

THE EFFECT OF CROSSAGE TUTORING ON READING
ACHIEVEMENT AND SELF-ESTEEM: A CASE STUDY

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Dean B. Berry

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DEAN BLAIR BERRY

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ABSTRACT

This case study sought to investigate whether crossage tutoring can make a measurable difference in remedial readers' reading achievement and self-esteem. Crossage tutoring as described in this study is the technique whereby an older student (the tutor) tutors a younger student (the tutee) in predetermined reading activities designed and set up by a teacher manager.

The twelve sample remedial readers, six from junior high school, grades 7 and 8 (the tutors) and six from elementary school, grades 1, 2 and 4 (the tutees) were individually pre-tested and post-tested on the Woodcock Reading Mastery Tests, the Standard Reading Inventory and the How I See Myself Scale or the Experimental Self-Concept Scale.

Descriptive details of the crossage tutoring which ran for twelve weeks, includes the sequencing of the program from start to finish, the tutor training procedures which is the actual reading teaching of the tutors and the stages of tutor development from dependent learner to independent learner.

In the analysis of test data, statistical significance was established at the .05 level by applying the paired t-test to the subjects raw test scores. The case

study of each subject discusses how the youngster's reading strategies evolved, the interrelationship of the three test instruments, the behavioural changes and anecdotal information on the student's progress four years after the crossage tutoring.

The findings concluded that the subjects made statistically significant gains in their reading achievement scores with the greatest gains made by the tutors. Measured changes in self-esteem scores were not statistically significant for the group. However, the case studies revealed observed positive changes in self-esteem as well as reading strategies for these remedial readers.

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CHAPTER I

PURPOSE AND SIGNIFICANCE OF THE STUDY

The Purpose

The purpose of this study is to determine the effect of crossage tutoring on the reading achievement and self-esteem of junior high and elementary school remedial reading students. Crossage tutoring as described here is a technique in which an older student tutors a younger student in pre-determined reading related activities. More specifically, the study was designed to answer the following questions:

1. Can crossage tutoring make a measurable difference in the tutor's and tutee's reading achievement?
2. Can crossage tutoring make a measurable difference in the tutor's and tutee's attitudes towards self-esteem?
3. In which group (tutors or tutees) was the greater gain made in reading achievement?
4. In which group (tutors or tutees) was the greater gain made in attitude toward self-esteem?

Significance of the Study

Models of contemporary curriculum are concerned with specific reading programs for small groups or individuals. In these models the need of the individual pupils are identified and a personalized instructional program is devised to accommodate the pupils. Techniques for designing

personalized programs are available but in the typical classroom there is not enough personnel to implement the program, particularly for pupils who have reading problems (Balow, 1965). Some remedial reading programs are based upon the rationale that reducing the pupil teacher ratio for any given time should enhance the potential for more individualized instruction and, therefore, result in increased reading achievement. The pupils who are referred to the remedial program have failed to learn to read effectively in the group situation of the classroom. The remedial reader requires more individual attention. The remedial reading teacher's task often is to provide one-to-one instruction in a tutoring situation. Unless the remedial reading teacher leaves a large number of eligible children unseen, compromises are usually made by teaching small groups of remedial readers instead of individual pupils.

Jenkins (1973) changed the instructional mode for the remedial readers in his study by using one-to-one instruction in a crossage tutoring situation for one group of remedial readers. The tutors were older students. Jenkins' (1973) control group were also remedial readers, but they were taught by a resource teacher as a small group. The reading achievement results of these two groups were compared. The reading achievement of those remedial readers involved in the crossage tutoring indicated more significant gains than the remedial readers taught by the resource teacher in a small

group. This led Jenkins (1973) to state that in most resource room situations the remedial reader receives small group instruction not one-to-one instruction from the resource teacher, therefore, in essence the instructional mode for the remedial reader has not changed, only the teacher, from a classroom teacher to a resource teacher.

Niedmeyer (1971) examined remedial reading programs where remedial readers were taught in small groups. All of the remedial reading programs Niedmeyer (1971) examined indicated limited gains in student's reading achievement. Richard (1975) found little change in the student's learning habit while Dillner (1972) found little change occurring in the student's attitude toward himself as a learner when they examined remedial reading programs. These authors were most concerned about the lack of continued progress the student made once the remedial instructional ceased. Deutch (1964) gloomily forecasts that individualized personal instruction for remedial readers either in resource programs or in a junior high school reading program are just not feasible economically, or successful, from the standpoint of reading achievements made. Remedial readers, says Deutch (1964), seem to be doomed to failure!

The Bullock Report (1975) aptly pointed out that the remedial reader at the high school level often finds himself in an environment where there is limited opportunity but much need to resolve his reading problem. There are only limited opportunities to satisfy his egocentric needs. It is

very difficult to enlarge upon his own learning experiences since his is virtually shut off from his educational experiences that are predicated upon an ability to read.

Jenkins et al (1973) and Richardson et al (1974) have explored the hypothesis that a more practical and less costly solution to meeting individual remedial reading needs is to change the role of the remedial reading teacher and the remedial reading pupil. The remedial reading teacher becomes an instructional manager of tutors. The remedial reader becomes a reading tutor to younger children (the tutees) experiencing reading difficulties. This essentially is a crossage remedial reading instructional program. Richardson's (1974) and Jenkins et al (1973) tutors were trained in Linsley's (1972) techniques of precision teaching where daily data is gathered and recorded on charts. With this technique measurable change can be recorded and observed even in a short term experiment. The tutors carried out the individual tutee programs under the remedial teacher's direction. The teacher was able to monitor the effectiveness of their recommended instructional procedures by examining the tutee's figures. The figures provided daily feedback for the tutee, tutor and teachers and proved useful for immediate assessment of the tutee's progress. Instructional changes were always data based. Richardson (1975) and Jenkins et al (1973) concentrated on the effects of remedial reading instruction upon the tutee's progress. Little data was available on the tutor's reading progress. It was not stated whether the

tutors were themselves remedial readers or average readers for their age and grade level. It was not stated whether the tutors received pre and post reading tests to determine whether they made any gains in their reading achievement. Where was the descriptive data concerning either the tutors or tutees behaviour and or attitude changes during the cross-age tutoring program? Where were the behaviour figures which mapped behaviour changes? This additional data would have enhanced their studies adding valuable insights into the dynamics of a crossage tutoring program. As these studies were reported, only the test data was included leaving many questions unanswered.

Gartner (1971) in his comprehensive book Children Teach Children collected descriptions on numerous crossage reading programs. Most of these programs tended to be descriptive in nature. They described the attitude and self-concept changes which occurred in the tutor and tutee during the crossage tutoring situations. These descriptions added insights into the dynamic behaviour changes which often occur during crossage tutoring, however, actual test data on reading achievement was often lacking as well as test data on attitude or self-concept changes. Did crossage tutoring only make the participating students feel good about themselves? Did it, in fact do that even, when backed up by testing data on self-concept? We benefited, the tutors, the tutees, the teachers? Which procedures were most effective in setting up a crossage tutoring program? Was there a link between

self-concept and reading achievement during crossage tutoring? If there was a link, how significant was this information for classroom teachers, remedial reading teachers, reading consultants and school administrators, all of whom are faced with the task of helping their students learn to open the door towards literacy?

With these unanswered questions in mind, one may conclude that a need for a detailed description of a crossage tutoring program which includes reading achievement test data plus observational descriptions of behavioural change in both the tutor and tutee would be desirable. The following case study will document the crossage tutoring procedures, the diagnostic testing model followed, plus the descriptions of observed behaviours, as well as the problems and limitations concerning the effectiveness of crossage tutoring as a remedial technique. A case study where junior high remedial readers acted as crossage reading tutors to elementary remedial pupils will be unique as a review of the current literature on crossage tutoring has not documented such a study in the proposed manner as advocated by this researcher.

Conceptual Framework

Current theory suggests that the crossage tutoring process fosters a high degree of self-awareness (Thelan, 1969). Crossage tutoring is based upon the theory that playing a new role alters the concept of self and the concept of others who normally play the role (Powell, 1975). In

order to develop the self, an individual has to become a reality to himself (through becoming a 'me'). To do this he has to 'step outside himself'. This ability to take the point of view of others helps him to develop beliefs about himself and get in touch with his own self-concept. It is the dynamic organization of ideas and beliefs that an individual holds about himself, his conceptualized map which he consults in order to understand himself (Coopersmith, 1967).

It has long been suggested that people perform roles according to the expectations of others. In school, the influence of the teacher's expectations is a strong factor in determining a learner's role. Numerous studies (Holt, 1969; Jackson, 1968; Rosenthal and Jacobson, 1968) have documented children's views of teachers as dispensers of knowledge while the children's roles are that of passive learners. Rosenthal and Jacobson (1968) report that whatever a teacher expects of a child, the teacher will probably get. The need for the teacher to believe in the student's ability to succeed is suggested by their research. While exploring ways of developing programs to stimulate older students and at the same time train them to meet the needs of younger children, the Lippetts (1968), found that crossage tutoring was an effective way of promoting constructive behavioural growth and prevent behavioural problems in adolescents. They reported that a definite sociopsychological climate change occurred within the crossage tutoring classrooms. Competitiveness was tempered by concern for another. Crossage

tutoring reduces stress and anxiety which so often distort children's views of each other and of themselves. Similar results were found by Lane et al (1972), who studied eight initially disruptive junior high adolescents, each a poor reader in the third and fourth grades. When the tutor sees the role of a teacher as beneficial to himself, he will be motivated to play the role. He will work hard at it (Powell, 1975). He will begin to see himself differently whenever he is treated as an authority by his tutee or as a colleague by his teachers. There is apparently a new awareness for communication and trust across cultural, generational and authority barriers. Tutors, tutees and teachers, consequently, are encouraged to seek advice of each other when making decisions in crossage tutoring situations.

The tutor who adopts the role of a teacher may develop not only a different concept of a teacher, but also a different self-concept. Teaching and learning may take on new meaning by virtue of the fact that one has done both.

The self-concept is essentially a social product arising out of experiences with people and out of influences about oneself made as a consequence of the way one perceives others' attitudes towards oneself (Coopersmith, 1967; Jereld, 1957; Geyen, 1971; Rogers, 1954; Cote, 1978; Combs and Snuff, 1959). Thus taking the role of another should be vital to the development of this notion of self-concept. Within the crossage tutoring situation, the more the role taking situations succeeds in gaining a tutor's personal involvement,

the greater the probability that the student's self-concept and achievement will be affected. The tutor has an opportunity to transfer reading skills from a knowledge level of learning to an application of knowledge through the principle of learning through teaching (Dillner, 1972; Riessman, 1965; Gartner, 1971; Bradshaw, 1971; Thelan, 1969; Powell, 1975).

Definition of Terms

Crossage tutoring is the term used to describe the situations in which a student tutors a younger student from a lower grade level. The tutor can be a year older or many years older than his or her charge. He or she may be one grade level or several grade levels ahead of his or her charge. The essential element in this kind of tutoring is the age and grade difference, thus distinguishing crossage tutoring from peer tutoring, where both students involved are the same age or grade level. Another fundamental feature of crossage tutoring is that it is a one-to-one relationship. That is, one tutor and one child work together over a set period of time. Occasionally this relationship is altered temporarily due to the absence of either the tutor or the younger child. In the case of prolonged absence by either participant the original pairing is discarded in favour of a more stable pairing.

The term tutor applies to the student who is taking the role of the teacher. In crossage tutoring this role is taken by the older student.

The term tutee applies to the younger child in the pairing. The tutee is the child being taught by the tutor.

The term teacher manager refers to the teacher who oversees the entire crossage tutoring program. It refers to a role which may be filled by more than one person. In practice, therefore, several individuals can be participating as the teacher manager.

The tutor's report work is a necessary part of any tutoring program. It is a detailed account of what the tutor did during each session, which contains the names of materials used plus the personal reactions of the tutor concerning the progress of the session.

Unstructured crossage tutoring refers to the situations where the tutor works with a tutee with a minimal guideline from the teacher manager. The tutor does not receive any tutor training and only the barest pre and post diagnostic testing occurs. The tutor is expected to work with the tutee on his own and discover which methods are most suitable for the tutee. The tutors are expected to keep a report book which is handed in for feedback comments written by the teacher manager.

In structured crossage tutoring, all the tutors have been thoroughly trained after extensive individual diagnostic testing sessions. Structured crossage tutoring assumes continuous close contact between the tutors and the teacher manager throughout the whole program. Daily and weekly meetings between the teacher manager and the tutors occur.

These may be private conferences between individual tutors and the teacher manager or group seminars where the tutors and the teacher manager discuss new teaching materials and techniques as well as refine old teaching techniques. In structured crossage tutoring the teacher manager takes an active part in directing and sequencing the tutoring sessions for the tutor. (The teacher manager prepares the tutor's report work before each tutoring session stating the sequence to be followed for that particular session.) The tutor is expected to read and follow these directions. Immediately following the tutoring session the tutor writes his report in the book and shows it to the teacher manager for comments. The teacher manager retains the report book to add written comments and the instructions for the next day's tutoring session. The tutors are encouraged to react to the teacher manager's comments so that a written dialogue can be established between the tutor and the teaching manager.

Self-esteem according to Coopersmith's (1967) definition is a personal judgement of worthiness which an individual holds about himself. This subjective experience, the individual expresses to others by verbal reports and overt behaviour. Self-esteem is the attitude of approval or disapproval indicating the extent to which the individual believes himself to be capable, significant, successful and worthy.

Organization of the Study

Chapter I has discussed the purpose, significance and

theoretical framework of the study and has defined terms important to the study.

Chapter II will discuss those research studies which provided the theoretical underpinning of the present study.

Chapter III includes a more detailed statement of hypotheses and a detailed description of the procedures in collecting the data.

Chapter IV presents the analysis of data, describes the behavioural observations and details the findings of the study.

Chapter V includes a detailed case description of each subject participating in the study.

Chapter VI summarizes, interprets and considers the implications of the findings. Limitations of the study, as well as suggestions for further research are included in the final chapter.

CHAPTER II

REVIEW OF LITERATURE

In this chapter the literature on crossage tutoring will be discussed in the light of patterns or trends of crossage tutoring which have occurred to date. Then the research literature on structured and informal tutoring will be examined. The levels of student learning which the research literature describes plus the kinds of academic subjects which lend themselves best to crossage tutoring, will each be discussed along with the various evaluative techniques employed by the researchers in these studies. The literature on crossage tutoring, self-concept and the remedial reader will be reviewed as well as those studies which have employed crossage tutoring as a remedial reading technique.

Patterns of Crossage Tutoring

Crossage tutoring is a mushrooming activity arising out of a general concensus that students benefit from being involved in the instructional process. Although different viewpoints are found underlying the structure of these programs, the me-to-you thrust of teaching remains as the important part of these programs.

Thelan (1969) hopes that crossage tutoring may be a focal point for change:

An entirely new kind of interaction among students under conditions such that revealing feedback can be obtained by the teacher. It calls for teachers to co-operate across grade lines in an enterprise to the advantage of both. It invites recognition of all sorts of individual characteristics of pupils that are usually ignored; and it makes creative thinking about lesson plans and activities the norm rather than the exception. It is also likely to interest and involve the parent group, thus creating a reference group or 'imaginal audience' whose expectations will help maintain action. (page 239)

McClellan (1971) reviewed the literature on crossage tutoring up to 1970. In this article, McClellan constructed a framework of four questions upon which the existing literature was examined. This author has expanded on McClellan's original questions framework as a way to examine the literature on crossage tutoring to date. Is crossage tutoring effectiveness increased or decreased due to certain patterns of crossage, crossculture or crossability?

Within the literature reviewed it is very difficult to find a study reporting the tutor-tutee match which resulted in a negative result.

All the programs reviewed in Children Teach Children by Gartner et al (1971) provide glowing reports of success. The majority of these programs were in inner city areas and involved culturally disadvantaged youth. Cloward (1966) in an attempt to assess the Mobilization for Youth Program in New York stated that culturally disadvantaged children make important contributions to the educational environment of other youngsters whose life experiences are similar. They can provide a basis for empathy. Upon this same theme, the

Lippitts (1968) developed their program, 'The Crossage Helping Program'. They took eight disruptive adolescents to tutor primary grade children in reading. They concluded that the crossage approach was effective in causing constructive behavioural growth and preventing the development of behavioural problems. Frazer and Stern (1970) were two of the first to recognize that low achieving students can make effective tutors and profit considerably themselves. Their study demonstrated that the achievement of the tutor made little difference in the amount of learning attained by the tutee, whereas there are significant differences in the gains made by the tutors. Olsen (1978) used fifth and sixth grade student tutors to tutor mildly retarded student tutees in reading. Olsen then examined the attitude changes of his tutors towards retarded children as well as the reading achievement of the tutees. It was found that the helping relationship, innately part of crossage tutoring, did result in the tutors' more positive cognitive tendency of attitudes towards retarded children. At the same time the tutees gained in reading achievement.

Both Zweifach (1974) and Asper (1973) recognized the therapeutic value of crossage tutoring in their studies as well as the academic achievement levels attained through tutoring. Zweifach found very positive growth in interpersonal skills of the disadvantaged adolescent girls who were tutors while Asper found that through crossage tutoring the social contacts of withdrawn elementary school children

increased in the classroom.

It would appear from the literature that crossage tutoring has potential for the development of not only academic achievement but also social skills.

Structured Tutoring and Informal Tutoring

Which means produce the best results, informal tutoring versus highly structured tutoring.

Recent literature clearly seems to point forcefully towards structured tutoring programs. Niedermeyer (1970) studied the effects of tutor training on the behavioural behaviour of student tutors and concluded: "The constructional behaviour implied by the objectives of a training program should be based on established psychological principles. If it is desired that tutors behave according to these principles then they should be trained."

Grant von Harrison (1967) has done extensive work to develop materials for training tutors as well as to develop a structured tutoring model. An effective system of structured tutoring says von Harrison (1972) must include two components:

- 1) Tutors must be trained in very specific skills and not left to their own devices.
- 2) Careful assessment prior to instruction, during instruction, and following instruction with adequate reporting of student progress must be an integral part of the system.

More specifically von Harrison (1971) developed these principles to describe the essential elements of the structured tutoring model.

The principles are outlined here by this author.

