance for the student.

CHAPTER TWO

REVIEW OF THE LITERATURE

Many techniques have been employed for gathering data about classroom interaction. Among these are shadowing, stenographic recording, using coding schedules and audio-visual taping. Rarely, however, has the impact of school on one child been recorded with his interpretation of audio-visual recordings being of primary importance.

Although each data-gathering method mentioned above helps us learn more about people, in each of them the researcher, rather than the client, determines which events are significant. In most studies using these techniques the Subject is not asked to interpret his experiences. Russell (1956) was concerned about the fact that in spite of enormous energies and funds expended in discovering how schools function, little had been done to discover how children function within those schools.

The authors of The Junior High School We Saw (1964) expressed the view that "The real curriculum is the one the child experiences." In this study one hundred two educators at the 1962 ASCD Convention in Las Vegas volunteered to observe one grade eight student each for a school day. They used the shadow technique which meant that they followed the student at a discreet and hopefully unobtrusive distance to minimize the effect of an observer being present. To simplify the problem of selecting what to observe, the volunteers were asked to note

on a chart what they saw at each ten minute interval. At the end of the day each observer asked his student what he liked least and most about the school. Since the students had been shadowed for an entire day it seems unfortunate that the interview was not correlated with the direct observations. This would have provided a much clearer conception of "The real curriculum ... the child experiences."

Surang Kowatrakul (1959, 1961, 1951) also used a "point-time sampling" technique. The observer noted a student's behavior long enough to record it then immediately proceeded to the next student. Each sampling took from three to five minutes. Prepared forms were used to record such data as seatwork, listening, or discussion. Behaviors not accounted for could later be recorded if recalled and if felt necessary. The observer avoided any contact with the children so that he could complete his chart and go on to the next behavior.

Jal S. Parakh's (1951) time-sample was determined by how long each speaker spent talking. His system provided for the classification of thirty-six different interpersonal conversations. There was a danger here in having only one observer, especially when rapid discussions took place. In such instances it would be too easy for the recording to fall behind the conversations, thus forcing the observer to select which statements seemed to be the most important.

Another short time-sampling technique is Flanders' Interaction Analysis system (1966, 1968, 1969, 1951, 1951). He used a three second observation interval then recorded into one of ten categories the dominant behavior during that period. Two of the ten noted student

talk; one, pauses; and seven, teacher talk. Occasionally marginal notes were made. When the total observation was completed full explanatory notes were added. Flanders said, "Our purpose is to record a series of acts in terms of pre-determined concepts." However, with this purpose in mind one wonders how much of real educational significance slipped through either because there was not an appropriate category or more than one act occurred during the three seconds.

Medley and Mitzel (1963, 1969, 1951) developed a number of systems for observing classroom behavior. The Observation Schedule and Record (OScAR) recorded the behavior of novice classroom teachers. In this example, observation methods were broken into six 5 minute sessions during which the behaviors were recorded in a given order on a card. For instance, the observer concentrated first on Activity Section; second, Grouping Section; third, Material Section. Because the structure of OScAR dictates what area is to be observed and for how long, much can be lost not only in the concern for categories but also in worrying about the stop watch and the next activity.

Many details could be lost in delayed recording especially if the delay were too long. Ryans (1962, 1963) stretched recall by trying to categorize twenty-five dimensions of behavior and transferring these to a seven point scale after each fifty minute observation period. Such lengthy passage of time provided the opportunity for a great discrepancy between what was recalled and what happened. And, unfortunately, there was no way to play back the events as a check on memory.

Several methods of collecting data about children were employed

by Burnham (1970) in A Day in the Life. The shadow study technique was used again with observations being noted at ten minute intervals. This was similar to the Lounsbury and Marani (1964) study which also combined the shadow and timed interval techniques. Neither of these studies discovered how the students interpreted incidents witnessed during the day. They preferred instead to ascertain broad overall reactions to whether the student felt "Bored?", "Lonely?" or "Frustrated?"

Roger Barker's approach to research in One Boy's Day (1951) was far more specific than Burnham's (1970) A Day in the Life. The problem was to study a boy during his entire working day. Barker used eight trained observers who took half hour shifts during which time they shadowed the boy and made minute by minute notes of his activities. Following each observation period explanatory statements were made into a tape recorder and later considered in light of the entire day. It was an excellent chronological study of the boy's day but left all implications and inferences up to the reader. The study emphasized the boy's activities and not what he thought about them.

Each of the above researchers used one aspect or another of time-sampling and shadow techniques. The recording of activities ranged from Barker's minute by minute observations to Ryan's fifty minute periods. Perhaps significant internal activities were missed because they fell between time-periods, were forgotten or were not seen because the observer was noting the previous activity. A major weakness in such systems was that they could not be replayed and reviewed.

Possibly the most common approach to unstructured observation is through stenographic record of human activity. In his psychological case studies, Rothney (1969) kept as many notes and records as possible in order "to provide us with a synthetic conception of the person." In agreement with Rothney, Buford Junker (1966) said that "everything" should be recorded. His written records included verbatim quotations as they occurred as well as further explanation of the event written subsequent to the observation.

Williams (1970) also favoured the use of stenography as a technique for recording observations in anthropology. Aware of its shortcomings he reminded others using it to draw distinctions between paraphrases and quotations. To augment note-taking he suggested that photography should have a place. The camera, he said, was not selective and its photographs could be studied in detail by the observer as well as the observed.

Because Kŏoben (1967) believed that interaction was the key to discovery about the group, he placed faith in anecdotal reporting by the participant observer. Such a person, however, could neither participate nor observe fully because he played two roles. His mere participation in the group tended to bias his findings about the group.

Berreman (1943) wrote a thoughtful paper on interviewing techniques. He felt that written recording, short or longhand, tended to inhibit the subject and make him more reserved. Looking to the future he said, "An ideal solution to the problem would possibly lie in making phonographic recordings...."