- 1) Pre-establish instructional objectives which are not being effectively met by the student using the existing instructional practices.
- 2) Specify the instructional sequence of objectives.
- 3) Valid means of assessing a student's mastery of the pre-established instructional objectives need to be established.
- 4) Choose appropriate instructional materials designed to promote the student's instructional objectives found weak or missing from the student's repertoire by a pre-test.
- 5) Validate tutoring techniques and procedures that apply to any goals and materials. Make certain these are based on the specific goals of the program and the instructional materials being used.
- 6) Choose management procedures which permit the writing of instructional prescriptions for an individual student as determined by a pre-test.
- 7) Choose management procedures which assure that the individual student receives the instructional prescription sequentially.

- 8) Choose management procedures which permit a systematic checking of individual student mastery of the instructional prescriptions through criterion tests prepared in advance of instruction.
- 9) Choose management procedures which provide modification of the instructional procedures when mastery is not achieved.

Ellson et al (1968) reporting upon field testing of programmed and directed tutoring conducted in the Indianapolis Public Schools stated that not all tutoring programs are equally effective. The kind and amount of tutoring and the characteristics of the children tutored are critical factors. Their study considered two types of tutoring:

- 1) Programmed tutoring, a technique derived from learning principles and programmed instruction. The details of the tutors' activities are tightly controlled by a prescribed sequence of materials and procedural rules which are highly responsive to the individual child's reading performance.
- 2) Directed tutoring is derived from current teaching theory and practice and is less structured. The activities and progress are determined to a greater degree by the tutor's judgement.

These authors found that students at all levels of ability benefited from tutoring. However, the improvement in achievement was markedly greater for children who have the greatest difficulty in learning to read. Analysis showed that the

types of tutoring had a significant effect on all measures of reading achievement with differences favouring programmed tutoring in every case. The number of tutoring sessions in this study had no significant effect on achievement scores.

Levels of Learning

Does the participation in crossage tutoring raise the learning level of a student?

The amount of empirical research supporting conclusions of studies and the sophistication of the design of the studies in the literature reviewed varied considerably. The majority of conclusions were unanimous in stating that the students gained from the program (Bell et al, 1969).

Onedia Consolidated School District of New York involved high school students as tutors to elementary school children. The authors found the most immediate impact of the program was on the tutors. Through participation in the program self-reliance and self-confidence were re-inforced.

Much focus of today's literature is on the learning problems of the disadvantaged children. Much excitement is being created by tutoring as a means of assisting in meeting the needs of these students. In Jersey City, New Jersey, Rossi (1969) had disadvantaged high school tutors become reading tutors to elementary school kids in a program called H.E.L.P. It was found that they had much to contribute, that they could do the task, and most important, that they were needed. Rossi (1969) concluded, "What is the substitute for

being needed, for a genuine feeling of achievement?"

The younger children showed attitudinal changes towards reading as some began to look for things to read and share reading experiences enthusiastically with others. Teachers noted better attention of children in regular classes after the H.E.L.P. program.

The Mobilization for Youth, the Lower East Side antipoverty agency of New York developed a Homework Helper Program to help slum area children after school with homework. The tutees showed a 6.2 month gain in their reading levels after five months while the control group, with no tutoring showed a gain of 3.5 months. The tutors in a seven month period showed a mean gain in reading level over their control group of a year and seven months. Although these gains look impressive they can be misleading since the actual test instruments used were not stated. Other authors such as Cloward (1966), Frazer and Stern (1970) and Ellison et al. (1968) all placed underachievers in the teaching role and reported that both the tutor and the tutee made significant progress. The actual test instruments used to assess these gains remain an enigma.

Breedlove (1975) found dramatic improvements in sight vocabulary of students in his study in all four of his experimental schools. This particular study provides insights into how to set up a crossage tutoring program. He describes the test instruments used. Breedlove found less dramatic results were observed in academic achievement, peer relations

and reading grades of both tutors and tutees. However, the principals, teachers and parents involved with the program displayed positive reactions to crossage tutoring.

Academic Subjects

Which subject matter lends itself most readily to crossage tutoring?

A review of the literature reveals that the success of a tutoring program is not dependent upon subject matter, rather it is dependent upon certain conditions being met in the tutor program and in the tutoring experience itself. Schoeller (1970) studied the effects of intergrade tutoring experiences upon the tutor's self-concept and reported a high probability that positive attitudinal effects occur for both the tutor and tutee regardless of the context or complexity of subject matter or learning tasks.

Ingar (1966) and Zach et al (1969) emphasized that for any program to be carried out effectively the goals for the program need to be defined and articulated. If these are not made clear to the tutors from the start, problems will arise--where staff are trying to accomplish one thing and tutors something different.

This point is emphasized again and again by such authors as von Harrison (1971), Melarango and Newmark (1969) all of whom have devoted much of their research to the important aspect of evaluation.

Olds (1976) pointed out that those crossage tutoring

programs which were successful involved a good match between the skills of the tutors and the educational activities in which they were engaged. In the majority of cases, the educational activities are reading related although occasionally there is a study like Grimes' (1978) who used crossage tutors to teach tumbling to first graders successfully.

Evaluation

Melarango and Newmark (1969) who set out to design a whole tutoring community in California, were able to translate many of the principles described by von Harrison (1971) into action. Melarango and Newmark (1969) felt that evaluating instruction required the preparation of a statement of objectives in behavioural terms, the development of criterion instruments and procedures that provided precise, quantitative measure of performance on each important objective, and the preparation of a detailed description of the instructional system to which test results could be related. These authors stated that evaluating instruction leads to improvement of instruction, since an empirical basis for making necessary modification is provided.

The following outline describes the most common evaluation techniques which this author encountered while reviewing the literature on crossage tutoring:

- 1) Informal observations by the program manager describing the actions and reactions of the

tutors and tutees. These observations can be done on a random basis or at set periods during each tutoring session. Some programs have used observers and had them fill out a behavioural checklist on a regular basis.

- 2) Interviews are employed by the teacher during the pre and post sessions during a crossage tutoring program. The interview usually deals with the affective domain of learning. The teacher thus obtains attitude and self-concept feelings from the student in pre and post sessions during a crossage tutoring program. The classroom teacher and parents are also interviewed by the remedial teacher to gain an insight into the student's behaviour in other educational environments.
- 3) Questionnaires and surveys are often employed to explore the student's affective domain. The use of a well designed questionnaire or survey can serve as a measurement tool for the teacher in the pre and post diagnostic session of a crossage tutoring program. The questionnaire or survey can be administered to all concerned in the program; that is, tutors, tutee, classroom teachers and parents.
- 4) Another evaluative technique is simply noting shifts in the student's grade point average, pre and post during a crossage tutoring program. This

technique often appeals to classroom teachers at the junior high level who are directly concerned with passing the student. A raising or lowering of the grade point average is readily understood by the classroom teacher and by the student, who after all is measuring his performance against that of the class.

- 5) Rating scales and objective check lists given to the tutor, tutee and classroom teachers are another way to obtain numerical data concerning the students affective domain. These are used in pre-test or post-test situations during a crossage tutoring program either on a daily, weekly, monthly or at the beginning and end of the entire program.
- 6) Sociometric devices are an effective way to observe changes in classroom grouping where crossage tutoring has taken place. Given in a pre-test and post-test situation, it can provide additional insights for the classroom teacher as well as for the remedial teacher.
- 7) Personal documents such as autobiographies and daily diaries of tutors and tutees can be used as evaluative instruments. This is one technique whereby the remedial teacher can assess not only the affective domain but also the cognitive domain.

The student who trusts the teacher enough to express his or her own feelings through the diary is also likely to improve in writing skills through daily practice. An astute remedial teacher can easily trace a student's growth in writing abilities through this technique.

- 8) Standardized tests in subject areas, personal adjustment or attitude interest areas can be used to evaluate students progress in pre and post-test session during a crossage tutoring program. These types of measures carefully chosen lend themselves well to statistical analysis, which in time, lends credibility and validity to crossage tutoring research.
- 9) An on-going crossage tutoring program can make use of cumulative records such as test data from standardized tests plus all other descriptive data to evaluate tutor and tutee progress. This kind of evaluation can be used to evaluate several areas of development simultaneously such as the affective and cognitive domains.

Crossage Tutoring, Self-Concept and the Remedial Reader

Purkey (1970), Labenne (1969) and Lesley (1945) suggested that cognitive learning increases when self-concept increases. In any potential learning situation a student is asked to take a risk. In each situation he is risking error,

judgement, disapproval, censure or rejection. The student is risking his or her self-concept (Canfield and Wells, 1976). When reading failure persists, it invokes frustration, reduced attention, anxiety, helplessness followed by withdrawal reaction and/or aggressive behaviour. The longer the reading failure continues, the greater the stress and the stronger the aversion to reading and related academics (Abram and Amolden, 1973). The disabled reader has withdrawn in spirit, as school has become associated with low self-esteem. For some this marks the beginning of an alienation from the idea of verbal learning (Bullock, 1975).

The disabled reader apparently adjusts to the deficiency by narrowing the world to exclude print, but this does not mean it is a matter of no concern to him. It is simply a fact of experience that the student who has had success in the past will attempt success again, if he should fail, his self-concept can afford it. A student with a history of reading failures will be reluctant to risk failure again since his self-concept is at stake.

Sleisenger (1965) states in her "Guidebook for the Volunteer Tutor", if there is any single magic ingredient in the tutor-tutee relationship, it lies in the relationship itself. The cumulative failure that the tutor will have experienced will be offset effectively when self-confidence evolves from an awareness that "at last someone thinks I can do something!" The tutor has only one tutee, therefore, he has enough emotional energy to be responsive and committed.

The tutor who is a remedial reader is all too familiar with failure and can empathize with a tutee who has had similar reading failures (Raim, 1973).

Moeller's (1978) appears to support the use of crossage tutoring not only to increase reading achievement but also to influence a positive change in self-esteem. Similar findings were reported by Saunders (1976), Lindquist (1976) and Diamond (1976).

Cote's (1978) clinical study of the development of rapport in crossage tutoring documented the experiences of one teacher in directing a humanistic-oriented crossage tutoring project for the early adolescent. Cote's study provides insights for the classroom teacher who may want to conduct a tutoring program to increase the self-esteem of his/her students.

Crossage Tutoring as a Remedial Reading Technique

Crossage tutoring provides for the remedial reader a sense of competence which comes from the cumulative success experience he encounters with his tutee (White, 1961), thereby providing a basic principle of remediation. Remediation must guarantee immediate success (Wilson, 1972; Dechant, 1968; Gates, 1947). The remedial failure who has experienced frequent failure in reading begins crossage tutoring with an attitude that this educational experience will be different and perhaps rewarding.

The early tutoring sessions are all directed towards

the tutor's and the tutee's strengths and interests. As the crossage tutoring progresses, the percentage of time devoted to strengths decreases although at least fifty percent of each session is directed always towards strengths. The principle is to build upon the remedial reader's strengths to remediate his weaknesses.

Another remediation principle is that remedial successes must be illustrated to the student (Wilson, 1972).

The tutor and tutee must feel he has been successful. Seeing a tutee progress on a daily chart while developing sight vocabulary and oral reading are visible successes. The teacher's continued accentuation of the tutor's positive growth in report writing through verbal and written comments are illustrations of success to the tutor. The teacher continues to increase demands on the tutor. These are discussed in group sessions which also illustrate success to the tutor. Many remedial readers do not have well worked out models of what the learning process entails. The question is not important to them. They do not have a coherent plan of how learning should occur. They need concrete techniques and strategies to be successful readers. The initial group training session and subsequent weekly feedback sessions provide the tutors with concrete techniques and strategies to use with the tutee. The result is more effective tutors and ultimately more effective learners.

For any remediation to be successful it must provide for transfer of reading skills to actual situations (Wilson,

1972). Crossage tutoring provides reading instruction within context. It provides for the over-learning of skills by the tutor within a reading situation, not in endless isolated drill. Classroom teachers notice changes in students' behaviour and attitude towards school as well as in daily classroom performance (Lane et al, 1972; Dillner, 1972; Bradshaw, 1971; Lippetts, 1968; Powell, 1975; Olds, 1976).

Often when a crossage tutoring program is initiated, teachers assume that only the most capable students can be tutors. However, Frazer and Stern (1970), demonstrated that the achievement level of the tutor made little difference in the amount of learning attained by the tutee, whereas there were significant differences in the gains made by tutors. Their findings supported the recommendation that low achieving students can be effective tutors of younger children and at the same time profit considerably themselves. Perhaps for the first time the tutors are provided with an opportunity to use their subject matter in a meaningful way. They assimilate their learning better and even come to want more of it. The tutors seem to learn how to learn (Bradshaw, 1971; Dillner, 1972; Riessman, 1965; Harrison, 1971; Melarango and Newmark, 1969; Neidmeyer, 1971, Jenkins, 1973).

Remediation which is flexible can suit the changing needs of the remedial reader. Often the diagnostic findings first prescribed by the diagnostician need adjustment. At the same time remediation needs to be considered in terms of established instructional goals. Harrison (1971) advocates

structured crossage tutoring which allows for continual diagnosis as well as pre-established instructional objectives.

It is most beneficial to include the tutor in the goal establishment procedure as this involves the co-operation of the tutor and the teacher (Powell, 1975). All remediation involves co-operation (Wilson, 1972). It requires an interaction among many people, classroom teachers, parents, school officials, specialists such as social workers, psychologists, speech therapists, psychiatrists as well as reading clinicians. Melarango and Newmark (1977) built an entire tutorial community based upon this kind of interaction.

Munroe (1964) speaks of the three 'R's of remedial reading, Relationship, Release, and Re-education. The average remedial reader is a frustrated individual possessing a frustration that has accumulated over the repeated unsuccessful attempts to improve his reading. He needs a fresh start. The first step is building a relationship of mutual respect between student and teacher. The release comes when the student feels relaxed and secure enough to devote his energies to learning to read. The re-education is the teaching learning process. It can only be successful if the previous R's have been established. Crossage tutoring is able to meet Munroe's three 'R's. A relationship of mutual respect is established between teacher, tutor and tutee. The tutor is released from the failure syndrome by virtue of being a tutor, a contributor. The re-education occurs through the teaching-learning process established in crossage tutoring.

Summary

In summary, the following are generalizations based on the review of the literature:

- 1) Tutors experience the development of their own sense of adequacy. Self-respect and self-esteem become realities to those who previously viewed themselves as non-contributory members of their class.
- 2) Tutors have a purpose for studying subject matter. There is no shame to study skills below a tutor's grade level because there is a need for mastery of subject matter so the tutor can help his tutee. This causes the tutor to assimilate subject matter better and to seek to learn more of it.
- 3) Giving the tutor the opportunity to take the adult role leads him to experience what it is like to be part of a meaningful and productive society.
- 4) Tutors develop insights into the teaching-learning process and can co-operate more effectively with their own teachers.
- 5) The amount of individualized teaching taking place in a classroom is increased as tutors give attention to individual needs.
- 6) The tutors provide the companionship and individual attention needed by many tutees to lessen their feelings of insecurity.

- 7) Tutors can often reach the unreachable children as they are closer in age to the tutee and speak the tutee's "language". The performance of the tutor is a more realistic goal for the tutee than the skills and standards of the teacher.

A review of the current literature on crossage tutoring in this chapter has revealed the necessity for a study such as proposed in Chapter I. There appears to be no study where both the tutors and tutees are remedial readers and a detailed account of the program is described in a case study format. There appears to be no case study on crossage tutoring where not only the crossage tutoring procedures are detailed, but also the reading achievement and self-concept of both the tutors and tutees are examined. The examination of these aspects makes this study unique.

In Chapter III, Design of Study, will be a detailed examination of the design of this crossage tutoring programme. The procedures used will be discussed under such topics as sequencing a crossage tutoring programme, diagnostic testing employed, tutor training techniques used, stages of tutor development, the sample size and time involved to set up the programme. The final portion of Chapter III will deal with the specific research questions this study proposed to examine and the method of analysis employed.

CHAPTER III

DESIGN AND PROCEDURES

The present study sought to determine the effects of crossage tutoring on reading achievement and self-esteem. For this purpose, a sample of remedial readers were selected. The older remedial readers were trained to be reading tutors to the younger remedial readers, the tutees.

The questions of major interest were:

- 1) Will there be a measurable difference in the reading achievement of the remedial readers who participate in this crossage tutoring programme?
- 2) Will there be an observable difference in the self-esteem of the remedial readers who participate in this crossage tutoring programme?
- 3) Among which group of remedial readers will the greater gain be made in reading achievement?
- 4) Among which group of remedial readers will the greater gain be made in attitude toward "self"?

The design and procedures are discussed in this chapter. The discussion includes a description of:

- 1) Sequencing Crossage Tutoring
- 2) Diagnostic Testing - the instruments
- 3) Tutor Training
- 4) Stages of Tutor Development

- 5) The Sample
- 6) Crossage Tutoring Programme Timeline
- 7) Specific Research Questions
- 8) Method of Analysis

Sequencing Crossage Tutoring

Figure 3:01 entitled Sequencing Crossage Tutoring summarizes the master plan of the total crossage tutoring programme. It is an outline of the various stages taken by the teacher manager to set up such a programme. Additional figures have been added to Figure 3:01 to elaborate more fully key areas of the programme. Figure 3:02, for example, describes the diagnostic testing model followed by the teacher manager while Figure 3:03 details the tutor training workshop. The final inset Figure 3:04 outlines the various stages of tutor development.

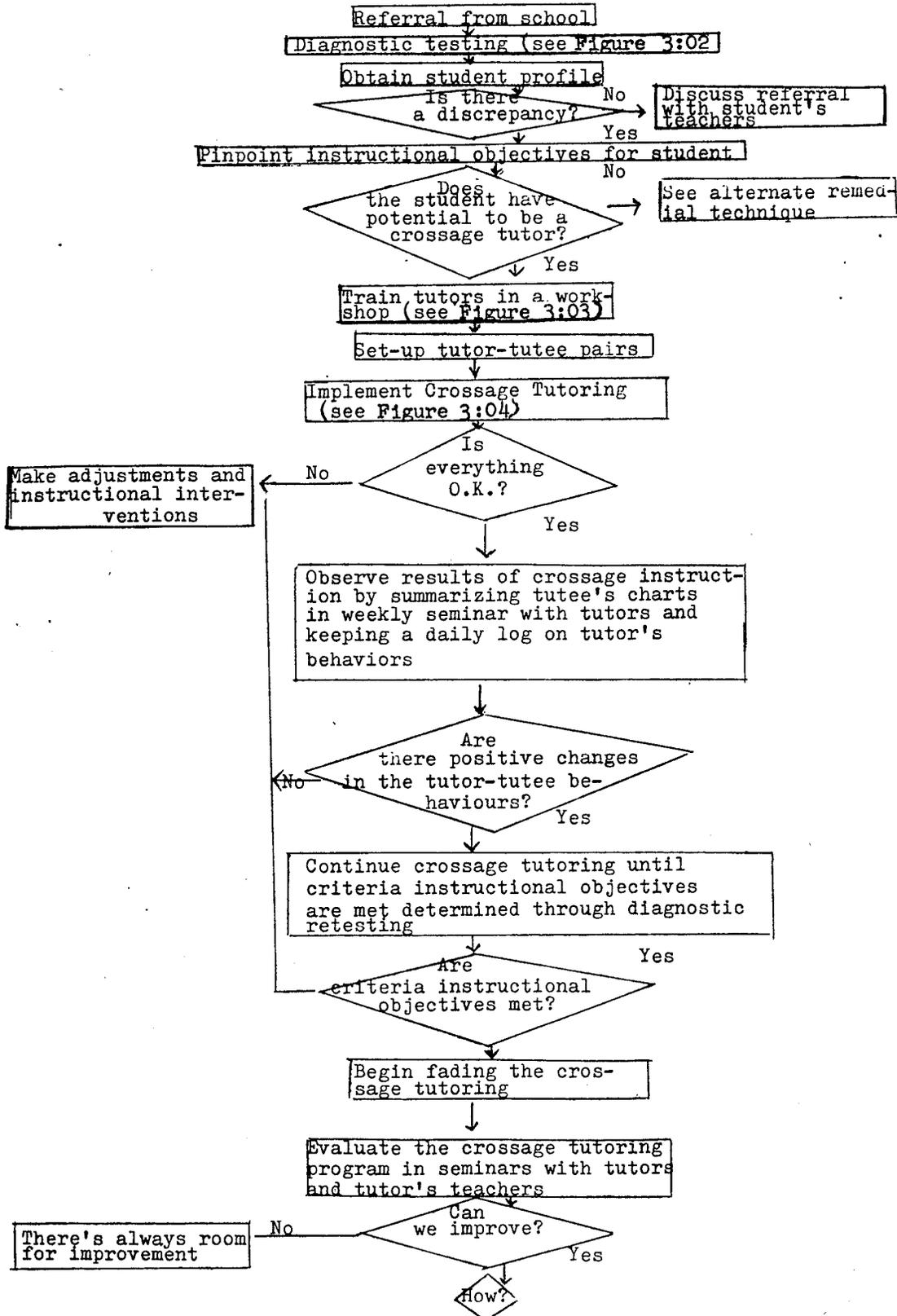
The students who were potential candidates for crossage tutors were first given a diagnostic reading assessment. (See Figure 3:02 "Diagnostic Testing Procedures" for details.) Upon completion of this assessment, a student profile indicating each student's relative strengths and weaknesses was drawn up by the teacher manager and presented to the student's classroom teachers. The essential question at this stage was to determine whether the student profile indicated a large discrepancy (of more than two grade levels) between test performance and actual school performance.

If so, some course of remedial action for the student

was determined by the student's teacher and the teacher manager. They discussed the student's potential for benefiting from participation in crossage tutoring. In the end this was a subjective decision based on personal knowledge of the student's work attitudes, personality and social relationships as well as an understanding of the dynamics of a crossage tutoring programme. It might be that the student would benefit more from some other form of remediation. After agreement that crossage tutoring would be appropriate, the student was then approached. The teacher manager explained the programme to the student who was asked whether he or she wished to participate. To participate the student was required to make a commitment for the initial two weeks of the programme after which he or she had the freedom to get out at any time. The student then went to a tutor training workshop (see Figure 3:03 "Tutor Training Workshop") for six sessions with the teacher manager. During the workshop the teacher manager observed the student more closely and assessed his or her personal interaction skills. At the end of the sixth training session the tutors met with their tutees. The tutor-tutee pairings were set up on the basis of both compatible personalities and reading skills. The crossage tutoring programme was now in operation. The tutor and tutee met daily in the library and their activities followed the sequence outlined in Figure 3:04 "Stages of Tutor Development".

After each five sessions the teacher manager reviewed

SEQUENCING CROSSAGE TUTORING



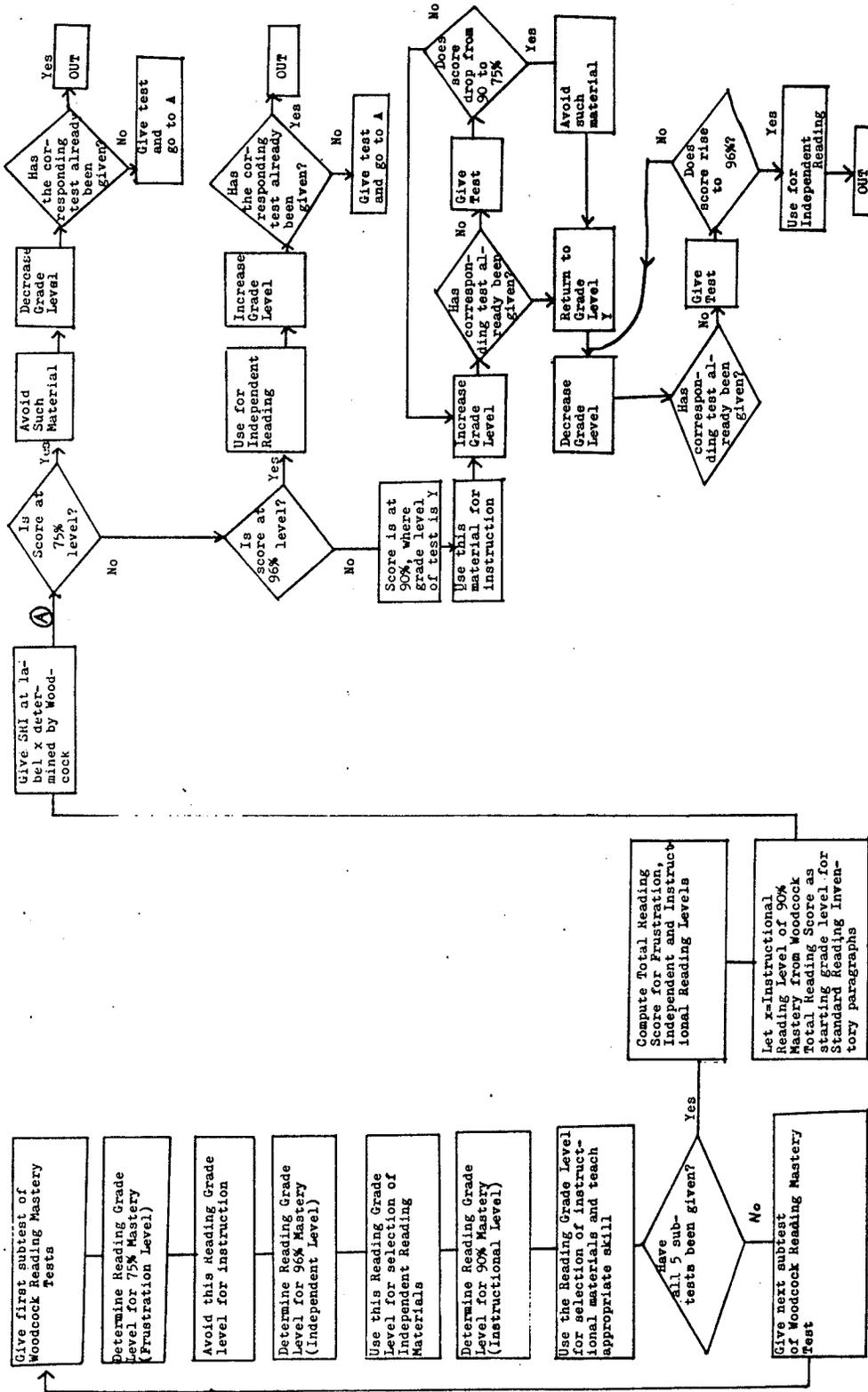
the tutor-tutee pairings to determine whether the programme and pairings needed adjustments. If not, the programme continued. Otherwise, the teacher manager explored alternative instructional procedures or retrained the tutors or set up new tutor-tutee pairings. The programme then continued on a daily basis for another eight weeks. Rather than end the programme abruptly, the teacher manager then cut the daily tutoring sessions to tri-weekly, then bi-weekly, and finally weekly tutoring sessions. Once the sessions have ceased completely the teacher manager began the process of evaluation. This involved retesting all the participants as well as discussing all aspects of the programme with their classroom teachers. The tutors and tutees were encouraged to give their opinions and feelings about the programme in individual interviews and group seminars conducted by the teacher manager.

Diagnostic Testing

Each tutor and tutee had an individual pre-testing and post-testing session. The following tests were administered. In pre-testing the tutors: The Woodcock Reading Mastery Tests Form A, The Standard Reading Inventory Form A and as a tutor group, How I See Myself Scale Secondary Form by I.J. Gordon were read orally to them by the teacher manager. For post-testing the tutors, the alternate forms of the above tests were used; Forms B of the Woodcock Reading Mastery Tests and the Standard Reading Inventory and

FIGURE 3:02

DIAGNOSTIC TESTING PROCEDURE



Form 2 of the How I See Myself Scale.

The following tests were administered for pre-testing the tutees; the Woodcock Reading Mastery Tests Form A, The Standard Reading Inventory Form A and as a group, An Experimental Self-Concept Scale Form 1 by A. Waschuk (1974) read orally to them by the teacher manager. For post-testing, the tutees, the alternate forms of the above tests were used; Forms B of the Woodcock Reading Mastery Tests and the Standard Inventory of Reading and Form 2 of the Experimental Self-Concept Scale.

Figure 3:02 illustrates in flow chart format the diagnostic procedures used in this study. This model is not meant to be a universal diagnostic testing model. Rather it represents how this author examined each student during the pre and post-testing sessions. It provided a method of immediately determining the student's independent, instructional and frustration reading grade levels from the test scores. The model pinpoints those skills which needed to be taught and the grade level at which to begin instruction. The particular tests chosen for use in these sessions will now be described.

The Woodcock Reading Mastery Tests

The Woodcock Reading Mastery Tests (1973) are a battery of five individually administered reading tests for use from kindergarten to grade 12. The five tests are: Letter Identification, Word Identification, Word Attack,

Word Comprehension, and Passage Comprehension. By combining performance on the five separate tests an "Index of Total Reading" is obtained. The subjects in this study crossed grade lines from grade one to eight, therefore, a test or tests had to be chosen which suited this particular situation. The tests had to provide reliable information in the shortest possible time, to avoid consuming inordinate amounts of time in the diagnostic phase of the program. Another useful feature of this test battery is that raw scores can be readily converted to traditional normative scores including grade scores, age scores, percentile ranks and standard scores. Interpretive emphasis is directed towards using the Mastery Scale which predicts the individual's relative success with reading tasks at three different levels of difficulty: easy reading level, where relative Mastery is 96%; reading grade score, where relative Mastery is 90% and Mastery score at grade level where the relative Mastery for the student is calculated in percent as well as percentile ranks. This data was not only useful to obtain a student profile but also extremely helpful when interpreting test results to classroom teachers. The three levels of ability obtained for each student on each skill guided the selection of reading materials and activities for each student. A description of each sub-test and the reading skill measured, will follow.

The Letter Identification Test

The Letter Identification Test contains 45 items to

measure a student's ability to name the letter of the alphabet. Eight classes of letter forms are sample, upper-case Roman letters, lower-case Roman letters, upper-case sans serif letters, lower-case sans serif letters, upper-case cursive letters, lower-case cursive letters, upper-case specialty typefaces and lower-case specialty typefaces. The student's task is to name each letter. The letters are arranged in order of difficulty beginning with the upper and lower-case Roman or sans serif type styles ending with cursive and specialty type letter forms.

The Word Identification Test

The Word Identification Test consists of a set of 150 words. The student's task is to name the word. The words were selected from an analysis of vocabulary in seven basal reading programs from the first pre-primer through the third reader (Woodcock, 1971). While the more difficult test items came mainly from the Thorndike-Sorge Test (Thorndike and Lorge, 1944).

The Word Attack Test

Fifty items make up the Word Attack Test. This test measures the student's ability to identify nonsense words through the application of phonic and structural analysis skills. The test items are arranged in order of difficulty from simple consonant-vowel or consonant-vowel-consonant combinations to multisyllabic words at the upper end of the test. Most consonant and vowel sounds, common prefixes and

suffixes and frequently appearing irregular spellings of vowels and consonants are represented within the test items.

The Word Comprehension Test

The seventy item Word Comprehension Test measures the student's knowledge of word meanings in an analogy format. The student reads silently the first pair of words in an analogy then reads the first word of the second pair, and then orally supplies the appropriate word to complete the analogy.

The Passage Comprehension Test

The Passage Comprehension Test has eight-five items of a modified cloze procedure (Bormuth, 1969). The student is to read silently a passage which has a word missing and then supply orally an appropriate word to go in the blank space. The easier test items, consisting of a phrase or short sentence, are accompanied by a picture so that the student must make use of pictorial information as well as the passage itself. Since the Passage Comprehension Test requires the student to draw upon a wide array of comprehension word attack, and word-meaning skills to supply the missing word, this test can be considered an omnibus test of reading skills.

The Index of Total Reading

The Index of Total Reading is the score obtained from the results of the five tests, to give a composite index of overall reading skill.



An additional measure of comprehension ability was considered necessary by this author to allow the subjects in this study to demonstrate their ability to read orally and silently. In the Woodcock Word Mastery subtest Passage Comprehension, the passages are very short at the lower end of the test and are silently read by the students. Since the students in this study were confronted with much longer passages to read in their classrooms the author had to know how each student coped with this kind of reading material, both orally and silently. Therefore, the Standard Reading Inventory was given to each student.

The Standard Reading Inventory

This test can be used across grade lines and is successful with students who have a wide range of abilities. The Standard Reading Inventory (SRI) gave additional diagnostic information concerning each student's reading levels. This test provides three level scoring: frustration, instructional and independent oral and silent reading grades levels, which are very similar to the Woodcock Reading Mastery Tests three levels of mastery ability.

The SRI has beginning oral reading passages at the pre-primer and primer reading level and then proceeds from grade one through to grade seven with both an oral reading passage plus a silent reading passage at each grade level. Each paragraph is followed by a series of ten comprehension questions plus three to four inferential questions which are optional to administer. The scores obtained from this

test are enhanced by the fact that the passages are transcribed by the test administrator indicating exactly what each student read. These mistakes or errors are coded in the manner described in the test manual and provide value diagnostic information for the test administrator.

The SRI grade equivalents are listed in Figure 3:03 and these were obtained from Froese (1971). The grade equivalents are stated in years and months in school. Each year represents ten months or an academic school year not a calendar year.

FIGURE 3:03

STANDARD READING INVENTORY GRADE EQUIVALENTS

Grades on SRI	Equivalents	Grades on SRI	Equivalent
Pre-primer	=1.1	Fourth Oral	=4.5
Primer	=1.4	Fourth Silent	
First	=1.7	Fifth Oral	=5.5
Second	=2.2	Fifth Silent	
Second Silent	=2.5	Sixth Oral	=6.5
Second	=2.7	Sixth Silent	
Third Oral	=3.2	Seventh Oral	=7.5
Third Silent	=3.5	Seventh Silent	
Third Oral	=3.7		

The How I See Myself Scale

The "How I See Myself" scale (Gordon, 1966) is a self-report device which yields several factors scores about the child's self-concept. This scale defines self-concept in the way a student reports about himself. It is assumed by this scale that self-concept is not a unitary trait, that the pupil has several concepts of himself which are inter-related yet discreet enough to be measured separately. The scale measures the student's view of his body, of his peers, of his teachers, of his school, and of his emotional control.

There are two forms of this scale, the Elementary and Secondary Forms. It was the latter which was utilized in this study. This Secondary Form has forth-two items which the students are asked to rate on a five point scale. For example: item number one has on one side "Nothing gets me mad" and on the other side "I get mad easily and explode". The pupils are told to circle number 1 if you feel mad most of the time or to circle number 5 if you feel most of the time you get mad easily and explode or to circle 2, 3, 4 if you feel you are somewhere in between.

The Experimental Self-Concept Scale

The Experimental Self-Concept Scale is a scale which was developed by A. Waschuk (1974) for use with primary children. The scale was adapted from Gordon's "How I See Myself" Scale the Elementary Form but the language and length of this scale had been modified to suit young children. The content remained essentially the same. Rather than using a

five point rating scale, this scale used a series of three happy faces, one of which the child had to mark. This scale had only thirty items and measured the child's general self-concept and his academic self-concept.

Diagnostic Testing Time

This author first gave the Woodcock Reading Mastery Tests to each of the twelve students individually and then, used the information thus obtained to administer the Standard Reading Inventory paragraph to get more detailed diagnostic information on oral and silent reading performance. The testing time per student varied slightly but usually both the Woodcock Reading Mastery Tests and the Standard Reading Inventory were completed within two hours.

It was during the first group session of the tutor training workshop that the author administered the self-rating scales. The teacher manager read each item on this to the group of students to ensure that each student had an equal opportunity to answer the question. The author was primarily interested in the student's reaction to the "How I See Myself" scale and did not want variation in students' reading ability to interfere. The "Experimental Self-Concept Scale" was used with those students who ultimately became the tutees in this study. This "Experimental Self-Concept Scale" was administered by the author with the aid of the tutors during the last day of the Tutor Training Workshop. The author orally read each item for the group and the tutor

aided his tutee by noting his place on the response sheet and seeing that the tutee did respond to each item. The administration of both the "Self Rating Scale" and the "Experimental Self-Concept Scale" each took 15 minutes.

The same testing procedures were repeated for all of the tutors and tutees at the completion of 12 weeks of crossage tutoring.

The total time involved in testing, pre-testing and post-testing (see Figure 3:04) was approximately 49 hours.