Although the above researchers from Rothney to Berreman agreed that

stenographic recording of incidents helped to provide a complete picture of an individual they were concerned about its limitations of selective perception and selective recall. They also suggested that some Subjects were inhibited by a researcher taking notes. Then, too, the researcher had to take notes and think of the next question. Consequently, a better system had to be found such one using photographs and phonograph recordings which could be reviewed as often as was thought necessary.

Recently the gathering of data by numerous means has been generally accepted. As early as 1949 Harold Anderson (1951, 1967), a pioneer in the work of human interaction, undertook the analysis of sound recordings of teacher verbal behavior. Much of John Withall's (1969, 1958, 1965, 1949) early work drew heavily from Anderson's classroom observation systems. By adding the time-lapse camera, however, he foreshadowed the coming technological emphasis to observation.

In Visual Anthropology (1970) Collier also strongly recommended the use of photographs which when examined by the anthropologist and the native together became the object of discussion. This approach reduced stress in the interview and elicited a flow of information about personalities, places, processes and artifacts. However, still photographs afford neither a stream of events nor the accompanying sound.

Birdwhistell (1970) promoted the movie film or videotape as excellent ways to tie together a string of human behavior. Both devices are useful for showing the development of a sequence of events as well as the interaction between people and events. He says, however, that we should be aware that such a string of informational realism "...lacks the

explicit warning about selection more manifest in other devices."

In Webb's Unobtrusive Measures: Nonreactive Research in the Social Sciences (1969) much was said about other devices. It suggested that truthful data could be gathered by using audio-visual bugging equipment. Eavesdropping, the authors felt, was a method for observing behavior in its most natural state. However, in certain cases such methods might be unethical or illegal.

In the field of psychotherapy the use of video equipment has increased each year. Although some psychiatrists contended that technological instruments should not come between them and their patients, most felt that improved results were achieved by allowing the patient to see himself. As far as Paredes (1962) was concerned there was no better way to capture fleeting, spontaneous, expressive behavior than through video recordings. Gergen (1969) concurred and went on to say that self-observation led the patient to figuratively and literally see himself more clearly than he would if a psychiatrist dominated the interview. It also greatly facilitated the patient's understanding of non-verbal communication. Nielsen (1962) found that even eighteen months after filming a confrontation experience the individual's recall was still very high though emotional involvement was considerably lessened.

Adams and Biddle (1970) utilized videotape by placing two remotely operated cameras in boxes behind one-way glass. Much was learned about the frequency of classroom activity changes but nothing about how children perceived those changes.

Although Geertsma (1969, 1965a, 1965b) was basically in favour of

self-observation video techniques he emphasized that self-observation experiences were potentially anxiety producing. In another article he and Reivitch (1965b) stressed that the value of videotape was its storage and retrieval ability which permitted repeated observations.

Non-directive interviewing is the product of clinical psychology. It is used to probe beneath the Subject's surface statements to discover his underlying attitudes. Berreman (1943) accomplished this technique by encouraging the respondent to lead the conversation and then probing attitude and value statements.

Giatonde (1964), using a similar interviewing technique, found that reflecting the patient's statement back to him proved an effective approach in discovering more about attitudes. He was aware that the patient would mull over the interview but suggested that this was necessary to the ultimate alleviation of the patient's problem.

Raths (1966) suggested a number of clarifying responses which had the effect of probing beneath the Subject's surface statement. Examples are:

1. What do you mean by _____?
2. What are some good things about that notion?
3. How do you know it's right?

Many researchers have used videotape recording as a means of gathering data for later analysis. Others have used it primarily for self-confrontation as an integral part of psychotherapy. Kagan (1963) used videotape specifically as a focus for probing a subject's perceptions, including his feelings, relative to the therapeutic or learning context in which he had been taped. As the videotape was viewed by the

subjects, in one study a teacher and third-grade pupil, either could stop the replay at any point. An interrogator then assisted the subjects to explore the meaning and feeling they had experienced at that point. Their responses were also taped for later analysis. Kagan's use of videotape recording and interviewing is close to that developed in this study although it is significant that his work was limited to dyadic interaction in a laboratory rather than a naturalistic setting.

This study does not involve a detailed examination of ethical questions, projective techniques, or a portrayal of children's perceptions. Rather, it represents an attempt to refine videotape recording and the use of unstructured interview techniques in order to develop a technique to aid in discovering how a child perceives his day at school. Essentially the videotape replay becomes a projective device complemented by the researcher's probing questions to make possible the exploration of the child's perception of his school day.

CHAPTER THREE

METHOD

PROCEDURE

This study was developmental. Its major purpose was to refine and test a procedure for obtaining a child's perception of his experiences in school. The basic idea was to videotape the child, replay the tapes to him and record his reactions. At the beginning there were, however, a number of problems to be considered.

1. How could accurate video and sound recordings be taken without interfering unduly with normal student behavior? Videotape recording equipment was kept as far away from the Subject as the physical setting would allow.
2. At what point would the student be questioned? The use of the Galvanic Skin Response technique was considered but abandoned since little was known about the effect of self-observation on children and Galvanic Skin Response interpretation. This was in itself an area requiring research. A time-sampling procedure was considered but alone was thought to miss many things which might have significance to the child. It was decided to use a combination of time-sampling and activity changes. When there was not an activity change for three minutes or more the time-sampling technique was used.

5. How could the students be encouraged to comment? The taping procedure was explained to students who understood that they would be freed from school responsibilities to interpret the videotapes to the researcher. The researcher practised using probing questions with an unstructured interviewing technique.

The procedure decided upon was to test equipment and techniques in a variety of settings, obtaining as much relevant feedback as possible. The early testing was done with adults in a university setting so that full comments about the procedures could be obtained. Subsequent testing was done in school classrooms and playgrounds and appropriate modifications made. Finally, one student was videotaped throughout an entire school day.

DEFINITIONS

In this study the following terms have special meanings:

1. Open Area

   Open area describes schools lacking interior partitions such as walls or other physical dividers that form a visual or acoustical separation between teaching or classroom areas.