FIGURE 3:04

PRE AND POST DIAGNOSTIC TESTING TIMETABLE

Test	Time	Number Pupils	Total Pre & Post Time per Test
Woodcock Reading Mastery Tests	1 hour	12	24 hours
Standard Reading Inventory	1 hour	12	24 hours
How I See Myself Scale	15 min.	6	30 minutes
Experimental Self-Concept Scale	15 min.	6	30 minutes
Total Testing Time			49 hours

Tutor Training

Session one of the Tutoring Training Workshop began after the diagnostic testing with a tour of the elementary

FIGURE 3:05

TUTORING TRAINING STAGE

Session I

- 1) Group discussion on how it feels to fail - from tutee's point of view.
- 2) Group discussion of praise techniques - i.e.
verbal expression,
facial expressions,
tangible rewards,
tactile.
- 3) Demonstration by manager of praise techniques.
- 4) Role playing by tutors to practice praise techniques.
- 5) Overview of tutoring program - expectations of manager (see tutoring stages).

Session II

- 1) Demonstration by manager - how to teach a sight word;
i.e. show and say the word,
have the tutee repeat the word,
say the word in a sentence,
have the tutee say the word again,
go on to the next word,
review all the words in a flash card procedure at the end.
- 2) Role playing by tutors to practice teaching sight words - manager circulates taking part in role playing either acting as a tutee or a tutor.
- 3) Role playing by tutors to practice teaching sight words - praise techniques included manager acts as observer or takes part if asked.
- 4) Introductions to 6-cycle behaviour charts.

Session III

- 1) Demonstration by manager on how to teach a sight word and take data i.e. time the procedure.
- 2) Role playing by tutors to practice teaching a sight word and taking data.
- 3) Demonstration by manager on how to chart the data taken from sight words.
- 4) Role playing by tutors to practice teaching sight words, taking data and charting.
- 5) Demonstration by manager of reading games i.e. consonant Go Fish, Grab, Take.

Session IV

- 1) Role playing by tutors on how to teach a sight word,

Figure 3:05 continued

- take data and chart.
- 2) Demonstration by manager on how to do oral reading with a tutee, i.e. radio reading.
 - 3) Role playing by tutor on how to listen to oral reading by a tutee.
 - 4) Demonstration by manager of phonic rummy plus Stott Reading Kit I.

Session V

1. Role playing by tutor on how to teach a sight word, take data and chart.
- 2) Role playing by tutor on how to listen to oral reading by a tutee.
- 3) Demonstration by manager of games in Stott Reading Kit II.

Session VI

- 1) Role playing by tutor on how to teach a sight word, take data and chart.
- 2) Role playing by tutor or how to listen to oral reading by a tutee.
- 3) Completion of demonstration of Stott Reading Kit II.
- 4) Meet the tutee and discuss what they will be doing together. Play a game with the tutee.

school where the tutors would be working every day. First the tutors were introduced to the elementary school principal who greeted them as colleagues. The teacher manager felt that this was an important aspect in positive confidence reinforcement for the tutors. To orient the tutors to the school the principal conducted the tour of the library, classrooms, washrooms and staff room. These premises were pointed out as all being areas for their use. The principal emphasized the great service the tutors were going to provide the school with and how much he appreciated their help with tutoring. The youngsters they would be working with all

needed individual tutoring which their classroom teachers were unable to provide. The tutors were told they were making a valuable contribution to his school and he looked forward to their working relationship.

Upon completion of the tour the tutors met with the teacher manager in a classroom set aside for their use. This was to become their work room where they would all meet every day before each tutoring session.

The first day's meeting began with the Self Rating Scale being given to the group of tutors. The next phase of session one was a discussion led by the teacher manager concerning the use of positive and negative praise techniques. The teacher manager demonstrated positive and negative facial expressions and body language plus verbal praise. As the teacher manager demonstrated the various praise techniques, the tutors were asked to respond with their feelings. The rationale here was to get the tutors to project and discuss their feelings of anger, failure and inadequacy, to become more aware of the causes and how not to reinforce these feelings in the youngsters they would be teaching. The tutors were invited to contribute their ideas of how to encourage more sensitive feelings in youngsters. Such ideas as tangible and tactile rewards were then discussed.

The tutors each had an opportunity to role play some positive praise techniques of their choice on the teacher manager and each other. The group was broken into pairs for

role playing with the teacher manager participating by rotating as a pair member. This activity ended with the teacher manager calling the group together again and asking for an oral summary which was written up on a chart for future reference.

The final topic in the first session was an outline of the crossage tutoring program, the use of the report book, and the expectations of the tutor and the teacher manager. The tutors were encouraged to raise doubts and questions. The teacher manager emphasized the important responsibility the tutors were going to undertake. The tutors had all agreed to try crossage tutoring during their individual interviews with the teacher manager. They were reminded that their commitment was for two weeks, one week of training and one week of working with their tutee after such time they could either continue or opt out of the program.

During session two the teacher manager taught the tutors how to teach a sight word using the Dolch 220 word list.

Using one of the tutors to act the part of a tutee, the manager demonstrated the following sight-word teaching technique:

- Step 1 Tutor: show and say the word card
- Step 2 Tutee: repeats the word
- Step 3 Tutor: say the word in a sentence then ask, "What is the word?"

- Step 4 Tutee: repeats the word (if not) tutor repeats the word
- Step 5 Tutor: goes to the next word card and repeats steps 1-4
- Step 6 Tutor: review each word card and illicit a response from tutee, if not give the word and have tutee repeat it
- Step 7 Tutor: test all the words in a flash card manner and record results on a behaviour chart

The group broke into pairs and each pair role played the tutor-tutee sightword teaching technique. The teacher manager was included in one of the pairs and rotated through each pair. The teacher manager had role played with each student by the end of the session. Throughout this session the teacher manager encouraged the tutors to use positive praise techniques as reinforcement for correct responses.

The standard behaviour charts (Pennypacker et al, 1972) were introduced by the teacher manager who demonstrated their use as a recording device to keep track of the number of sight words taught and learned each day, plus the number of correctly read words in oral reading. The tutors needed some means of recording while they were working with their tutees. However, this recording technique had to provide immediate feedback and positive reinforcement for both the tutee and tutor. The standard behaviour chart provided this function. It is called a standard chart because it uses two dimensions common to all behaviour measurement, time and number. This particular charting technique is not time consuming and can be readily understood and learned by the

tutor and tutee. It is highly structured and, therefore, provided a concrete basis from which the tutor and tutee could work. The standard behaviour chart helped the tutor and tutee to focus and hold their attention on a particular reading skill. The tutors were told they were expected to use their charts every tutoring session.

In session three, the tutors were given an opportunity to role play teaching a sight word, taking data (keeping track of the number of correct and learning opportunities) and recording this information on standard behaviour charts. The tutors practised in pairs with the teacher manager rotating through each pair so that by the end of the session each tutor had worked with the teacher manager at least once. The final phase of session three was a demonstration by the teacher manager of the reading games: "Consonant G - Fish", "Grab" and "Take".

The first six games of the Stott Reading Kit I were also examined. This session ended with the tutors divided into pairs and playing a game of their choice. The use of games provided the tutors, and later the tutees with an easy way to reinforce skills as well as an enjoyable learning experience. The tutors were required to master each game in their own workshop sessions before introducing the game to their tutee.

Session four began with the tutors role playing sight word technique, taking data and charting the results. The teacher manager observed each pair and offered encouragement

and instruction wherever needed. Then the group reformed to watch the teacher manager demonstrate a method of charting the tutee's oral reading performance. The tutors were shown how to sit on the left of their tutee and watch the print as the tutee read. The tutors were told to mark on a scrap piece of paper with a tick the number of learning opportunities the tutee read. At the end of one minute the tutor and tutee together counted up the total number of words the tutee had read and then subtracted from this number the number of learning opportunities to obtain the number of correct words read per minute. This data was recorded on the standard chart and (as a double check for the teacher manager) on a separate data sheet as well. This procedure involved a degree of accuracy from the tutor. Therefore, the group broke into pairs and practised role playing the technique. This particular technique forced the tutors and tutees, not only to focus their attention on the printed word, but also to track their eyes from left to right as they read. The tutors were told that when they actually were working with their tutee they would in all likelihood have time to complete the oral reading story after taking data and charting. During this role playing the teacher manager again rotated through each pair so that by the end of the sessions each tutor had role played with the teacher manager.

Session four ended with the introduction of the rest of the Stott Reading Kit I games and phonic rummy.

The tutors could then play the games of their choice.

Session five began with the teacher manager observing the tutors role playing the sight word and oral reading technique. The tutors were expected to take data and chart the results of these two activities. The tutors thus far had dealt with only the surface technical aspects of reading, the decoding skills. During this session the tutors explored a comprehension skill, that of direct recall. It had already been made clear to the tutors that during their tutoring sessions the oral reading activity which involved taking data and charting would only involve a small portion of their total tutoring time. The remaining time would be devoted to the tutees oral reading, aided by the tutor. The tutors were shown that by moving their position from the left of their tutee to directly facing the tutee the oral reading activity would take on a new dimension. The tutors were to encourage their tutees to continue reading from their book and to ask the tutor whenever the tutee came to a difficult word. This activity, known as radio reading (Greene, 1979), frees the tutee to take responsibility for his or her learning by asking for an unknown word. At the same time, the tutee must listen to the story as the tutee reads as it is the tutor's part to retell in his or her own words what the story was about as the tutor checks the work for details. The whole process is later reversed, so that the tutee becomes the listener and the tutor the reader.

This skill strengthens both direct recall and listening skills in both participants.

The tutors were paired off and each role played radio reading on each other while the teacher manager again rotated through each pair and was able to work with each tutor by the end of the session.

Session five ended with the introduction of the first half of the Stott Reading Kit II. After demonstrating the purpose of each game the tutors were free to choose a game to play.

Session six began with the tutors role playing in pairs the sight word technique, oral reading technique and radio reading. The tutors were asked to take data and chart each other on the first two activities before going on to radio reading. The teacher manager throughout this time circulated as an observer and offered help and advice whenever appropriate. The last half of the Stott Reading Kit II was demonstrated and tutors were given the opportunity to try out the games.

While the group was practicing the Stott Reading Kit II games the teacher manager asked each tutor in turn to choose a game he or she had already learned and to come with the teacher manager to meet their tutees. The teacher manager then told the tutor and tutee to go to the library and quietly play their game and get to know one another. This first meeting took about ten minutes before the teacher

manager called time, and instructed the tutors to bring the tutee to the work classroom. The tutors returned to the work classroom where the teacher manager showed each where their report book was going to be stored during the program. They were to begin using it the next day as it would contain their first set of instructions.

The tutor training workshop now officially ended. The tutors were given additional opportunities to refine their skills during subsequent training sessions held at weekly intervals throughout the program. These were group seminars designed to refine the tutors teaching techniques, to share experiences and feelings about tutoring, to introduce the use of new materials particularly games and books and equipment such as tape and audio-visual machines plus the introduction of additional teaching techniques such as Echo Reading and Taped Reading. The seminars were led by the teacher manager and were designed to meet the program and tutors' needs as they arose during the tutoring sessions. The seminars also functioned as a vehicle whereby the teacher manager could observe and enhance the developing peer relationships among the tutors. The weekly seminars were a means by which the teacher manager could inject additional stimulus of ideas and responsibilities to the tutors so that once the initial enthusiasm and uniqueness of crossage tutoring began to pale with the tutors a new activity or slant to an old activity, was introduced. This maintained

the tutors' interest for the program and was also valuable to the tutees growth and development of reading skills and self-esteem.

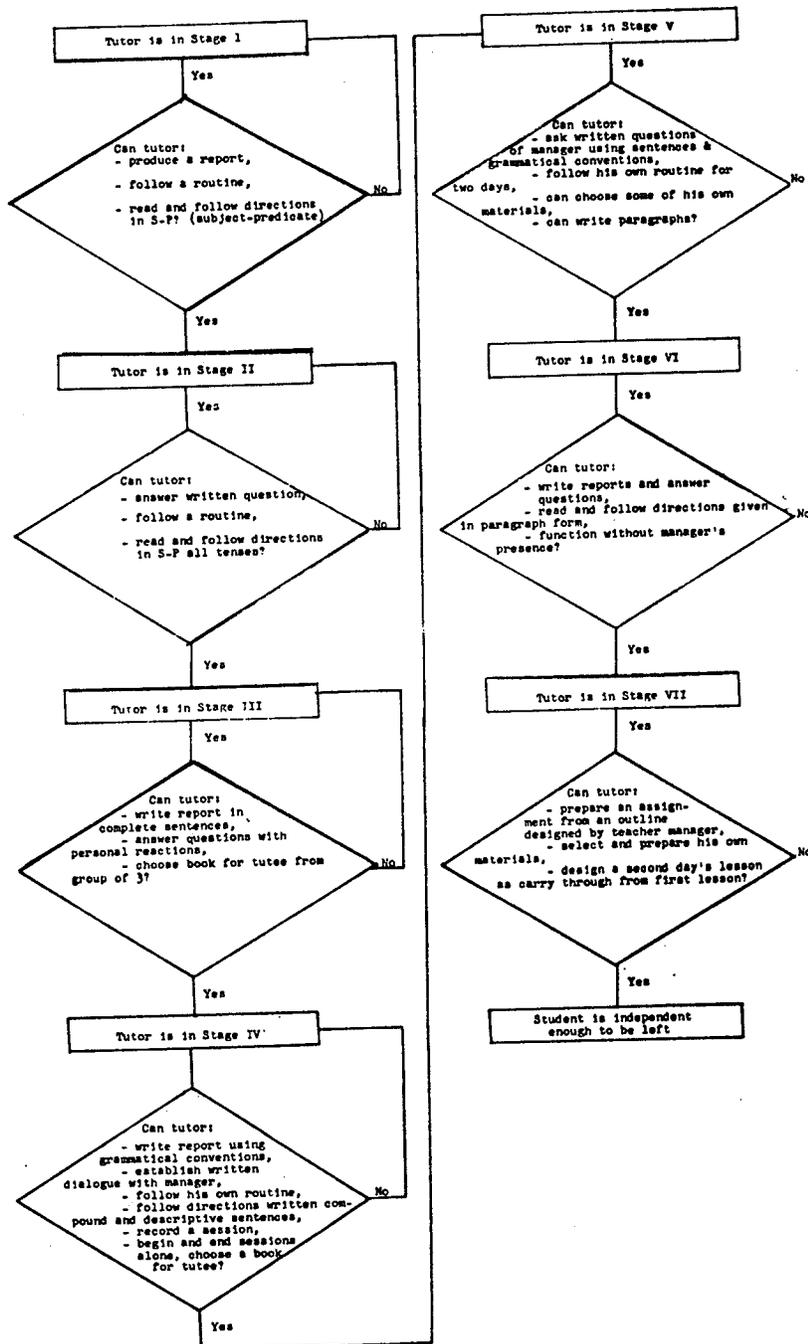
Stages of Tutor Development

There were seven stages of tutor development in the crossage tutoring program. The stages evolved from very structured activities with limited tutor responsibilities to less structured activities with greater tutor responsibilities. The seven stages were designed to be fluid and flexible. It was not necessary for every tutor to pass through each stage. Indeed some tutors were able to bypass a stage as the program progressed. The stage of tutor development (see Figure 3:06) reflect the gradual transfer of responsibility from the teacher manager to the tutor. As the tutor gained in self-confidence, reading skills and organizational ability he was able to take on more responsibility during a tutoring session. The ultimate goal for the tutors was a self-directed tutoring session as described in stage seven (see Figure 3:06).

The following description will detail the teacher manager's responsibilities for each stage (see Figure 3:06) and the questions posed by the teacher manager concerning the tutor's responsibilities. The questions posed after each stage assume a positive response to the questions posed in the previous stage.

Stage one saw the manager present at all times while

FIGURE 3:06
STAGES OF TUTOR DEVELOPMENT



the tutoring sessions were in progress. This meant that the physical presence of the teacher manager in the room was necessary to the stability of the program. During stage one the teacher manager was able to observe both the tutors and the tutees in action. If a tutor needed help with a problem, the teacher manager was available for consultation. It was not the teacher manager's part to interfere with the actual tutoring unless it was apparently detrimental to the tutee. It was stressed by the teacher manager that the tutors were to ask any questions of the manager before the tutoring session began. In some instances, however, the tutor needed to ask the help of the teacher manager and this was permitted as long as it did not develop into a routine. The teacher manager was anxious to have tutors think through situations and to anticipate possible questions before they actually arose during the tutoring session.

During stage one the teacher manager prepared the tutor's report book by printing instructions for the tutor in point form using the present tense and a subject, verb, predicate sentence pattern. The routine instructions, such as "get your tutee" or "return your tutee" were included in the tutor's instructions. The objective was to help the tutor to establish a routine or pattern of organization to follow during the tutoring session and to provide exposure to simple sentence structures whose interpretation from a comprehension viewpoint required a minimum of effort. These

Leaf blank to correct
numbering

directions were written into the tutor's report daily by the teacher manager. The report book was made ready for the tutor along with any materials the tutor would require and placed in a large pocket file boldly displaying the tutor's name. The file was kept on the same shelf in the work classroom in the elementary school. The report book was always replaced in the file for safe keeping when not in use. Upon arrival every morning, the tutor went to his file and read the instructions found in the report book. The teacher manager was present to answer questions and if need be, to interpret any instructions to the tutor. The tutors were asked to repeat the instructions to the teacher manager, if it appeared that the tutor was unsure as to what he was to do during the session. The tutor then brought his file of materials and report book with him while he collected his tutee and proceeded to the library where they were going to work.

During the actual tutoring session, the tutors and tutees worked in pairs scattered around the elementary school library. Some worked at tables, others on the floor and others at the study carrels. The teacher manager observed each pair in rotation, making written observations which could be summarized at the end of the week. The teacher manager did not intrude upon a tutoring pair unless asked by the tutor, or if the tutor was obviously having a great deal of difficulty with a tutee. This required a great deal of discretion on the part of the teacher manager, as the teacher

manager did not want to embarrass the tutor in front of the tutee. As interpretation had to be carried out in the same manner as one colleague coming to the assistance of another.

When the tutor had completed the tutoring session he escorted the tutee back to the classroom. The tutor then returned to the library to write a report of the session. In Stage 1 the teacher manager's goal for the tutor, as far as the written production is concerned, is simply to get the tutor to write. Any kind of written production is acceptable at this stage. The tutor then gathered up the materials used during the tutoring session and placed the report book along with the materials in the file and returned these to the work classroom. The tutor was then free to go back to his own junior high school.

The teacher manager then read and wrote very positive comments in the tutor's report book. The next day's session was outlined for the tutor, the materials gathered into the file folder so that all was in readiness for the next day's session.

Advancement to Stage II (see Figure 3:06) usually occurred for most tutors after about two weeks. Again this really depended upon the individual tutor's learning pace. A tutor did not advance to the following stage until the teacher manager was satisfied that he could do all the activities as outlined on the chart for each stage. The tutor had to have a firm base upon which to build so over-

learning was encouraged. Each stage built upon the other. As each stage is outlined in Figure 3:06, it is assumed all the activities of the previous stages are still being carried out plus the additional responsibilities of each new stage.

Stage II now sees the tutor following a varied routine. This meant when the teacher manager wrote out the daily session, it was not always in exactly the same sequence as it had been in Stage I. Routine directions such as "get your tutee", or "work in the library", or "return your tutee to the classroom" were assumed by the teacher manager and not written into the instructions. The description of the daily activities was written in simple sentences but all tenses were used wherever appropriate. The teacher manager now begins to write questions at the end of each tutor's report and the tutors were expected to answer these questions in written form. This is the beginning of the establishment of a written and personal dialogue between the teacher manager and the tutor. The answers to the teacher manager's questions do not have to be elaborate, one or two word answers usually were enough. The teacher manager was after a written response from the tutors. Also the tutor had to go back on a re-read or review their report in order to answer the questions. Thus they were encouraged to re-evaluate what they had written or elaborate further to clarify what they had written. Once the tutor satisfied the teacher manager's expectations for Stage II, he could move on to

Stage III. It is in Stage III that the tutor's attention is now drawn towards some grammatical conventions. Simple one word answers are no longer acceptable. Reports must be written in sentences and correctly punctuated. Answers to questions at the end of each report must contain some personal reactions to situations such as why do you think your tutee felt that way or have you any ideas about how to make your tutee learn better?

The tutors were also given three titles of books from which to choose a reading book for their tutee. The title of this book, therefore, had to be recorded into their daily report so that the teacher manager would know what the pair had been reading. This task made the tutor increase his awareness of the tutee's personal tastes and reactions. The spin-off effect was intended to start this same process of self-awareness in the tutor. By encouraging the tutor to give of himself to become personally involved with both the tutee and teacher manager, a caring relationship was built up.

Stage IV sees the tutor following his own routine. In other words, the tutor is free to use the teacher manager's instructions as a guide to what needs to be accomplished during the session. The manner of execution is up to the tutor. For example, if the tutor feels it is appropriate to play a game first rather than read with his tutee, he is at liberty to do so. The directions are still numbered but

much more elaborate sentence structure such as compound and descriptive sentences are used. It is assumed by the teacher manager that only grammatically correct reports will be acceptable. The reports can be written in paragraph form if the tutor wishes although this is still not demanded. Compound and descriptive sentences are acceptable if grammatically correct. Each tutor at this stage is asked to record a whole tutoring session for the teacher manager. This gives the pair an opportunity to use a tape recorder to listen to themselves reading and to refine their skills. The tape is given to the teacher manager at the end of the session so that the teacher manager has an opportunity to hear a whole tutoring session and assess, not only the pair's progress, but also their rapport. This also helps the teacher manager in planning weekly tutor seminars to suit the tutor's immediate needs and concerns. By now the tutor chooses a book for the tutee from the library or work classroom. It is up to the tutor's discretion. The same is true of the game chosen by the tutor for use in the session. The teacher manager may suggest that a certain kind of game be played such as a game which emphasizes initial consonants or one which develops short vowels. The actual choice, however, is left up to the tutor.

It is assumed that by now a written dialogue has been firmly established between the tutor because the teacher manager is not always present in the library during the

whole session. The tutors are expected to begin and end their sessions on their own. They have to write questions for the teacher manager since the manager is not available all the time.

In Stage V the tutor assumes still more independence. He has to follow a tutoring session for two consecutive days. In other words, the teacher manager's written instructions for each tutoring session covers two days, not one. The tutor is free to establish the type of routine he wishes as long as he stays within the guidelines established by the teacher manager in the report book. The tutor must choose all his own books for reading, get them ready for the next day's session and see that all is in order for the tutoring session. This means that the tutor is responsible for all materials and equipment he has used. The teacher manager will only indicate the type needed. A specific game or book is never mentioned by the teacher manager.

The instructions written by the teacher manager are in numbered form; although the directions are elaborate and descriptive in nature, the tutor is expected to write his report in paragraph form. Grammatical conventions are expected to be used by the tutor. Much attention is drawn to the use of paragraphs in the weekly tutoring seminars, and by the teacher manager through comments on the tutor's daily reports.

Stage VI sees the teacher manager writing directions

in paragraph form. The tutors are expected to read and follow these directions. At this stage the tutors are to consolidate much of their learning. They are expected to be able to write a paragraph by now and function independently from the manager's guidelines.

The final Stage VII sees the tutor entering into a different phase of activity. During this stage the tutor is taught by the teacher manager how to prepare his own daily teaching assignments. The report book changes character also. The tutor will write up a lesson, e.g. "What I Plan To Do", and hand this in to the teacher manager for comments. The following day the tutor will follow his own lesson plan and write a report on how the plan worked out plus write out a new plan in point form for the next day. Thus the tutor is really becoming a self-directed learner and no longer needs to be involved in the crossage tutoring program for strictly remedial purposes.

Sample

In this study there were six tutors and six tutees. Two of the tutors were in grade eight, a boy and a girl, while the remaining four tutors, all boys, were in grade seven. They all attended the same junior high school. The one boy in grade eight had attended the junior high for two years, however, for the other five tutors, this was their first year in this particular junior high. The tutors ranged in age from fifteen to twelve with the average age

FIGURE 3:07

DEMORGRAPHIC DATA ON CROSSAGE TUTORS AND TUTEES

	Age	Grade	Intellectual Potential	Actual Reading Performance	*Expectancy Reading Score
Tutor					
A	12	7	Average	3.6	7.4
B	13	7	Average	3.3	7.4
C	14	8	Low Normal	4.4	8.4
D	13	7	Low Normal	2.5	7.4
E	15	8	Average	3.1	8.4
F	13	7	Average	4.2	7.4
Tutee					
G	7	1	Average	1.5	1.7
H	9	2	Average	2.5	2.7
I	9	4	Average	3.6	4.7
J	6	1	Low Normal	1.7	1.7
K	10	4	Average	3.6	4.7
L	9	4	Low Normal	2.9	4.7

*for instructional total reading score on Woodcock Reading Mastery Tests.

being thirteen (see Figure 3:07).

The tutors had all been referred by their classroom teachers to a reading clinician because of their poor reading performance in the classroom after seven months in their respective grades. Some of the tutors exhibited behaviours of extreme withdrawal and anxiety and/or were aggressively hostile towards school work and their academic environment. The school records of the tutors indicated a history of reading failures which had persisted for several years in

elementary school despite frequent remedial help (see Chapter V).

There were six tutees, one girl and five boys, who ranged in age from six to ten with an average age of eight. They were all from the same elementary school in grades one, two and four. All the tutees had, after seven months in school, experienced difficulty with reading tasks. Upon the recommendation of the resource teacher and their respective classroom teacher, the tutees were identified as needing extra attention and help in reading.

All of these children, both the tutors and the tutees, seemed capable of learning as their intellectual potential ranged from low normal to high average. However, something had happened to them all which had turned them away from learning. They were all capable of learning according to their very early school performances.

A brief case history of each tutor and tutee has been included to present a clearer view of each of these youngsters. Although each of these children is unique, they do have reading failure in common. Each child has been assigned a fictitious name to preserve anonymity. The reader is referred to Chapter V for the case histories. A summary of the sample is found in Figure 3:07.

Crossage Tutoring Total Program Time

The total time involved in this study was twelve weeks plus forty-nine hours of diagnostic testing (see

FIGURE 3:08
TIMELINE FOR CROSSAGE TUTORING TOTAL PROGRAM

Activity	Number of Children	Time		
		Weeks	Hours	Minutes
Pre-testing	12	-	24	30
Tutor Training	6	-	6	
Crossage Tutoring	12	9	(45)	
Fading	12	1	(3)	
	12	1	(2)	
	12	1	(1)	
Post-testing	12		24	30
TOTAL TIME	12	12	100 hours	

Figure 3:08). The pre-testing of each of the twelve subjects took approximately two hours each, a total of twenty-four hours.

By the end of this time period each subject had completed the Woodcock Reading Mastery Tests plus the Standard Reading Inventory.

The How I See Myself Scale was administered to the six tutors as a group which took fifteen minutes to complete.

The Experimental Self-Concept Scale was administered to the six tutors as a group which took fifteen minutes to complete.

The exact same testing procedures and time involvement was repeated during the post-testing situation. This totaled up to an additional twenty-four hours plus thirty minutes.

The crossage tutoring time was for nine weeks at one hour daily at a total of forty-five hours. The fading procedure spanned three weeks. One week was for three hours, week two for two hours, and week three for one hour. This gave an additional six hours of crossage tutoring to the forty-five hours totaling fifty-one hours of crossage tutoring.

The entire time involved for this study was one hundred hours.

Research Hypothesis

There will be an observable difference in the reading performance and self-concept of the remedial readers who participate in a crossage tutoring program.

Specific Research Questions

The following questions were proposed in this study:

- 3:1-01 Are significant gains in total reading achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?
- 3:1-02 Are significant gains in word identification achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?

- 3:1-03 Are significant gains in word attack achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?
- 3:1-04 Are significant gains in word comprehension achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?
- 3:1-05 Are significant gains in passage comprehension achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?
- 3:1-06 Are significant gains in letter identification from pre-test to post-test on the Woodcock Reading Mastery Tests evident for the tutees?
- 3:1-07 Are significant gains in oral independent reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?
- 3:1-08 Are significant gains in silent independent reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?
- 3:1-09 Are significant gains in oral instructional reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?

- 3:1-10 Are significant gains in silent instructional reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?
- 3:1-11 Are significant gains in oral frustration reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?
- 3:1-12 Are significant gains in silent frustration reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees.
- 3:2-01 Are there significant differences in the tutors' self-concept scores from pre-test to post-test on the How I See Myself Scale?
- 3:2-02 Are there significant differences in the tutees' self-concept scores from pre-test to post-test on the Experimental Self-Concept Scale?
- 3:3-01 Among which group, the tutors or the tutees, was the greater gain made in reading achievement?
- 3:4-01 Among which group, the tutors or the tutees, was the greater gain made in attitude toward "self"?

Method of Analysis

The paired t-test was applied to the pre-achievement and post-achievement indices derived from the tutors and tutees test data. The results of this analysis were described in view of not only their statistical significance but also their practical significance for a remedial reader.

The tutors and tutees were examined as a group as well as individually within the group on each test.

Chapter IV will state each specific research question followed by a discussion whereby the results of the statistical analysis are described in the light of statistical and practical significance.

CHAPTER IV

ANALYSIS OF THE DATA

A brief review of the design and procedures is presented below before presenting the analyses.

The purpose of this case study was to determine whether there were significant gains in the reading achievement and self-esteem of the participating tutors and tutees. At the same time, this case study was to provide a detailed description of a crossage tutoring program which included a description of the tutor training techniques, sequencing of a crossage tutoring programme, the diagnostic testing model followed plus descriptions of observed behaviours of the twelve remedial readers involved in the programme.

The term "significant" is defined for the purpose of this case study in two ways. First, significant is taken to mean statistically significant, at the .05 level as determined by the paired t-test which was applied to the raw scores on all the test data. Second, significant is taken to mean practical significance for the classroom teacher. All the subjects in this case study were remedial readers who by normal classroom experience did not seem to be improving in their reading achievement. To accelerate these students reading achievement over a short period of time may prove not to be statistically significant, however, any

acceleration in their reading achievement has great practical significance for a classroom remedial teacher. Ordinarily, the research seems to indicate that such students when left show no improvement or a regression (Samuels, 1978). Many remedial programmes according to Samuels (1978) produce limited improvements in children's reading levels over short periods of time.

In the presentation of the data, each research question is stated and the analysis of the data concerned. Tables containing the data follow each research question.

Analysis of Questions Related To:

Woodcock Reading Mastery Tests

Question 4:1-01

Are significant gains in total reading achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?

The achievement Index is obtained by subtracting the Mastery score at grade level from the subject's Mastery score. Whenever the subject's Mastery score is greater than the Mastery score at grade level, the differences will be positive since achievement is above average for the grade level. If the subject's Mastery score is less than the average Mastery at that grade, this difference will be negative. The Achievement Index provides a comparison of achievement with some referent such as grade placement, chronological age or mental age. The Achievement Index represents reading

retardation only when it is negative. The significant characteristic of this Index is that a given value always represents the same degree of impairment in Mastery at any grade level, in any of the five separate reading tests or with the total reading score.

In Table 4:01 the paired t-test on the tutors' pre-test and post-test total reading achievement indices (5df) indicated a $t = -5.68$ which was significant at the .05 and .01 level of significance. Therefore, the tutors made statistically significant gains in their total reading achievement.

In Table 4:01 it is interesting to note that tutors B, C, D, E and F made an average of 14 points gain in their achievement index. Tutors E and D made the greatest gains, 20 and 17 respectively. While tutors B, C and F made 13, 15 and 15 points gain on their Achievement Index. Only tutor A made a 3 point gain on his Achievement Index. The expected average gain was 2 points.

Table 4:03 presents the actual grade scores each tutor accomplished on the total reading achievement for the Woodcock Reading Mastery Tests. For practical purposes all the tutors improved but obviously at vastly different rates. Tutors C and F got the closest to their grade levels. Tutor C was in grade 8 and managed to obtain a score of 7.5 while tutor F was in grade 7 and scored within the 7.2 range.

Tutors A, B and E were all able to consolidate their primary

level skills and scored in the grade 4 ranges of 4.0, 4.5 and 4.8 respectively. This left only tutor D who remained at grade 3.4, a very respectable improvement considering his starting pre-test level was grade 2.5.

Turning to Table 4:02 the paired t-test on the tutees' pre-test and post-test total reading achievement indices (5df) indicated a $t = -5.58$ which was significant at the .05 and .01 level of significance. Therefore, the tutees made statistically significant gains in their total reading achievement.

Table 4:02 shows that the average gain for all the tutees was 8.5 points on their Achievement Index. All the tutees with the exception of tutee L improved beyond their expected Achievement Index level. Tutees G, H, K, J and I each improved 11, 11, 7, 8 and 12 respectively, but tutee L improved 2 points which was 5 points short of an expected 7 point gain.

Table 4:04 is the actual grade level score each tutee achieved on the pre-test and post-test total reading achievement tests on the Woodcock Reading Mastery Tests. As the table shows from a practical viewpoint, every tutee improved and like the tutors some improved more rapidly than others. Tutors G and J both in grade 1 improved to grades 2.0 and 1.9 respectively. These are reasonable improvements for grade one pupils who were in the last half of grade one at pre-testing and both had ground to a halt in their reading

TABLE 4:01

THE TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES ON
THE TOTAL READING ACHIEVEMENT ON WOODCOCK
READING MASTERY TESTS

Tutors	Raw Scores		Mastery Scores		Achievement Index		Differ- ence	Means
	Pre	Post	Pre	Post	Pre	Post		
A	120	125	144	146	-24	-21	3	
B	115	130	144	146	-29	-16	13	
C	129	145	147	148	-18	-3	15	
D	98	117	144	146	-46	-29	17	14
E	111	133	147	148	-36	-15	21	
F	127	144	144	146	-17	-2	15	
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$	84	

Paired t-test on PRE and POST Achievement Indices (5df)
yields $t = -5.68$ which is significant at 1%.

TABLE 4:02

THE TUTEES' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES ON
THE TOTAL READING ACHIEVEMENT ON WOODCOCK
READING MASTERY TESTS

Tutees	Raw Scores		Master Scores at Grade		Achievement Index		Differ- ence	Means
	Pre	Post	Pre	Post	Pre	Post		
G	69	87	76	83	-7	+4	11	
H	99	114	104	108	-5	+6	11	
K	121	129	132	133	-11	-4	7	
L	74	83	76	83	-2	0	2	8.5
J	120	129	132	133	-12	-4	8	
I	108	121	132	133	-24	-12	12	
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$	51	

Paired t-test on PRE and POST Achievement Indices (5df)
yields $t = -5.58$ which is significant at 1%.

TABLE 4:03

TUTORS' TOTAL READING GRADE SCORES ON
WOODCOCK READING MASTERY TESTS
FORM A & B

Tutor	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
A	120	3.0	3.6	4.6	144	-24	39	4
	125	3.2	4.0	5.1	146	-21	47	6
B	115	2.8	3.3	4.1	144	-29	27	3
	130	3.6	4.5	6.0	146	-16	61	10
C	129	3.5	4.4	5.8	147	-18	55	8
	145	5.1	7.5	11.8	148	-3	87	38
D	98	2.2	2.5	2.8	144	-46	5	0
	117	2.9	3.4	4.2	146	-29	27	3
E	111	2.7	3.1	3.8	147	-36	15	1
	133	3.8	4.8	6.8	148	-15	63	11
F	127	3.4	4.2	5.4	144	-17	58	9
	144	4.9	7.2	11.3	146	-2	88	42

TABLE 4:04

TUTEES' TOTAL READING GRADE SCORES ON
WOODCOCK READING MASTERY TESTS
FORM A & B

Tutee	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
G	69	1.3	1.5	1.8	76	-7	81	38
	87	1.7	2.0	2.3	83	+4	93	61
H	99	2.2	2.5	2.8	104	-5	84	39
	114	2.8	3.2	4.0	108	+6	95	67
I	121	3.0	3.6	4.6	132	-11	73	24
	129	3.5	4.4	5.8	133	-4	85	35
J	74	1.5	1.7	2.0	76	-2	88	44
	83	1.6	1.9	2.2	83	0	90	50
K	120	3.0	3.6	4.6	132	-12	71	22
	129	3.5	4.4	5.8	133	-4	85	35
L	108	2.6	2.9	3.4	132	-24	39	7
	121	3.0	3.6	4.6	133	-12	47	7

progress. They could be expected to handle beginning grade two work now. Tutee H accelerated beyond his grade two and could be expected to have more success in the grade three programme he would be proceeding towards. Tutees I, K and L were all in grade 4. At pre-testing, tutees I and K both scored at the grade 3.6 level but tutee L scored at grade 2.9. Tutees I and K managed to score within the low grade 4 area at post-testing but tutee I still remained in the grade 3.6 area.