2. Activity Change

   An activity change is a change in the behavior of a child which leads to a different form of interaction with his immediate environment. If, for instance, the Subject reads,

writes or speaks and then goes on to something else the change is considered an activity change. Examples of such changes are:

(a) if the Subject should have a verbal exchange after reading.

(b) if he should leave his desk after sitting.

(c) if he should push someone after talking to him.

3. Probing Questions

A probing question is one in which the researcher asks the Subject to clarify or extend his statements. For example:

(a) What was happening?

(b) What do you mean by _____?

(c) How do you feel about _____?

(d) Are you saying that (repeated statement)?

4. Outdoor School

This is a camping facility where students live for one week. Their curriculum is Science oriented but other subjects are included.

THE THREE STEPS

1. The researcher conducted preliminary testing of equipment and techniques using as Subjects 12 elementary school children and several students in the Professional Development Centre. He used half inch videotape equipment for visual recordings and a radio-microphone with a battery operated FM radio-microphone and tape recorder for recording sound.

The Subject wore the radio-microphone during the recording. After this the researcher reviewed the tapes with the Subject and tape recorded his comments on them. Both the Subject and the researcher had a master control switch to stop and replay the video at will. The subject was asked to comment on any portion of the video but the researcher asked the Subject why there was a change in activity and then probed his responses.

Following these interviews the tapes were transcribed in multi-column form with descriptions based on the videotape. Inferences were then made by the researcher about the effects on the Subject of the events recorded. The purpose of this step was to test the equipment, to discover how the procedure worked with adults and to improve questioning techniques.

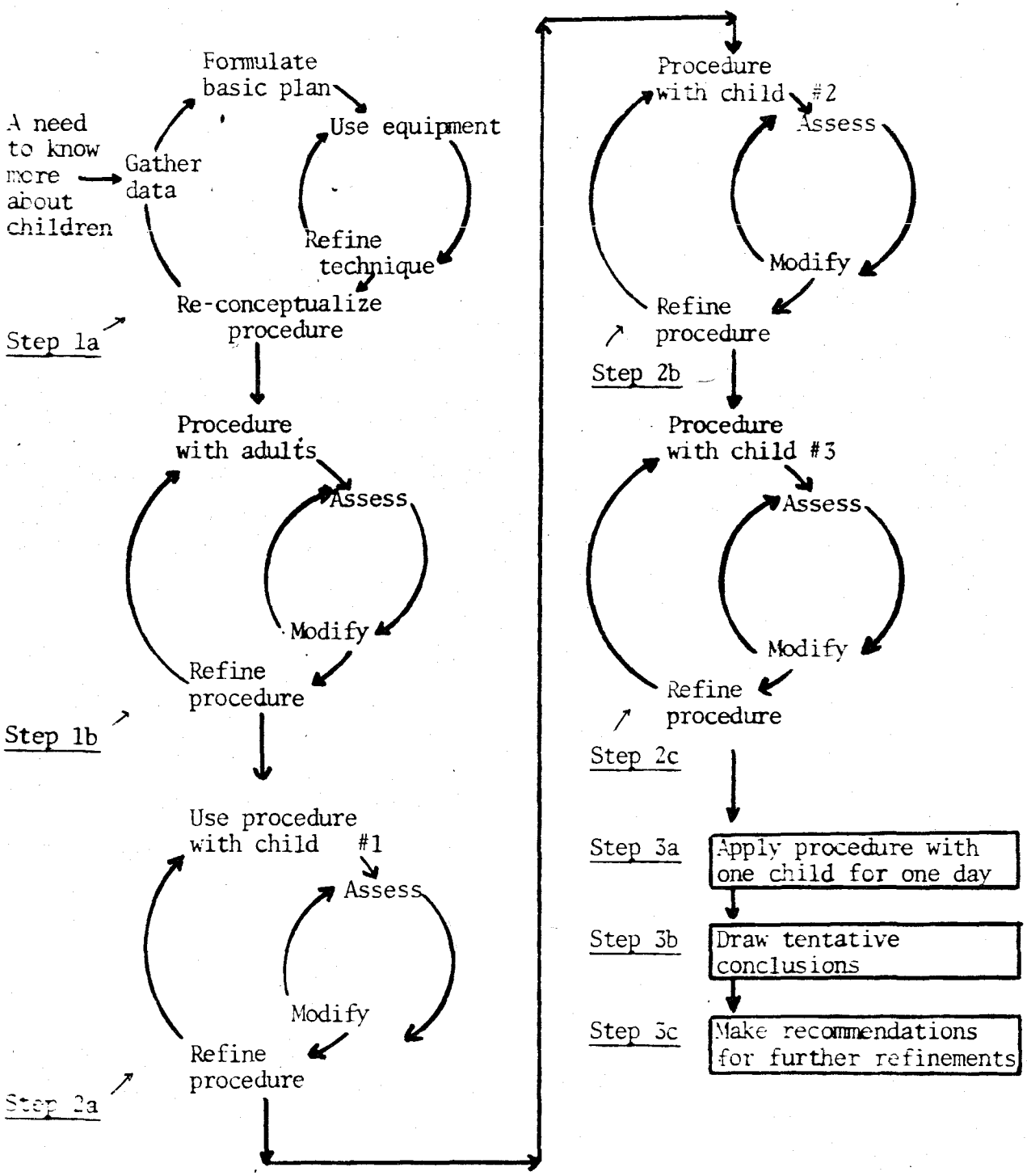
2. The above procedure was modified as appeared necessary and used with three grade six students in an open area school and playground. After the teacher and principal had excluded atypical students the researcher chose one of the remaining students at random. This procedure was followed in two different open area classrooms. In the first open area each of the three students was videotaped separately for a fifteen minute period and interviewed separately.

3. After preliminary trials as described in Steps 1 and 2, the researcher was ready for the trial in its final form in an open area different from that selected for the exploratory trials. Incorporating suggestions by advisors in Steps 1 and 2, the

researcher refined the technique. One of the insights derived in this step was how long it took for a student to become fatigued, thus causing the procedure to appear invalid or impractical. The researcher exercised his judgement in deciding when this occurred. Student reactions were coded for positive and negative affect and sorted into seventeen categories. The categories were determined after completion of the final session and according to the topics upon which the Subjects expressed opinions.

FIGURE 1

PROCEDURAL DESIGN MODEL



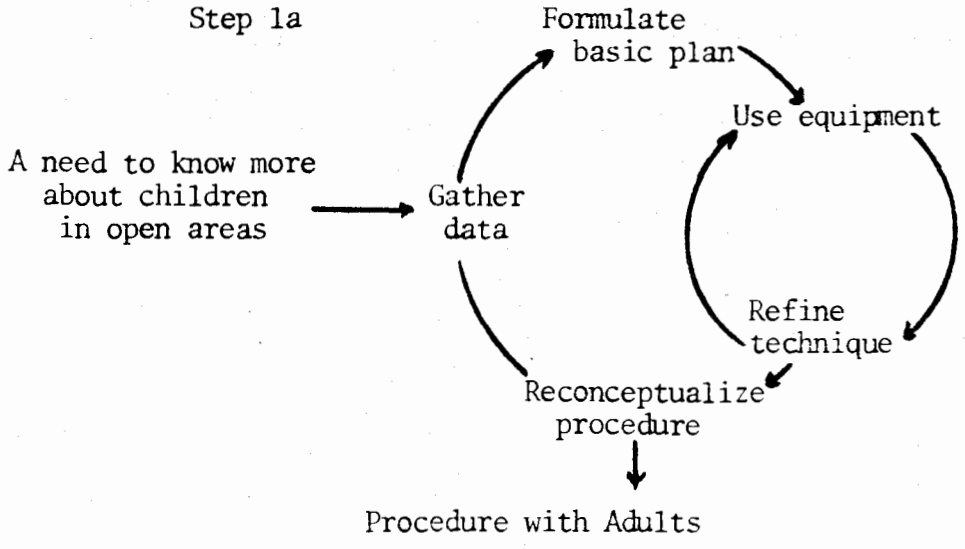
CHAPTER FOUR

PROCEDURAL DESIGN MODEL

Formulation of a Basic Plan

A basic procedure was formulated (FIGURE 2) in which videotapes recorded the Subject and his surroundings while an FM radio-microphone beamed to a tape recorder what was being said. Many trials were made with the equipment. It was found that the radio-microphone worked well through wood, cement and brick but that it was directional and faded out in certain directions. Up to 100 feet with no obstructions the sound recording was clear.

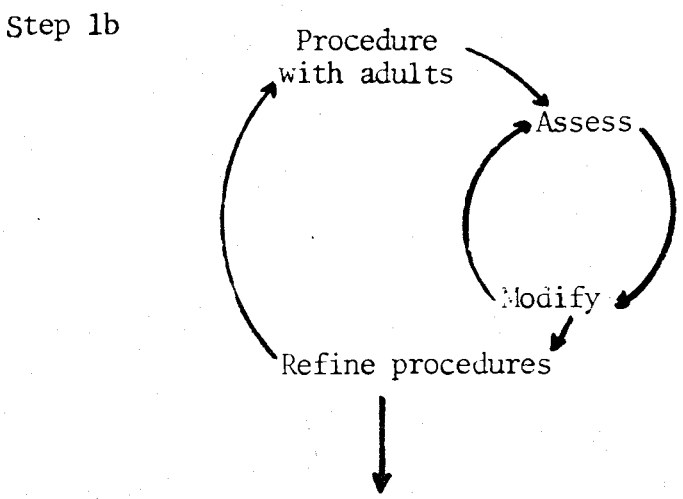
FIGURE 2



Students in the Faculty of Education at Simon Fraser University were videotape recorded in various settings in order to test the technique. (FIGURE 3). In three instances music or noise caused such a distortion in sound that much of each recording was too unclear to be of use. If music

or other sounds were too loud the attempted voice recording by this equipment tended to be obscured. Recordings were carried out with an individual in a group of 140, 40, then 10 people. In the largest group the recording was satisfactory until a general discussion period began. In the group of 40, music detracted from any effective voice recording and with the group of 10, the proximity of the equipment was somewhat obtrusive in that the group confined itself to a corner. Nevertheless, the recording was clear because there were no distracting sounds. The researcher became aware that effective voice recording would be unlikely in noisy places and that the equipment could be obtrusive if placed too close to the subject.

FIGURE 3



Procedure with Child #1

The first of four preliminary videotape recordings (FIGURE 5) with elementary school children occurred in a large, semi-circular open area (FIGURE 4) which was the facility for approximately two hundred grade six and seven pupils. Classes were located on the outer edge of the semi-circle and the V.T.R. equipment was placed in the centre so that it would be about fifty feet from the Subject and as unobtrusive as possible. From this point, however, the sound fidelity was poor but it improved simply by moving the equipment a few yards laterally. Since background sounds were minimal the recording of the Subject's voice was clear.

The equipment was pretested on location to discover 'blind spots' or directions in which the sound recording was weak or non-existent because of static.

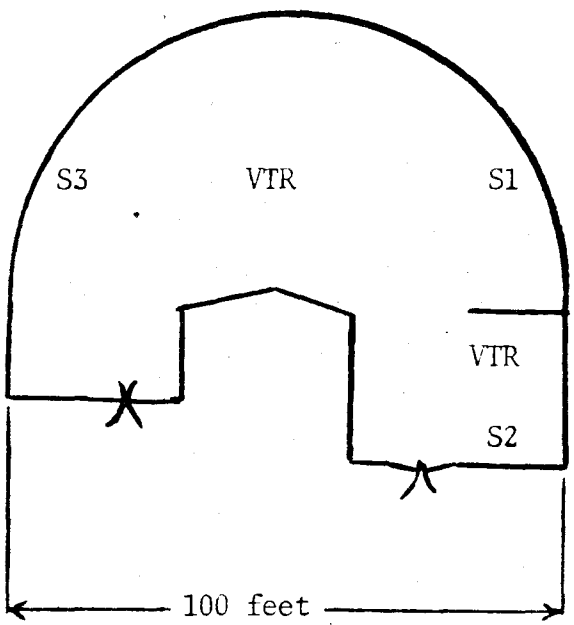
The first Subject, Linda Grocott, felt strongly in favour of the open area classroom. She had been in an enclosed classroom and did not like it because she could not see her friends during the day.