In summary, all the tutors and tutees made statistical and practical significant gains in their total reading achievement from pre-test to post-test on the Woodcock Reading Mastery Tests. Ten of these subjects made dramatic gains in their total reading achievement while two subjects, 1 tutor and 1 tutee, made only small gains in their total reading achievement.

Question 4:1-02

Are significant gains in word identification achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?

Table 4:05 and 4:06 present the results of the pre-test and post-test achievement indices for the word identification sub-test on the Woodcock Reading Mastery Test for the tutors and tutees.

In Table 4:05, the paired t-test on the pre-test and post-test word identification indices indicated a $t = -1.21$

which was not significant at the .05 level of significance or at any other level of significance. This would indicate that the tutors did not make any statistically significant gains in their word identification achievement, however, three tutors, C, D and F each made substantial gains in word identification. Tutor F moved 29 points beyond his expected level of word identification achievement while tutors C and D moved 11 and 16 points respectively, beyond their expected level of word identification achievement. The remaining tutors, A, B and E regressed in their word identification achievement. In fact, tutors A, B and E regressed 4, 2 and 8 points respectively. Therefore, despite the fact that all the tutors made gains in their raw scores when their expected gains are considered, only three tutors, C, D and F really showed any gains above the norm. Practically, this means a classroom remedial teacher can expect small gains for some of her students and large gains for others. If the remedial teacher is simply concerned about the number of increased words her remedial students will retain without comparing the remedial students to a normal population, then all the tutors could be seen to have improved, but at varying rates. This is not an unusual situation for remedial readers at this age (Samuels, 1978).

In Table 4:06 the paired t-test on the pre-test and post-test word identification achievement indices indicated a $t = -2.70$ which was significant at the .05 level of significance.

This indicates that the tutees made statistically significant gains in word identification achievement. Their improvement averaged 7.16 points on the Achievement Index. Tutees I and L improved 12 and 14 points respectively, while the remaining tutees, G, H, J and K, improved at the lower ranges of 3, 5, 2 and 7 on the Achievement Index. Remembering that these tutors were remedial readers the practical significance for a remedial reading teacher cannot be overlooked especially where an increase in basic sight vocabulary is sought.

In summary, in Table 4:05 and Table 4:06, where pre-test and post-test achievement indices are compared for word identification achievement, it would seem that this program was successful to a moderate degree in accelerating all the tutors word identification ability. From a practical standpoint, this program would be more useful for developing the tutees word identification skills than the tutors.

TABLE 4:05

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES ON THE WORD IDENTIFICATION FROM THE WOODCOCK READING MASTERY TEST

Tutors	Raw Scores		Mastery Scores		Achievement Index		
	Pre	Post	Pre	Post	Pre	Post	
A	165	164	202	205	- 37	-41	
B	159	160	202	205	- 43	-45	
C	184	200	204	209	- 20	- 9	
D	101	120	202	205	-101	-85	
E	176	169	208	209	- 32	-40	
F	172	203	203	205	- 32	- 2	
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	=	$y_1 - Y_1$

Paired t-test on PRE and POST Achievement Indices (5df)
yield $t = -1.21$ which is not significant at 10%.

TABLE 4:06

TUTEES' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES ON
THE WORD IDENTIFICATION FROM THE
WOODCOCK READING MASTERY TESTS

Tutees	Raw Scores		Mastery Scores		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
G	72	96	87	108	-15	-12
H	136	147	141	147	- 5	0
I	155	170	182	185	-27	-15
J	84	88	141	147	-57	-59
K	162	172	182	185	-20	-13
L	136	153	182	185	-46	-32
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$= y_1 - Y_1$

Paired t-test on PRE and POST Achievement Indices (5df)
yield $t = -2.70$ which is significant at 5%.

TABLE 4:07

TUTORS' WORD IDENTIFICATION GRADE SCORES ON THE
WOODCOCK READING MASTERY TESTS FORM A & B

Tutor	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
A	165	3.2	3.6	4.1	202	-37	13	5
	164	3.1	3.5	4.1	205	-41	9	3
B	159	3.0	3.3	3.8	202	-43	7	3
	160	3.0	3.3	3.8	205	-45	6	2
C	184	4.1	4.8	6.0	204	-20	50	18
	200	5.5	6.9	9.1	209	- 9	77	32
D	101	1.7	1.8	1.9	202	-101	0	0
	120	1.9	2.1	2.4	205	-85	0	0
E	176	3.6	4.2	5.0	208	-32	21	5
	169	3.3	3.8	4.4	209	-40	10	3
F	172	3.4	3.9	4.9	203	-31	23	7
	203	5.8	7.4	9.9	205	- 2	88	45

TABLE 4:08

TUTEES' WORD IDENTIFICATION GRADE SCORES ON THE
WOODCOCK READING MASTERY TESTS FORM A & B

Tutee	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
G	72	1.5	1.6	1.7	87	-15	63	30
	96	1.7	1.8	1.9	108	-12	71	34
H	136	2.3	2.6	2.9	141	-5	84	43
	147	2.6	2.9	3.2	147	0	90	50
I	155	2.8	3.2	3.6	182	-27	32	15
	170	3.3	3.8	4.5	185	-15	63	28
J	84	1.6	1.7	1.8	141	-57	2	5
	88	1.6	1.7	1.8	147	-59	1	5
K	162	3.1	3.4	3.9	182	-20	50	22
	172	3.4	3.9	4.7	185	-13	68	30
L	136	2.3	2.6	2.9	182	-46	5	5
	153	2.8	3.1	3.5	185	-32	21	11

Question 4:1-03

Are significant gains in word attack achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?

Tables 4:09 and 4:10 present the results of the pre-test and post-test achievement indices for the word attack sub-test on the Woodcock Reading Mastery Tests for the tutors and tutees.

In Table 4:09 the paired t-test on the tutors' pre-test and post-test word attack achievement indices (5df) indicated a $t = -3.0$ which is significant at the .05 level of significance. Therefore, the tutors made statistically significant gains in their word attack ability. Their average improvement on the achievement indices was 11.83

points. Tutors C, D and E showed the greatest improvement in word attack ability by moving 19, 26 and 16 points respectively. Tutors B and F improved beyond their expected Achievement Index, however, tutor H did not. He showed only a 1 point improvement. Table 4:11 indicates the pre-test and post-test results for the tutors on word attack ability. The scores are given in grade levels. For practical significance, tutors C, D and F all accelerated beyond their grade levels. Tutor F was already beyond his grade level in word attack ability at the pre-test starting point, but managed to accelerate even further to a complete mastery level in word attack achievement, while tutor D showed the greatest improvement of all the tutors. He accelerated from a primary grade level of ability to high school ability in word attack achievement.

Tutor E accelerated two grade levels beyond actual grade placement but did not reach her grade level nor did tutor B and A. These latter two had the poorest improvements in word attack ability as they were still in the primary grade level ability in this skill after twelve weeks of daily practice using these skills. As a remedial teacher who was concerned about improving word attack ability for those two remedial students, an alternate instructional would be sought or at least a change in the way this crossage tutoring program was set up to teach word attack skills would have to be considered for tutors A and B. They did not benefit as much as

the other tutors by this kind of instructional approach for word attack skills.

In Table 4:10 the paired t-test on the pre-test and post-test word attack achievement indices (5df) for the tutees indicated a $t = 0$ which is not significant at any level. Therefore, the tutees did not make statistically significant gains in their word attack ability. Their average improvement on the achievement indices was 0.16 points. All tutees except tutees K and L showed no improvement on the word attack achievement index. Tutees G, H, I, J made negative gains -7, -4, -5, -3 respectively. Tutees K and L improved 12 and 8 points however.

Table 4:12 presents the grade scores each tutee achieved on the pre-test and post-test word attack sub-test for the Woodcock Reading Mastery Tests. The grade level scores reflect no change in grade levels for tutees G and J but regression in grade levels for tutees H and I while tutees K and L showed nearly two years and one years progress in word attack ability. From a practical significance this crossage tutoring program did not generate much change in word attack ability for four of the six tutees. To increase word attack ability either a change must be initiated in the present mode of instruction and if this proved ineffective, an alternate instructional mode should be sought for tutees G, H, I and J.

In summary, it would seem that this study had

statistical and practical significance for word attack skills for four of the tutors and two of the tutees but produced no change or a negative change for the remaining tutors and tutees. It is interesting to note that tutors E and F who improved in this skill, worked with the only two tutees F and L who showed any improvement in word attack ability.

TABLE 4:09

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON THE WORD ATTACK FROM THE
WOODCOCK READING MASTERY TESTS

Tutors	Raw Scores		Mastery Scores		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	96	99	119	121	-23	-22
B	98	104	119	121	-21	-17
C	112	131	120	122	- 8	+ 9
D	97	123	119	121	-22	+ 2
E	98	114	121	122	-23	- 8
F	125	131	120	121	+ 5	+10
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$= y_1 - Y_1$

Paired t-test on PRE and POST achievement indices (5df) yields $t = -3.0$ which is significant at 5%.

Question 4:1-04

Are significant gains in word comprehension achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?

Table 4:13 and Table 4:14 present the results of the pre-test and post-test achievement indices for the word comprehension sub-test on the Woodcock Reading Mastery Tests

TABLE 4:10

TUTEES' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON THE WORD ATTACK FROM THE WOODCOCK
READING MASTERY TESTS

Tutees	Raw Scores		Mastery Scores		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
G	91	91	72	79	+19	+12
H	113	111	93	95	+20	+16
I	111	107	110	111	+ 1	- 4
J	83	82	93	95	-10	-13
K	106	118	110	111	- 4	+ 7
L	97	106	110	111	-13	- 5
	x_i	y_i	X_i	Y_i	$x_i - X_i =$	$y_i - Y_i$

Paired t-test on PRE and POST achievement indices (5df)
yields $t = 0$ which is not significant at any level!

TABLE 4:11

TUTORS' WORD ATTACK GRADE SCORES ON
WOODCOCK READING MASTERY TESTS
FORMS A & B

Tutor	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
A	96	2.2	3.0	4.1	119	-23	42	12
	99	2.4	3.3	4.5	121	-22	45	13
B	98	2.3	3.2	4.4	119	-21	47	14
	104	2.8	3.8	5.6	121	-17	53	19
C	112	3.6	5.1	9.0	120	- 8	79	34
	131	8.1	12.9	12.9	122	+ 9	96	72
D	97	2.2	3.1	4.2	119	-22	45	13
	123	5.4	10.1	12.9	121	+ 2	92	55
E	98	2.3	3.2	4.4	121	-23	42	9
	114	3.8	5.6	11.2	122	- 8	79	31
F	125	5.8	12.0	12.0	120	+ 5	94	65
	131	8.1	12.9	12.9	121	+10	96	74

TABLE 4:12

TUTEES' WORD ATTACK GRADE SCORES ON
WOODCOCK READING MASTERY TESTS
FORMS A & B

Tutee	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score At Grade	Achievement Index	Mastery at Grade %	%ile Rank
G	91	2.0	2.6	3.5	72	+19	99	83
	91	2.0	2.6	3.5	79	+12	97	72
H	113	3.7	5.4	10.1	93	+20	99	84
	111	3.5	4.9	8.1	95	+16	93	79
I	111	3.5	4.9	8.1	110	+ 1	91	53
	107	3.1	4.2	6.4	111	- 4	85	40
J	83	1.7	2.0	2.7	93	-10	75	30
	82	1.7	2.0	2.6	95	-13	68	24
K	106	3.0	4.1	6.1	110	- 4	85	42
	118	4.4	6.7	12.9	111	+ 7	95	66
L	97	2.2	3.1	4.2	110	-13	68	26
	106	3.0	4.1	6.1	111	- 5	84	40

for the tutors and tutees.

In Table 4:13 the paired t-test on the tutors' pre-test and post-test word comprehension achievement indices (5df) yields a $t = -4.84$ which is significant at the .05 and .01 level of significance. Therefore, the tutors made significant statistical gains in their word comprehension ability. Their average improvement on the achievement index was 22 points. Tutors C, D and F made the most dramatic improvements of 40, 23 and 29 points respectively, beyond their expected Achievement Index levels. Tutors A, B and E made only 12, 17 and 11 points respectively, beyond their expected Achievement Index levels.

Table 4:15 presents the grade scores each tutor achieved on the pre-test and post-test word comprehension sub-test for the Woodcock Reading Mastery Tests. The grade level scores for all the tutors reflect a positive change in the instructional reading grade level for these tutors. For a practical significance, this study was able to accelerate these remedial students 4.4 grade levels for tutors C and F to 1.8, 4.8, 1.7, 1.7 grade levels for tutors A, B, D and E respectively. Tutor B was accelerated beyond his actual grade 7 level while the other tutors moved closer to their respective grade levels. From a remedial reading standpoint such gains in the instructional grade level of these remedial students are very substantial for such a short time.

As far as word comprehension achievement indices (5df) yields a $t = -3.91$ which is significant at the .05 level of significance. Therefore, the tutees made statistically significant gains in their word comprehension ability. Their average improvement on the Achievement Index was 20 points. Tutees G, I and J made the most substantial gains of 36, 29 and 25 points, respectively, beyond their expected Achievement Index levels. Tutees K and L made only 14 and 15 points respectively, beyond their expected Achievement Index levels while tutee H made only a one point gain beyond his expected Achievement Index level.

Table 4:16 presents the grade scores each tutee achieved on the pre-test and post-test word comprehension sub-test for the Woodcock Reading Mastery Tests. The grade scores for all the tutees reflect a positive change in the instructional reading grade level for these tutees. For practical significance this study was able in twelve weeks, to accelerate all the tutees' word comprehension skills. Tutee G accelerated 6 months up to his actual grade placement in grade 1.7. Tutee H surpassed his actual grade 2.7 placement by 3 months. Tutees K and L were accelerated 1.4 and 1.5 grade levels respectively, but did not reach their grade placement of 4.7. Tutee J was accelerated 4 months but did not reach his grade placement of 1.7. Tutee I was accelerated 3.2 grade levels which meant he surpassed his grade 4.7 placement by 8 months.

In summary, it would appear that this crossage tutoring programme was able to meet the remedial needs of all the tutors and tutees for word comprehension skills since they all improved at varying rates in this skill. For tutor B and tutees G, H and I, this program enabled them to surpass their grade placements. For the remaining tutors and tutees they advanced closer to their grade placement. Such advancements for remedial students in twelve weeks can not be overlooked by the remedial teacher who is pressed for time in the classroom.

TABLE 4:13

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON WORD COMPREHENSION FROM THE
WOODCOCK READING MASTERY TESTS

Tutor	Raw Scores		Mastery Scores		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	76	91	101	104	-25	-13
B	83	105	101	104	-18	-1
C	69	100	103	106	-34	+6
D	57	83	101	104	-44	-21
E	81	93	105	106	-24	-13
F	69	100	102	104	-33	-4
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -4.84$ which is significant at 1%.

TABLE 4:14

TUTEES' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON WORD COMPREHENSION FROM THE
WOODCOCK READING MASTERY TESTS

Tutee	Raw Scores		Mastery Scores		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
G	7	51	48	56	-41	-5
H	73	77	72	75	+1	+2
I	65	95	91	92	-26	+3
J	15	43	72	75	-57	-32
K	72	87	91	92	-19	-5
L	71	87	91	92	-20	-5
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -3.91$ which is significant at 5%.

TABLE 4:15

TUTORS' WORD COMPREHENSION GRADE SCORES
ON WOODCOCK READING MASTERY TESTS
FORMS A & B

Tutor	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
A	76	2.3	2.9	3.9	101	-25	37	9
	91	3.4	4.7	7.1	104	-13	63	26
B	83	2.7	3.6	5.1	101	-18	55	19
	105	5.5	8.4	11.6	104	-1	99	48
C	69	2.0	2.5	3.3	103	-34	18	3
	100	4.6	6.9	10.3	106	+6	95	65
D	57	1.7	1.9	2.4	101	-44	7	0
	83	2.7	3.6	5.1	104	-21	47	10
E	81	2.6	3.4	4.7	105	-24	39	10
	93	3.6	5.1	7.7	106	-13	63	26
F	69	2.0	2.5	3.2	102	-33	19	3
	100	4.6	6.9	10.3	104	-4	85	42

TABLE 4:16

TUTEES' WORD COMPREHENSION GRADE SCORES
ON WOODCOCK READING MASTERY TESTS
FORMS A & B

Tutee	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
G	7	1.1	1.2	1.3	48	-41	9	3
	51	1.6	1.8	2.1	56	-5	84	40
H	73	2.2	2.7	3.6	72	+1	91	52
	77	2.4	3.0	4.1	75	+2	92	54
I	65	1.9	2.3	2.9	91	-26	34	5
	95	3.8	5.5	8.4	92	+3	93	56
J	15	1.1	1.2	1.3	72	-57	2	0
	43	1.4	1.6	1.8	75	-32	21	5
K	72	2.1	2.7	3.5	91	-19	53	11
	87	3.0	4.1	6.0	92	-5	84	38
L	71	2.1	2.6	3.4	91	-20	50	10
	87	3.0	4.1	6.0	92	-5	84	38

Question 4:1-05

Are significant gains in passage comprehension achievement from pre-test to post-test on the Woodcock Reading Mastery Tests evident for (a) the tutors and (b) the tutees?

Tables 4:17 and 4:18 present the results of the pre-test and post-test achievement indices for the passage comprehension sub-test on the Woodcock Reading Mastery Tests for the tutors and the tutees.

In Table 4:17, the paired t-test on the tutors' pre-test and post-test passage comprehension achievement indices (5df) yields a $t = -5.40$ which is significant at the .05 and .01 level of significance. Therefore, the tutors made significant statistical gains in their passage comprehension ability. Their average improvement on the Achievement Index was 14.16 points. Tutors C and D made the most dramatic gains of 20 and 22 points respectively, while tutors E and F made 14 and 15 point gains respectively. Tutors A and B made gains of only 9 and 5 points respectively. All the tutors made gains above their respective Achievement Index.