> 5(S)...like I noticed when I was really good friends with this girl 'cuz I was always in the same class with her, in a closed room, and then one day she went to a different class than me and then we just stopped playing together .... So now that we're back ... into the open area, we found it more interesting.

It was important for the Subject to see her friends and the open area classroom provided her and other children many more opportunities for finding and making friends.

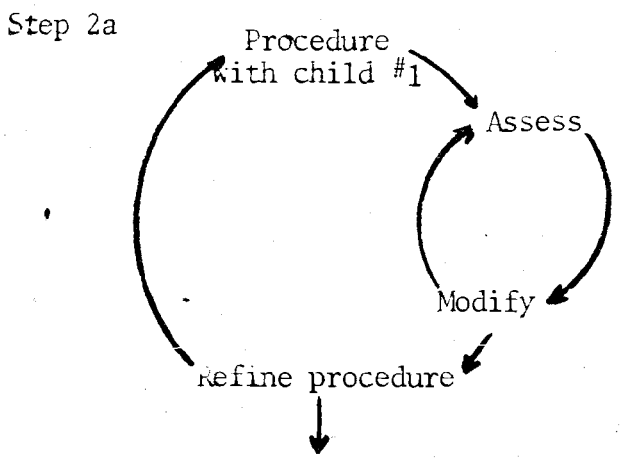
FIGURE 4

PLAN OF OPEN AREA USED IN PRELIMINARY STUDIES



Grade 6 and 7 Open Area
Brooksbank Elementary School
North Vancouver, B.C.

FIGURE 5



The second of four preliminary studies (FIGURE 6) was carried out in an Art area which had a partial wall separating it from the open area. In this situation the equipment was as far from the Subject as the conditions would allow, about fifteen feet, but it was within his peripheral vision each time he looked up from his Art work. It was an all boys class which enjoyed a considerable amount of freedom. Because of this there was enough noise to make it difficult to understand all comments by the Subject. Many of the boys went out of their way to have themselves or their voices taped. It would seem that this Art class was affected by the novelty of the video tape recording unit, its size and its proximity to a Subject who tended to 'perform' for the camera.

Kevin Clark the second Subject felt strongly about the noise level in the Art section of the open area. He said that discussions seldom concerned Art and often interrupted him. His reaction was:

68(S) Oh, sometimes I wish I could just stand up and say, "Shut up!"

Quiet 'em all down.

He had given the noise a considerable amount of thought since he immediately suggested three things. There could be other Art areas. The teacher could keep the room quieter. Finally, if necessary, one could put his head close to his work in an effort to shut out the noise.

The presence of the video tape recording equipment about fifteen feet from the Subject proved to be distracting but some of the boys were intent on being videotaped no matter where the equipment was placed.

132(I) Tell me about that.

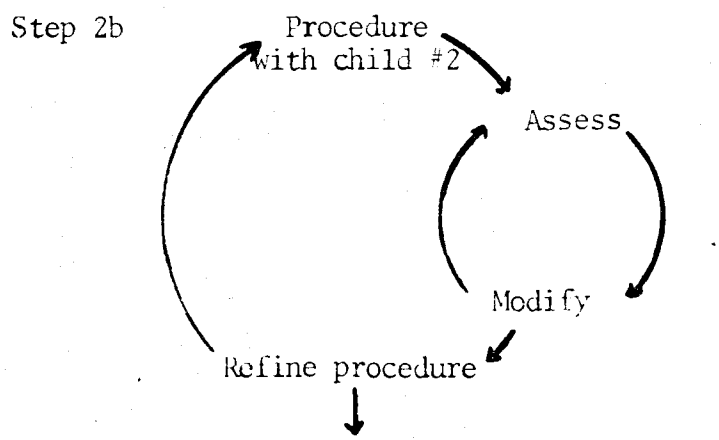
133(S) Well, he said before I was gonna be on the camera, he said, "I'm gonna come over to you, Kev, and I'm gonna talk to you." Cuz he's just like Brad, too.

134(I) In what way?

135(S) A ham. Wanting to be on T.V.

Because of difficulties caused by classroom noise and the proximity of the equipment and its operators, it was decided to tape a boy in a mixed class from a greater distance in the open area.

FIGURE 6



Procedure with Child #3

The third study (FIGURE 7) was done with a boy described as 'down to earth' and not prone to 'performing'. Every effort was made to keep out of his field of vision and more than fifteen feet away.

He was taped in the open area in the opposite direction from the first preliminary study. Once again the fifty foot distance was used. Sound fidelity in this direction was much improved. Since the children were to remain in this area on one floor level, the camera was moved on a wheeled tripod.

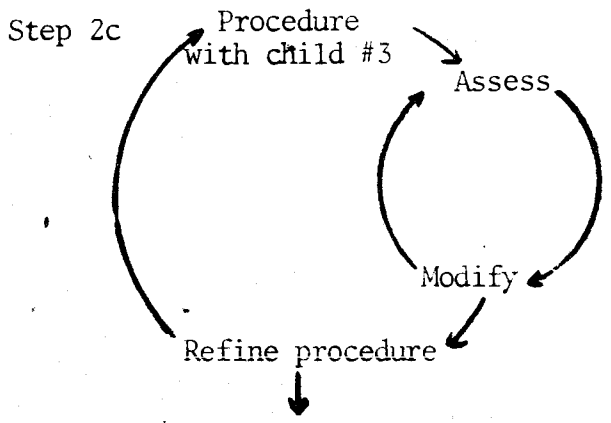
It was found, however, that even a zoom lens lost some detail at fifty feet but in order to remain relatively unobtrusive, the distance was maintained.

For this Subject the replayed videotape provided a particularly useful medium to inspire conversation. He knew the class routine and paid attention only when something new came along. Other than that, he talked to his friends about things around them, past and future experiences, school rules and a method he had for sharpening pencils "...with the sweat of your hand."

The video tape recording was a useful aid for finding out about student values. In discussing the peace symbol, the Subject spoke of an incident wherein someone had broken the mirror from his father's car and left a peace symbol in the window.

167(S) Well, I feel sorta sorry for the kids that did it because they wrote "peace" all over it and they don't really know what it means.

FIGURE 7



Because all three preliminary studies had involved students in class situations a further study was suggested during a morning recess. It was found that the Subject had much more to say about the recess period than he did about an equivalent length of time in school. Twenty minutes of school time yielded thirteen activity changes whereas ten minutes of recess yielded eighteen changes or almost three times as many changes per minute. The average number of activity changes for the four sessions was nine every ten minutes or about one per minute.

On the playground there was a problem with sound recording due to the running and jumping by the Subject and much distortion of sound because of yelling near him. Since the FM radio-microphone could be injurious if it bounced up and hit the Subject, it was removed and only the camera microphone was used. At close range, because of the generally high noise level, there was little difference.

The main problems concerned the physical mobility of the equipment and the fact that it became a source of interest to so many children whose behavior was not now governed by in-school rules. This recess study was

done without the direct help of a technician so that the portability of the equipment and accompanying problems of operation could be tested. The equipment was found to be portable but tiring because there were so many things to be done at once such as running it, carrying it through children's play areas and focusing its camera on one Subject amidst the crowd. Hence, it was decided to retain the services of a technician even though one more adult would constitute more of a distraction on the field.

In this additional session with the third Subject at recess, noise in the corridor obscured the sound recording. He said that his main interest was to get to "fresh air" as fast as possible by whichever exit "is the closest one."

He appreciated the recess break. It gave him free time to talk with his friends, to bounce balls and to invent some games to be played as long as interest and conditions allowed.

205(S) Well, recess, I just forget about school....

As far as the videotape recording unit was concerned it proved to be of considerable interest to other children who to some extent hindered the efficient recording of the Subject's activities. Hence, an effort was made to record from the edge of play areas where student activity was at a minimum.

Grade six students had been chosen because:

1. the researcher was familiar with that level.
2. they had experienced formal school for six years.
3. there were many open areas for this grade.
4. the researcher thought they would be forthright in their opinions.

Procedure with Final Child

The final videotape recording session followed one grade six girl from 9:00 a.m. until 3:00 p.m. at her school. (Step 5a). With an FM radio-microphone around her neck and a videotape recording unit, the researcher was aware that one wall would prevent the video and several walls would prevent the audio tape from recording suitable data. He was also aware of the limiting affect of either noise or music on the recording of speech.

It was important to be as unobtrusive as the circumstances would allow and to keep out of the Subject's direct line of vision when possible. Exploring the area ahead of time was necessary to locate future camera positions, electrical outlets and 'dead' areas for the recording of sound. The location of electrical outlets was vital since within thirty minutes the videotape recording would deplete the battery which would then take an hour to recharge. Since there were several long staircases in the building, a light, relatively portable tripod replaced the larger, three-wheeled mechanism. Again the FM radio-microphone was to be removed during periods where running or jumping occurred.

With this extended videotaping and interviewing of Barbara Bean, the final grade six Subject, it became even more apparent how useful such a technique could be in discovering student interests and attitudes. She spoke frankly about her self-concept and its relationship to school achievement. She felt that her present teacher had done more than anyone to improve the former. Previous to having this teacher she felt like a "dumb kid, then Miss Smith" treated her

132(S) ...as an equal so she sorta helped me out of my shell.

This treatment also made the Subject feel like "more of a person." After getting out of her "shell" she

144(S) ...sort of got into the hang of making friends.

Therefore, the replayed videotapes provided a useful vehicle for not only getting at what the Subject thought about her recorded activities but also such things as friends, school attitudes, holidays, popularity and values.

To aid the Subject in her interpretation of the tapes it was important that they be played to her as soon as possible after taping. In order to minimize the amount of forgotten information it was necessary to request that she be released from her regular school duties for a day or two while she viewed and interpreted the tapes.

A wrist watch was used to record approximately how long the Subject was attentive. The period ranged from thirty to forty minutes after which she did such things as look away from the replay, ask for a drink of water or shuffle her feet. During physically inactive periods such as tests she soon lost interest but in craft periods her interest and attentiveness increased.

Although the majority of the 3780 interview responses concerned either people or videotaping, she felt strongly about other topics. She saw herself as one of the better members of an academically weak class. About children in the other class she said,

42(S) Well, they get about average in their reports. They work harder and they're smarter than other people.

Her confidence rose or fell frequently, even with the correct or incorrect spelling of a single word. After one word which she spelled incorrectly this interview followed.

233(S) Ya, I can't remember anything and then I get upset about it.

234(I) You do?

235(S) Ya.

238(I) Then what happens?

239(S) Miss Smith does another word to me and I get it right. I get a little more confidence.

After being given one final word which she spelled correctly her confidence rose again.

257(I) And your confidence?

258(S) Got back up.

The Subject felt that her teacher had treated her as an equal and consequently raised her self-esteem. Barbara Bean saw marks acquired at school as a major factor in personality change and productivity.

1107(S) ...if you're below average and then suddenly get higher you'd be a changed person. You'll be smarter and you'll know how to do the work faster.

1108(I) Hmm. So you think if you give a person who isn't very smart, high marks, that he will work better?

1109(S) Ya, you're giving him courage to work better. Give him confidence and he can do something.

The Subject strongly preferred Outdoor School at Paradise Valley to regular school because:

667(S) ...you don't have tests...you just show your parents what you did...and it's a lot of fun.

669(S) You can memorize in your mind. (Without having to write it down.) You're not sitting down. The whole outdoor is your classroom and you get to do everything.

674(I) And is it at all like school?

675(S) Ya, but it's a lot funner, you know.