Table 4:19 presents the grade scores each tutor achieved on the pre-test and post-test passage comprehension sub-test for the Woodcock Reading Mastery Tests. The grade level scores for all the tutors indicate a positive change in the instructional reading grade level for all the tutors. It seems that for practical significance in the classroom

this study was able to accelerate comprehension levels of the tutors. Tutor C was able to get to within his actual grade level in twelve weeks. Tutor E advanced to within a year of his actual grade placement as did Tutor F. Tutors B and D were able to advance 1.2 years from their pre-test starting points of 4.7 and 2.1 reading grade levels. The advancement for tutor A was the lowest. He moved only one year. Such varying rates of advancement are not usual with remedial students of this age (Samuels, 1978). What seems to be usual is that this happened in such a short period of time. However, it was the nature of this study that these tutors were to read every day thereby gaining daily practice in using their comprehension abilities. Such techniques as Radio reading used in this study are good comprehension builders.

In Table 4:18, the paired t-test on the tutees' pre-test and post-test passage comprehension achievement indices (5df) yields a $t = -1.95$ which is significant at the .10 level of significance but not at the .05 level. Therefore, the tutees did not make significant statistical gains in their passage comprehension ability. Their average improvement was 13 points on the Achievement Index. Tutee H made the most gains of 43 points. Tutees G and L made 15 and 14 points respectively. Tutee K made only 8 points, but tutee I made only 1 point while tutee J, however, regressed 3 points.

Table 4:20 represents the grade scores each tutee achieved on the pre-test and post-test passage comprehension sub-test for the Woodcock Reading Mastery Tests. The grade scores for all the tutees except those for tutee J, increased indicating a positive change in the tutees instructional reading level. Practically tutees G, H, I all increased their instructional grade scores by 7 months while tutees K and L increased their instructional grade scores by 9 months. This is well beyond their expected two month increase for twelve weeks. Tutee J who showed no increase in his instructional grade score from a remedial standpoint could be said to have made an increase because his did not regress.

In summary, it seemed that all the tutors were able to increase their passage comprehension ability significantly from a statistical and practical viewpoint. However, the tutees were not able to make statistically significant gains in passage comprehension but practically all but one tutee did make between 7 and 9 months gain their actual instructional grade score.

Question 4:1-06

Are significant gains in letter identification from pre-test to post-test on the Woodcock Reading Mastery Tests evident for the tutees?

Table 4:21 presents the results of the pre-test and post-test achievement indices for the letter identification

TABLE 4:17

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON PASSAGE COMPREHENSION FROM THE
WOODCOCK READING MASTERY TESTS

Tutor	Raw Scores		Mastery Scores		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	90	100	117	120	-27	-18
B	102	110	117	120	-15	-10
C	100	123	119	124	-19	+ 1
D	64	89	117	120	-53	-31
E	102	118	122	124	-20	- 6
F	96	113	118	120	-22	- 7
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -5.40$ which is significant at 1%.

TABLE 4:18

TUTEES' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON PASSAGE COMPREHENSION FROM THE
WOODCOCK READING MASTERY TESTS

Tutee	Raw Scores		Mastery Scores		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
G	47	69	50	57	- 3	+12
H	42	89	78	82	-36	+ 7
I	102	104	102	103	0	+ 1
J	54	55	78	82	-24	-27
K	88	97	102	103	-14	- 6
L	75	90	102	103	-27	-13
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -1.95$ which is significant at 10%.

TABLE 4:19

TUTORS' PASSAGE COMPREHENSION GRADE SCORES
ON WOODCOCK READING MASTERY TESTS
FORMS A & B

Tutor	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
A	90	2.8	3.4	4.5	117	-27	32	8
	100	3.4	4.5	5.9	120	-12	55	12
B	102	3.6	4.7	6.2	117	-15	63	22
	110	4.5	5.9	7.8	120	-10	75	30
C	100	3.4	4.5	5.9	119	-19	53	16
	123	6.4	8.7	12.9	124	+ 1	91	52
D	64	1.8	2.1	2.5	117	-53	3	0
	89	2.7	3.3	4.3	120	-31	23	5
E	102	3.6	4.7	6.2	122	-20	50	15
	118	5.5	7.4	10.2	124	- 0	82	30
F	96	3.1	4.0	5.3	118	-22	45	13
	113	4.9	6.4	8.7	120	- 7	81	30

TABLE 4:20

TUTEES' PASSAGE COMPREHENSION GRADE SCORES
ON WOODCOCK READING MASTERY TESTS
FORMS A & B

Tutee	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
G	47	1.4	1.6	1.9	50	- 3	87	44
	69	1.9	2.3	2.7	57	+12	97	69
H	42	2.1	2.5	3.1	78	-56	15	4
	89	2.7	3.2	4.2	82	+ 7	95	64
I	102	3.6	4.7	6.2	102	0	90	50
	104	3.8	5.0	6.5	103	+ 1	91	52
J	54	1.5	1.8	2.1	78	-24	39	11
	55	1.0	1.8	2.1	82	-27	32	5
K	88	2.7	3.2	4.2	102	-14	66	23
	97	3.2	4.1	5.4	103	- 0	82	38
L	75	2.2	2.5	3.1	102	-27	32	8
	90	2.5	3.4	4.5	103	-13	68	25

sub-test on the Woodcock Reading Mastery Tests for the tutees.

In Table 4:21, the paired t-test on the tutees' pre-test and post-test letter identification achievement indices (5df) yields a $t = -.94$ which is not significant at the .05 or any other level of significance.

Tutee H, J and L all increased their letter identification Achievement Index by 10, 7 and 7 points respectively. The remaining tutees, G, I and K regressed on their letter identification Achievement Index by 7, 1 and 1 points respectively.

Table 4:22 represents the pre-test and post-test grade scores each tutor achieved on the letter identification sub-test for the Woodcock Reading Mastery Tests. The grade scores for all the tutors indicated a mastery level of all the letters. On the other hand Table 4:23 represents the pre-test and post-test grade scores each tutee obtained on the letter identification sub-test for the Woodcock Reading Mastery Tests. The grade scores reflect that for practical significance tutees H, J and L all increased their letter identification ability. Tutee L obtained mastery learning in letter identification while tutees H and J were able to excel 6 months and 1.2 months beyond their respective actual grade levels. Tutee G did not make any increase in his grade level score, however, he was according to his pre-test score, already 7 months beyond his actual grade level. This 7 month lead he managed to retain even though

he showed no increase when he was retested. Tutees I and K showed no increase in their letter identification ability because they were both at the mastery learning level at the pre-testing starting point. They were both able to maintain their mastery learning at the post-testing.

In summary, all the tutees were above their actual grade placement in letter identification at the pre-testing. The post-test grade scores indicate that three tutees I, F and L reached mastery level. One tutee, G, maintained his pre-test score which tutees H and J made gains in their letter identification ability.

TABLE 4:21

TUTEES' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON LETTER IDENTIFICATION FROM THE
WOODCOCK READING MASTERY TESTS

Tutees	Raw Scores		Mastery Scores		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
G	128	128	112	119	+16	+ 9
H	135	149	141	145	- 6	+ 4
I	173	173	169	170	+ 4	+ 3
J	135	146	141	145	- 6	+ 1
K	173	173	169	170	+ 4	+ 3
L	165	173	169	170	- 4	+ 3
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$

Paired t-test on PRE and POST achievement indices (5df) yields $t = -.94$ which is not significant at 10%.

TABLE 4:22

TUTORS' LETTER IDENTIFICATION GRADE SCORES
WOODCOCK READING MASTERY TESTS
FORMS A & B

Tutor	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
A	173	12.0	12.0	12.0	173	0	90	50
	173	12.0	12.0	12.0	173	C	90	50
B	173	12.0	12.0	12.0	173	0	90	50
	173	12.0	12.0	12.0	173	C	90	50
C	173	12.0	12.0	12.0	173	0	90	50
	173	12.0	12.0	12.0	173	C	90	50
D	173	12.0	12.0	12.0	173	0	90	50
	173	12.0	12.0	12.0	173	C	90	50
E	173	12.0	12.0	12.0	173	0	90	50
	173	12.0	12.0	12.0	173	C	90	50
F	173	12.0	12.0	12.0	173	0	90	50
	173	12.0	12.0	12.0	173	C	90	50

TABLE 4:23

TUTEES' LETTER IDENTIFICATION GRADE SCORES
WOODCOCK READING MASTERY TESTS
FORMS A & B

Tutee	Score	Reading Grade Levels			Relative Mastery			
		Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Rank
G	128	1.9	2.2	2.6	112	+16	98	82
	123	1.9	2.2	2.6	119	+9	98	70
H	135	2.1	2.5	2.9	141	-6	82	35
	149	2.6	3.1	3.7	145	+4	85	40
I	173	12.0	12.0	12.0	169	+4	93	60
	173	12.0	12.0	12.0	170	+3	93	58
J	135	2.1	2.5	2.9	141	-6	82	35
	140	2.5	2.9	3.5	145	+1	89	42
K	173	12.0	12.0	12.0	169	+4	93	60
	173	12.0	12.0	12.0	170	+3	93	58
L	165	3.4	4.3	12.9	169	-4	85	37
	173	12.0	12.0	12.0	170	+3	93	58

Standard Reading Inventory

Tables 4:24 and 4:25 represent the pre-test and post-test grade scores the tutors and tutees obtained on the Standard Reading Inventory for their independent, instructional and frustration silent and oral reading grade levels. Whenever a grade score was not obtained, an extrapolated score was introduced and marked with an asterisk. The years referred to in the table represent one academic year of ten months.

Table 4:26 represents the actual gains in years and months each tutor and tutee made in oral and silent reading for independent, instructional and frustration levels on the Standard Reading Inventory.

These three Tables, 4:24, 4:25 and 4:26, will be referred to during the following analysis of questions 7, 8, 9, 10, 11 and 12 which deal with the significance of the Standard Reading Inventory results.

Question 4:1-07

Are significant gains in oral independent reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?

Tables 4:27 and 4:28 present the results of the pre-test and post-test achievement indices for the tutors and tutees on the oral reading, independent level on the Standard Reading Inventory.

In Table 4:27, the paired t-test on the tutors' pre-test and post-test oral reading independent level achievement indices (5df) yields a $t = -3.81$ which was significant at the .05 level of significance. Therefore, the tutors were able to make statistically significant gains in their oral reading independent level ability. All the tutors except tutor A made an average gain of 1.9 years in their oral reading independent level. Tutor A made no gains which in actual fact is recorded as a two month regression.

Practically, tutor A was able to perform at a 3.2 grade level both at the pre-test and post-test times. Considering that tutor A was in grade 7, this low independent oral reading level can only be a hinderance to him whenever the class is asked to do independent reading. Tutors C and E both of whom were in grade 8, were able to gain 2.6 years each in their oral independent reading ability. They were both at the upper primary grade levels of 3.7 at the pre-test starting points and managed to excel themselves up to a 6.5 grade level. This means that they probably would be able to cope with classroom reading more easily now as they are only about two years below their actual grade 8 level.

Tutors B and F both of whom were in grade 7, made 1.6 gains in their oral independent reading level. Tutor B was pre-tested at 2.7 grade levels and he managed to accelerate to a 4.5 grade level. Since this is barely out of the

upper primary level for independent oral reading he will find it difficult to cope in grade 7 for independent study purposes. Tutor F was able to obtain an oral reading independent level of grade 5.5. Although he is now two years below his actual grade 7 placement, he will be able to do some independent reading. Tutor D made a 1.4 grade gain. While still in the 2.7 oral independent reading level, this boy at least made an extremely good start to overcoming his reading deficits.

In summary, for practical purposes, these tutors, B, F and D, are still very far behind their actual grade level in their oral reading performance but all of them made very reasonable gains during the 12 week period. Tutor A did not, but tutors C and E were able to make the most substantial gains in this oral reading area.

In Table 4:28, the paired t-test on the tutees pre-test and post-test oral reading independent level achievement indices (5df) yielded a $t = -2.68$ which was significant at the .05 level of significance. Therefore, the tutees were able to make statistically significant gains in their oral independent reading abilities. The average gain for the tutees was 8 months. The expected gain for the treatment period would be a two month gain in reading grade scores. All the tutees made significantly practical gains in the 12 week time investment. The possible exception to this would be tutee J who only made a one month gain. Tutee J, however,

was in grade one and had limited reading ability, 1.1 at pre-testing. A one month gain in oral independent reading at the beginning reading level is actually quite acceptable progress for a grade one child. Tutee G made a nine month gain, however, he only got up to tutee J's pre-testing point of 1.1 grade level. Tutee G, on the other hand, was a complete non-reader at the oral independent reading level at pre-test. Practically speaking, any gains he made were substantial. By the end of twelve weeks both these tutees had some oral independent reading facilities. Tutee H made the most substantial gains of 2.4 grade levels nearly a year beyond his actual grade 2 placement. Tutees I and L made gains of eight months each placing them within a year of their grade 4 placement and much more able to cope within their classroom setting in oral independent reading. Tutee K made a three month gain in oral independent reading. Her starting point at pre-test was the highest at a 3.2 grade level. She made three months more than was expected of her but came to within a year of her actual grade level like tutees I and L, a reasonable gain for twelve weeks.

Regarding some of the pairs, that is the tutor/tutee pairing, it is interesting to note that tutor A and tutee G did not both make gains. Tutee G made nine months, while tutor A regressed. Another point of interest is the tutor/tutee D-J pairing because both students began the program at the same pre-test level of 1.1. However, tutor D was able

to leap forward by 1.4 years while his tutee made only one month's progress. The tutor E/tutee K pair indicate that whereas tutor E made 2.6 years, tutee K only made three months, a similar situation. Their pre-test starting points were only five months apart, yet it was the tutor who accelerated the most just the same as in the tutor D/tutee J pairing. The tutor B and tutee H pairing both learned a great deal, however, their pre-test starting points, it is noticed, are a year or more apart. The same holds true for tutor F and tutee L and tutor C with tutee I.

In summary, it seemed that all the tutors except one and all the tutees gained in oral independent level reading. The degree of their gains varied a great deal, however, it seemed that overall the tutors made larger gains than the tutees.

Question 4:1-08

Are significant gains in silent independent reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?

Tables 4:29 and 4:30 presents the results of the pre-test and post-test achievement indices for the tutors and tutees on the silent reading independent level on the Standard Reading Inventory.

In Table 4:29, the paired t-test on the tutors' pre-test and post-test silent independent reading level

TABLE 4:24

TUTORS' READING GRADE LEVELS ON THE
STANDARD READING INVENTORY
FORMS A & B

Tutor	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
A	3.2	2.5	3.7	3.5	4.5	4.5
	3.2	3.2	4.5	4.5	5.5	5.5
B	2.7	2.5	3.7	3.5	4.5	4.5
	4.5	3.5	5.5	5.5	6.5	6.5
C	3.7	3.5	5.5	5.5	6.5	6.5
	6.5	6.5	7.5	7.5	*8.5	*8.5
D	1.1	1.1	1.7	1.7	2.2	2.5
	2.7	2.5	3.2	3.5	4.5	4.5
E	3.7	3.2	4.5	4.5	5.5	5.5
	6.5	6.5	7.5	7.5	*8.5	*8.5
F	3.7	4.5	4.5	*5.0	5.5	5.5
	5.5	4.5	6.5	5.5	7.5	6.5

*extrapolated

1 year = 10 months

TABLE 4:25

TUTEES' READING GRADE LEVELS ON THE
STANDARD READING INVENTORY
FORMS A & B

Tutee	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
G	0	0	1.1	0	0	0
	1.1	*1.2	1.4	1.4	2.7	1.7
H	1.1	1.1	2.7	1.4	3.2	1.7
	3.7	2.7	3.7	3.5	4.5	4.5
I	2.7	1.7	3.2	2.7	3.7	3.5
	3.7	3.5	4.5	*4.0	5.5	4.5
J	1.1	0	0	0	1.4	0
	1.4	1.4	1.7	1.7	2.2	2.5
K	3.2	2.5	3.7	3.5	4.5	4.5
	3.7	3.5	4.5	3.5	5.5	4.5
L	2.7	1.1	3.2	1.7	3.7	2.5
	3.7	2.7	4.5	3.5	5.5	4.5

* extrapolated

1 year = 10 months

TABLE 4:26

READING GAINS IN YEARS AND MONTHS GAINED BY THE
TUTORS AND TUTEES FROM PRE-TEST TO POST-TEST
ON THE STANDARD READING INVENTORY

	Independent		Instructional		Frustration		Total Means
	Oral	Silent	Oral	Silent	Oral	Silent	
<u>Tutor</u>							
A	-.2	.5	.6	.8	.8	.8	
B	1.6	.8	1.6	1.8	1.8	1.8	
C	2.6	2.8	1.8	1.8	1.8	1.8	
D	1.4	1.2	1.3	1.6	2.1	2.1	
E	2.6	3.1	2.8	2.8	2.8	2.8	
F	1.6	-.2	1.8	.3	1.8	.8	
Means	1.6	1.37	1.65	1.52	1.85	1.68	1.61
<u>Tutee</u>							
G	.9	1.0	.1	1.2	2.5	1.5	
H	2.4	1.4	.8	1.9	1.2	2.6	
I	.8	1.6	1.2	1.2	1.6	.8	
J	.1	1.2	1.5	1.5	.6	2.3	
K	.3	.8	.6	0	.8	0	
L	.8	1.4	1.2	2.6	1.6	1.8	
Means	.88	1.23	.9	1.4	1.38	1.5	1.22

achievement indices (5df) yielded a $t = -2.55$ which was not significant at the .05 level of significance, however, it is significant at the 10% level of significance. The tutors did not make statistically significant gains in their silent independent reading level.

All the tutors made some gains except tutor F who regressed two months by remaining at his starting pre-test point of 4.5 grade levels. This put him still three years below his actual grade level. It is interesting to note that tutor F had the highest pre-test starting point of all

TABLE 4:27

TUTORS' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT
INDICES ON ORAL READING: INDEPENDENT LEVEL ON THE
STANDARD READING INVENTORY

Tutor	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
A	3.2	3.2	7.4	7.6	-4.2	-4.4	-.2
B	2.7	4.5	7.4	7.6	-4.7	-3.1	1.6
C	3.7	6.5	8.4	8.6	-4.7	-2.1	2.6
D	1.1	2.7	7.4	7.6	-6.3	-4.9	1.4
E	3.7	6.5	8.4	8.6	-4.7	-2.1	2.6
F	3.7	5.5	7.4	7.6	-3.7	-2.1	1.6
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -3.81$ which is significant at 5% level.