At the beginning of the year Barbara was affected by headaches due to classroom noise. She recognized the problem and overcame it by learning

93(S) ...to ignore things (and say to herself) oh, shut up.

Because of being able to filter out such distractions she had been able to survive the noise and disruptions and become a successful grade six student.

Another major area of concern for the Subject involved the videotape recording equipment and its technicians. She said,

163(S) ...and I'm sort of jittery and I couldn't think that well because the camera was looking at me and I'm scared.

In spite of being told the contrary she felt that she should restrict her movement because moving the equipment would be a problem for the technicians.

3132(S) Since you have a camera I couldn't help people and go in the rooms to help them cut their wool....

She found it more difficult to concentrate during a Science test which in itself was difficult for her.

3482(S) 'Cause something was looking at me and I couldn't concentrate and I didn't know part of it, you know, and it really mmm got on my nerves because all these things were at me, you know,

and ... got home. Thank goodness it's over.

Upon reflection she said that she had found being recorded for a whole day rather exhausting but enjoyed it and would do it again if asked.

That day she enjoyed popularity. Two weeks later she said that friendships made that day continued. One student had said to her,

2590(S) How does it feel to be a movie star?

And she thought it was, "wonderful".

She also liked the security the video tape provided her from teachers.

3485(S) Ya, because teachers couldn't get after me as much....

With the protection of her role she said,

2487(S) Aren't I great. (laughs) Getting all this special treatment.

She thought that knowing she was to be videotaped improved her own expectations for the day.

3489(S) Well, I'm not going to foul this day. I'm going to do something better than I did yesterday.

3499(S) Like I did my work better....

But when asked whether being taped had changed her day at all she said,

3501(S) It sorta changed my day at the beginning but ... it's just like a normal period but there's something taping you.

Concerning the length of interview periods the researcher is in agreement with the Subject who felt that about one half hour of questioning was the optimum time without a rest.

3674(S) Ya. Like at the beginning after half an hour I got sorta

tired of looking and then recess came.

If there was little activity or change on the videotape, half-an hour of interviewing bored the Subject but if the activity increased, the half hour was easily exceeded.

The second major area of discussion concerned the Subject and her relationship with school authorities. It was mentioned earlier how the Subject's self-esteem was improved because the teacher treated her as an equal. 132(S) Further to that statement the Subject said of her home-room teacher:

3587(S) Well, even if I am an average student and someone's higher level than me she thinks of me just as much as she thinks of the other person.

Concerning her relationship with the Art teacher the Subject said:

1941(S) O.K., we like Art but not the kind he likes.

1945(S) Mr. Abley (Art teacher) got sorta mad 'cause we wouldn't do what he wanted to do.

The Subject was rather intimidated by the librarian who

1186(S) ...gets really mad if you don't put the books back.

1187(S) ...at the end of the period.

For at least five minutes the principal read notices over the public address system.

2126(I) Did you know that the P.A. was on and the principal was giving an announcement?

2127(S) Oh, that's what I noticed.

2129(I) Do you know what was being said?

2130(S) No.

2136(S) People are noisy. Sometimes they're really long and you go, "Oh, the P.A.'s on."

The length of the announcement as well as the classroom noise lost the Subject. During this time teacher continued working at her desk and talking to various pupils.

Concerning changes in the school, the Subject thought that discussion periods would be a good idea but felt that teachers did not really "want to change anyway."

3716(S) Do you have anything that would help the school be better and all? They (teachers) never asked that so I don't think they want to know.

In addition, she suggested that field trips would be valuable. Except for the outdoor week the class had not had a field trip in two years because it was against school policy.

It was interesting that this 'average' grade six girl who was so concerned about marks saw one way of using them to build "courage" and "confidence" into students who had not performed well on other tests. Her thoughts on outdoor education where she was an active participant were consistent with her in-school ideas where she would have preferred to be an active participant in teacher-pupil discussions rather than merely a recipient within the educational system.

The summary of the final Subject's responses (see Table I) was developed after all interviewing had been completed. Her reactions were coded for positive and negative affect and sorted into four main topics:

School, Interaction, Self-esteem and Research Environment. Seventeen sub-headings were identified within these main headings.

Her feelings toward school rated positively (46:11). Outstanding under this heading was her positive attitude toward outdoor school (17:0). Her opinions regarding school categorized under an "in general" sub-heading included such comments as how she got sick of school in the middle of the year, liked getting back in September, and felt that school was important.

She had favourable teacher and peer relationships (13:7). Her positive self-esteem was attributed mainly to her supportive teacher. (7:1).

The enjoyment of being videotaped, the centre of attention and involved with something new rated a positive (8:1) but this was countered by the distraction caused by videotape equipment (0:8). Generally she enjoyed the research environment (13:10) and volunteered to be a Subject for any future research.

It should be emphasized that this analysis is only one example of the kind of data which this technique is able to produce.

TABLE 1

A SUMMARY OF FINAL SUBJECT'S RESPONSES

Topic	Positive	Negative	Ratio of Positive to Negative
1. School			
a. curriculum			
i. subject content	4	3	4:3
ii. research projects	4	0	4:0
iii. open discussions	3	0	3:0
iv. sports day	5	1	5:1
v. field trips	3	0	3:0
vi. outdoor school	17	0	17:0
vii. tests	0	2	0:2
b. in general	5	1	5:1
c. open area			
i. noise	0	2	0:2
ii. license	0	2	0:2
iii. in general	5	0	5:0
Total responses	46	11	46:11
2. Interaction			
a. teacher relationship	7	2	7:2
b. peer relationship	6	5	6:5
Total responses	13	7	13:7
3. Self-esteem	7	1	7:1
4. Research Environment			
a. video equipment			
i. distraction	0	8	0:8
ii. like/dislike	8	1	8:1
b. research conditions	5	1	5:1
Total responses	13	10	13:10

CHAPTER V

DISCUSSION

SUMMARY

Most techniques for observing and analyzing classroom interaction involve the identification of significant elements by an outside observer. In this study an attempt was made to devise and refine a technique by which a student could identify and comment on significant elements in his own behaviour and environment. It was anticipated that an understanding of a child's perception of his day in school might lead to better understanding of the effects of schooling on children than other procedures for gathering data about classroom interaction.

A model was formulated from which evolved the conceptualization of a procedure which was tested and refined in a series of steps. The culmination of the study was the application of the procedure with one child for a full school day.

Preliminary extended interviewing was done with a dozen randomly selected elementary school children. This was followed by the videotape recording of university students and extended unstructured interviews using probing questions based on the replayed tapes. A radio microphone beaming to an FM receiver and audio tape recorder was used to record sound.

During the interviews questions were directed to each change in

pupil activity. The Subject had a master control with which he or she could stop the tape and comment at will.

Four similar sessions were carried out with students in an open area classroom containing two hundred students and six teachers. Three sessions were in school and one out of school during recess. Finally, a grade six pupil selected by her teachers as typical for the grade, was videotaped for one entire school day. After the interviewing procedures had been followed the comments of the final Subject were coded for positive or negative statements in seventeen categories relating to elements of the school environment.

CONCLUSION

The development and use of videotape recording, replay and unstructured interviewing of students provided the researcher with a useful technique for discovering how children perceive their school day. Inferences can be made on the basis of the replayed videotapes of classroom activities and subsequent audiotapes of student interpretation of those tapes.

Positive Aspects of this Technique

1. The videotape recorded student activities as they happened.
2. The videotape provided accurate storage and retrieval of information.
3. The videotape recording unit appeared to be unobtrusive in the open area in contrast to the self-contained classroom in the study.

4. The replay of tapes inspired student discussion about such topics as: school procedures, peers, teachers and values.
5. The tapes provided an excellent basis for employing unstructured interviewing techniques.
6. The radio-microphone proved useful in gathering student statements.
7. The students enjoyed being Subjects.

Negative Aspects of this Technique

1. The technicians and equipment were a distraction in enclosed classrooms, on the playground and in hallways.
2. To some extent the radio-microphone inhibited student activity.
3. For some children, the novelty effect did not decrease during the entire day.
4. It was difficult to move equipment anywhere without being distracting.
5. The videotape recorder was found to be a distraction.

Although there were a number of negative aspects to this technique little could be done within the scope of this study to eliminate the difficulties.

In considering other research, none emphasized direct student participation and opinion but Adams and Biddle (1970) did videotape and code the frequency of student activity changes in Mathematics and Social Studies. It was found to be as high as one every five seconds or 4500 per day for a twenty pupil class. Considered over a wide spectrum of subjects, the present study noted 5400 activity changes per day for a

group of similar size. Such evidence of highly active classrooms underlines the need to find out what perceptions children have of their in-school experiences so that educators can more effectively organize for the benefit of the student.

Although one child is a small sample of the school population, some of the Subject's insights if proven in later studies to be representative could be effective in guiding school practice. She felt that noise and children who misbehaved were a detraction from learning. She thought that tests were unpleasant but could be used to build self-confidence if teachers would award high marks. She enjoyed open discussions where ideas could be shared and the open area where she could see her friends. Outdoor school had, by far, the greatest single impact on her because of the change and freedom from traditional schooling. Finally, she favoured research reports because she was allowed to choose her topic and work at her own speed. In short, the things she enjoyed most were variety and freedom.

RECOMMENDATIONS

First, the distracting influence of the equipment and its operators could be decreased in the following ways.

1. The use of remote control units would minimize distractions.
2. It would be advantageous if one camera had a zoom lens and the other, a wide-angle lens to encompass the entire room from one position.
3. By studying the timetable in advance the technician could locate several cameras in appropriate places before the intended day of the recording.

4. If children were to be videotaped outside the school a telephoto lens would allow the researcher to be less obtrusive.
5. The very sensitive cannon-type microphone could be directed from within the school at the Subject on the playground to record his conversation.
6. If longer running tapes are developed it would be possible to eliminate the appearance of a technician even in the changing of tapes. This would also increase the total length of time being recorded.
7. One-way glass as used by Adams and Biddle (1970) helped to decrease the amount of 'performing' for the camera.

Secondly, whenever possible electrical outlets should be used for power because they are more constant than battery power. The drawback here is one of mobility.

Thirdly, it would be useful to videotape a child for several days without his knowledge of specifically when he was being taped. Then several interviewers using an unstructured approach could interview the Subject and synthesize results. Such results could be compared to a cross-the-grade survey to provide a more complete picture of how children interpret their school day. By comparing their findings the researchers could assess their effectiveness and their possible influence on the Subject.

Finally, the researcher should be aware of certain ethical questions involved in investigating a child's perceptions of himself and his environment. Since self-perception, by its nature, is concerned with

probing into layers of personal strata, it is important to consider such matters as:

1. confidentiality/anonymity.
2. genuine right of refusal by the child.
3. does the child have the opportunity to reverse the process. (i.e. Can he similarly record, review and question the teacher's behaviour?)

When one make incursions into the child's personal world the effects are difficult to assess. The researcher must maintain the Subject's anonymity to protect him from possible misuse of the data.

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APPENDIX

Audio	Video	Interview	Child Response
T. Well, you have to do Arithmetic again so open your books and do all the division questions on Pages 36, 37, and 38. Work quietly and check every question.	Halfway through the teacher's first sentence the student closed his Arithmetic book and pretended that his eraser was a motor car racing around his desk top.	(1) What was happening? (2) How do you feel about that? (3) Are you saying that you don't like Arithmetic?	(1) I looked at my book then began playing with my eraser. The teacher was telling us about division again. (2) Bored. I don't like Arithmetic and yet we have to do it all the time. (3) Well, it's the same thing over and over. If it could be made interesting I might like it.

Inferences

The tone of the teacher's voice suggested that Arithmetic was uninteresting, hard work and the class had better begin the several pages. It was easier for this pupil in a rear desk to avoid starting because it was difficult for the teacher to see him. In spite of the teacher's attitude, the amount of work, and the boy's relatively concealed position in the room he did feel that under different circumstances he could enjoy the subject.