TABLE 4:28

TUTEES' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT
INDICES ON ORAL READING: INDEPENDENT LEVEL ON THE
STANDARD READING INVENTORY

Tutee	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
G	0	1.1	1.7	1.9	-1.7	-0.8	.9
H	1.1	3.7	2.7	2.9	-1.6	0.8	2.4
I	2.7	3.7	4.7	4.9	-2	-1.2	.8
J	1.1	1.4	1.7	1.9	-0.6	-0.5	.1
K	3.2	3.7	4.7	4.9	-1.5	-1.2	.3
L	2.7	3.7	4.7	4.9	-2	-1.2	.8
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -2.68$ which is significant at 5% level.

the tutors yet he showed the least progress in this area. Tutor C's and E's pre-test starting points were 3.5 and 3.2 grade levels. They were able to make a 2.8 and 3 grade level gain respectively. This still placed them two years below their actual grade 8 placement, however, it does indicate that these two tutors gained a substantial degree in their ability to read silent independently. Practically, this type of reading is more attuned to their grade 8 classroom demands, therefore, such gains are very significant for a classroom teacher to observe.

Tutor D who had the lowest pre-test starting point made a 1.2 grade level gain placing him in the grade 2 area for silent independent reading. This is so far behind his actual grade 7 placement that practically, he could be expected to have little silent independent reading facility in his classroom. The same can be said of tutors A and B who reached 3.2 and 3.5 grade levels, a five and eight month gain respectively.

The average gain in silent independent reading level for these tutors was 1.5 grade levels. In fact, only two tutors really gained practical significance in this area as this skill applies to the classroom. The remaining tutors did not.

In Table 4:30 the paired t-test on the tutees pre-test and post-test silent independent reading level achievement indices (5df) yielded a $t = 10.26$ which was significant

at the .05 and .01 level of significance. Therefore, the tutees did make statistically significant gains in their silent independent reading levels. In fact, in regarding Table 4:30, all the tutees gained an average of 1.2 grade levels. All the tutees gained more than a year except tutee F with only eight months.

Tutees G and J both of whom were in grade 1, made gains of over a year each. In other words, practically speaking, these two tutees went from no facility at all in silent independent reading to enough that this could be drawn upon by their classroom teachers. The same could be said of tutee H who was in grade 2 and gained 1.4 putting him in the grade 2 area for his skill. He developed his silent independent enough for it to have practical significance for him in the classroom. Tutees I and K developed their silent independent reading abilities up to a 3.5 grade level. Considering that they had very limited silent independent reading abilities of 1.7 and 2.5, while their actual grade placement was grade 4. They could be expected by their classroom teacher to apply their silent independent reading to a greater degree as they are now only a year below their actual grade level. Tutee L had a 1.1 pre-test starting point which is extremely limited silent independent reading ability for a grade 4 student. Tutee L managed to excel up to a 2.7 grade level which was a 1.4 grade level gain. This is a very significant gain, however, for practical purposes of the classroom, this tutee's teacher must

still have very low expectations for this student when it comes to silent independent reading.

In regards to the tutor-tutee pairings, the couple who achieved the greatest gains was tutor C and tutee I with 2.8 and 1.6 grade levels respectively. Tutor D and tutee J both gained the same amount of 1.2 grade levels. Tutor A and tutee G gained only five months and one year respectively. A similar pattern occurred for tutor B and tutee H with eight months and 1.4 years respectively. Perhaps the most interesting occurrences were between tutor E and tutee K and tutor F and tutee L. Tutor E made a three year gain, the highest gain amongst the tutors while her tutee K made only eight months, the lowest gain amongst the tutees. Then tutor F made no gains, rather regressed two months despite an initial silent independent reading ability at a 4.5 grade level, while tutee L gained 1.4 grade levels, about average for the tutees.

In summary, the tutors did not make statistical significant gains in their silent independent reading, however, at least two tutors gained enough to be of practical significance in their classroom. Whereas all the tutees were able to gain enough to be of statistical significance but only four tutees actually showed enough gain in their silent independent reading levels to be of practical significance in their classrooms.

By referring back to Table 4:24 and 4:25, it can be

noticed that all the tutors surpassed their pre-test oral and silent independent reading level to the extent that except for tutor A and F who simply exchanged their pre-test oral independent grade level for their post-test silent independent grade, the other four tutors moved close to two grade levels each. This same pattern appears on Table 4:25 when the tutees oral and silent independent reading grade levels were viewed. It seems that the pre-test scores for oral independent reading often became the post-test scores for silent independent reading. In all cases, except tutee L, a year change occurred in only twelve weeks.

TABLE 4:29

TUTORS' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT INDICES ON SILENT READING: INDEPENDENT LEVEL ON THE STANDARD READING INVENTORY

Tutor	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
A	2.5	3.2	7.4	7.6	-4.9	-4.4	.5
B	2.5	3.5	7.4	7.6	-4.9	-4.1	.8
C	3.5	6.5	8.4	8.6	-4.9	-2.1	2.8
D	1.1	2.5	7.4	7.6	-6.3	-5.1	1.2
E	3.2	6.5	8.4	8.6	-5.2	-2.1	3
F	4.5	4.5	7.4	7.6	-2.9	-3.1	-.2
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

Paired t-test on PRE and POST achievement indices (5df) yields $t = -2.55$ which is significant at 10%.

TABLE 4:30

TUTEES' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT INDICES ON SILENT READING: INDEPENDENT LEVEL ON THE STANDARD READING INVENTORY

Tutee	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
G	0	*1.2	1.7	1.9	-1.7	-0.7	1
H	1.1	2.7	2.7	2.9	-1.6	-0.2	1.4
I	1.7	3.5	4.7	4.9	-3	-1.4	1.6
J	-	1.4	1.7	1.9	-1.7	-0.5	1.2
K	2.5	3.5	4.7	4.9	-2.2	-1.4	0.8
L	1.1	2.7	4.7	4.9	-3.6	-2.2	1.4
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

*extrapolated

Paired t-test on PRE and POST achievement indices (5df) yields $t = 10.26$ which is significant at 1%.

Question 4:1-09

Are significant gains in oral instructional reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?

Tables 4:31 and 4:32 presents the results of the pre-test and post-test achievement indices for the tutors and tutees on their oral reading instructional level for the Standard Reading Inventory.

In Table 4:31, the paired t-test on the tutors' pre-test and post-test oral instructional reading level achievement indices (5df) yielded a $t = -5.61$ which was significant not only at the .05 level but also at the .01 level of

significance. Therefore, the tutors did make statistically significant gains in their oral instructional reading levels. The tutors made an average gain of 1.6 grade levels in the twelve week period. The expected gain for each tutor would be a two month gain. All the tutors surpassed this expectation. Tutor A who gained only six months moved from a grade 3.5 to a 4.5 in his oral instructional reading level. He is still well below his grade 7 placement but for practical significance his gains were substantial for a remedial program. Tutor D who is also in grade 7 made substantial gains. He moved in his oral instructional reading level from grade 1.7 to grade 3.2 making a gain of 1.3 grades. Practically, tutor D moved from being a non-reader to becoming a reader. Tutors B and F moved from 3.7 to 5.5 and 4.5 to 6.5 respectively. Each tutor is in grade 7, therefore, each gained 1.6 and 1.8 respectively closer to their grade placement. Tutors C and E who were in grade 8 moved from 5.5 to 7.5 and 4.5 to 7.5 respectively, placing them only a year below their grade placement. For a classroom teacher this presents an easier instructional task to deal with in the classroom than trying to adapt instructional needs for remedial pupils two, three or four grade levels below their grade placement.

In Table 4:32 the paired t-test on the tutees' pre-test and post-test oral instructional reading level achievement indices (5df) yielded a $t = -4.38$ which was significant at the .05 and .01 level of significance. Therefore, the

tutees made significant gains in their oral instructional reading levels. The tutees gained an average of nine months during the twelve weeks in their oral instructional reading levels. Tutees G and J were both in grade 1. Tutee G made the least progress going from 1.1 to 1.4 grade levels, a gain of only one month above his expected gains. Tutee J, on the other hand, made the most progress. He went from 0 to 1.7 grade levels, a gain of 1.5 grade levels. In other words, tutee J had no facility in oral instructional reading and he was able to develop in twelve weeks up to his pre-test starting point. In the classroom both these pupils would be able to handle a low grade 1 reading program as now they appeared to be moving. Tutee H pre-tested at 2.7 which was at his actual grade placement. He was able to accelerate to 3.7 grade levels, eight months beyond his grade placement. Practically, this put him into the top reading group in his classroom.

Tutees I, K and L were all in grade 4. They were all at least a year below their actual grade placement and were expected to make no more than a two month gain each. Instead, tutee I went from 3.2 to 4.5 grade levels, a 1.1 grade level gain; tutee K went from 3.7 to 4.5 grade levels, a six month gain and tutee L went from 3.2 to 4.5 grade levels, a 1.2 grade level gain. While not surpassing their grade placement, these three tutees were able to reach the middle of their grade. They could easily be incorporated into a low grade 4

reading program the classroom of considerable practical significance for their classroom teacher.

Regarding the pairings, tutor A and tutee E both made the lowest gains in oral instructional reading levels, six months and one month respectively. However, tutor C and Tutee I, tutor D and tutee J, plus tutor F and tutee L, all made over a one years gain each in their oral instructional reading grade levels. Tutor B and tutee H made gains of 1.6 and .8 months again substantial progress. Of most interest is tutor E and tutee K. While tutor E made 3.8 years gain, her tutee, K, made only a six month gain.

In summary, it appeared that both the tutors and tutees gained enough in their oral instructional reading levels to be statistically significant. Practically, this means all the tutees could be incorporated into a classroom reading program as could tutors C, E and F. Tutors A, B and D still remained very poor readers and would still require specialized remedial instruction to continue to progress in their oral reading.

Question 4:1-10

Are significant gains in silent instructional reading grade levels from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?

Tables 4:33 and 4:34 present the results of the pre-test and post-test achievement indices for the tutors and

TABLE 4:31

TUTORS' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT
INDICES ON ORAL READING: INSTRUCTIONAL LEVEL ON THE
STANDARD READING INVENTORY

Tutor	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
A	3.7	4.5	7.4	7.6	-3.7	-3.1	.6
B	3.7	5.5	7.4	7.6	-3.7	-2.1	1.6
C	5.5	7.5	8.4	8.6	-2.9	-1.1	1.8
D	1.7	3.2	7.4	7.6	-5.7	-4.4	1.3
E	4.5	7.5	8.4	8.6	-3.9	-1.1	2.8
F	4.5	6.5	7.4	7.6	-2.9	-1.1	1.8
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -5.61$ which is significant at 1%.

TABLE 4:32

TUTEES' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT
INDICES ON ORAL READING: INSTRUCTIONAL LEVEL ON THE
STANDARD READING INVENTORY

Tutee	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
G	1.1	1.4	1.7	1.9	-0.6	-0.5	.1
H	2.7	3.7	2.7	2.9	0	+ .8	.8
I	3.2	4.5	4.7	4.9	-1.5	-0.4	1.1
J	0	1.7	1.7	1.9	-1.7	-0.2	1.5
K	3.7	4.5	4.7	4.9	-1	-0.4	.6
L	3.2	4.5	4.7	4.9	-1.5	-0.4	1.2
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -4.38$ which is significant at 1%.

tutees on their silent reading instructional level for the Standard Reading Inventory.

In Table 4:33, the paired t-test on the tutors' pre-test and post-test silent instructional reading level achievement indices (5df) yielded a $t = -4.26$ which was significant at the .05 and .01 level of significance. Therefore, producing statistically significant gains in the tutors silent instructional reading levels.

The tutors made an average gain of 1.5 grade levels. Their expected gain was two months. Tutors C and E gained 1.8 and 2.8 grade levels respectively. This placed them within a year of their grade 8 placement. Practically, they could be expected to be able to read in class material at grade 7 readability with at least 90% comprehension. Before the crossage tutoring program, these two tutors were functioning at a 5.5 and 4.5 silent reading instructional grade level. They could not function in even a low grade 8 reading class. Tutor B and F, both of whom were in grade 7, moved from 3.5 to 5.5 and 5.0 to 5.5 grade levels respectively. For tutor B this was a 1.8 grade level gain and a three month grade level gain for tutor F. Although they made good progress, practically, these two grade 7 pupils would still experience a great deal of difficulty in their grade 7 reading class. The same can be said about tutor A and D, only more so. These two tutors still would require specialized remedial instruction because tutor's A silent

reading instructional level progressed from 3.5 to 4.5 grade, an eight month gain, while tutor D moved from 1.7 to 3.5 grade levels, a 1.6 grade level gain.

In Table 4:34, the paired t-test on the tutees' pre-test and post-test silent instructional reading level achievement indices (5df) yielded a $t = -2.09$ which was not significant at the 5% level of significance, however, it was significant at the 10% level of significance. Therefore, for the purposes of this study, the tutees did not make statistically significant gains in silent instructional reading.

Practically, however, all the tutees except K made gains in their silent instructional reading levels. The average gain for the tutees was 1.1 grade levels. If tutee K is omitted, the remaining five tutees made an average 1.4 grade level gain. The expected gain was two months.

Tutee K, it seems, did not make any gains from her pre-test starting point of 3.5 which is counted, therefore, as a two month regression. She remained about a year below her grade 4 placement as did tutee L. Tutee L made a 1.6 grade level gain since he was able to move from grades 1.7 to 3.5. Tutee I, the third grade 4 pupil, progressed up to grade 4 from 2.7. This was a gain of 1.1. Practically, this means these three tutees could be expected to function in an upper grade third reading program with at least 90% comprehension.

Tutees G and J moved from 0 to 1.4 and 1.7 grade levels giving them 1.2 and 1.5 gains respectively. Practically, this indicates that these two grade 1 pupils were able to develop some silent reading ability and could be expected to use this in class with a teacher's guidance. Tutee H who was in grade 2 accelerated beyond his grade 2 placement. He moved from grade 1.4 to 3.5 which is a 1.9 grade level gain. Practically, he should not experience much, if any, difficulties in a grade 2 classroom reading program.

An examination of the crossage tutoring pairs reveals that while tutor E was making rapid progress, 2.8 grades in her silent reading instruction, her tutee, K, regressed two months. Tutor B and tutee H, tutor C and tutee I, plus tutor D and tutee J, each made more than a one year gain in their respective silent instructional grade levels. However, tutor A and tutee G and tutor F and tutee L did not do as well as a pair. It appeared that for these pairs the tutees were the most to benefit. Tutor A gained only eight months but his tutee G made 1.2 grade levels. Tutor F gained only three months but his tutee L made 1.6 grade levels.

Regarding Table 4:24 and Table 4:25 which presents the reading grade levels each tutor and tutee obtained on the Standard Reading Inventory, it is noticeable that in some cases tutor A, tutees I and K, the post-test scores for the oral and silent independent reading levels match the

pre-test scores for oral and silent instructional grade level. In the remaining cases it appears that the post-test scores for the oral and silent independent reading levels far surpass even the pre-test scores for oral and silent instructional reading levels.

It appears that a stretching of the tutors and tutees instructional reading grade level has occurred. Practically, this means the classroom teachers and remedial teachers of these students should have greater flexibility in choosing reading materials for these students.

In summary, the tutors made statistically significant gains in both their oral and silent instructional reading grade levels. Practically, this meant two tutors, C and E, would be able to cope in a low grade 8 reading class while the remaining tutors were still too far behind their respective class placements.

The tutees made statistically significant gains only in their oral instructional reading grade levels. However, all the tutees except tutee K made substantial gains in their silent instructional reading grade levels making their gain of practical significance.

Question 4:1-11

Are significant gains in oral frustration reading grade level from pre-test to post-test on the Standard Reading Inventory evident for (a) the tutors and (b) the tutees?

TABLE 4:33

TUTORS' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT
INDICES ON SILENT READING: INSTRUCTIONAL LEVEL ON THE
STANDARD READING INVENTORY

Tutor	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
A	3.5	4.5	7.4	7.6	-3.9	-3.1	.8
B	3.5	5.5	7.4	7.6	-3.9	-2.1	1.8
C	5.5	7.5	8.4	8.6	-2.9	-1.1	1.8
D	1.7	3.5	7.4	7.6	-5.7	-4.1	1.6
E	4.5	7.5	8.4	8.6	-3.9	-1.1	2.8
F	*5.0	5.5	7.4	7.6	-2.4	-2.1	.3
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

*extrapolated

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -4.26$ which is significant at 1%.

TABLE 4:34

TUTEES' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT
INDICES ON SILENT READING: INSTRUCTIONAL LEVEL ON THE
STANDARD READING INVENTORY

Tutee	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
G	0	1.4	1.7	1.9	-1.7	-0.5	1.2
H	1.4	3.5	2.7	2.9	-1.3	+0.6	1.9
I	2.7	*4.0	4.7	4.9	-2	-0.9	1.1
J	0	1.7	1.7	1.9	-1.7	-0.2	1.5
K	3.5	3.5	4.7	4.9	-1.2	-1.4	-0.2
L	1.7	3.5	4.7	4.9	-3	-1.4	1.6
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

*extrapolated

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -2.09$ which is significant at 10%.

Tables 4:35 and 4:36 present the results of the pre-test and post-test achievement indices for the tutors and tutees in their oral reading frustration level for the Standard Reading Inventory.

In Table 4:35, the paired t-test on the tutors' pre-test and post-test oral frustration reading level achievement indices (5df) yielded a $t = -7.03$ which was significant at the .05 and .01 level of significance. Therefore, the tutor had made statistically significant gains in their oral frustration reading grade levels. The tutors made an average gain of 1.5 grade levels. In other words, the tutors were able to stretch an average 1.5 grade levels beyond their original frustration level. The practical significance of the frustration reading grade level is that it can indicate to a teacher those materials with which the students will experience the most difficulty, that is less than 75% comprehension. It is interesting to note that tutors C and E both of whom were in grade 8 were at the frustration reading level for their grade. The same holds true for tutor F who was in grade 7. The remaining three tutors, A, B and D, reached frustration reading grade levels at 5.5, 6.5 and 4.5 respectively, still well below their grade 7 placement.

In Table 4:36 the paired t-test on the tutees' pre-test and post-test silent frustration reading level achievement indices (5df) yielded at $t = -4.86$ which was significant at the 5% and 1% level of significance. Therefore, the

tutees made statistically significant gains in their frustration reading grade levels. The tutees gained an average of 1.3 grade levels. Practically, this indicated that the tutees were able to push forward their frustration reading grade levels an average of 1.3 grade levels. Note that all the tutees' frustration reading grade levels are at post-testing above their actual grade placement.

Notice that tutor A was able to move his frustration reading grade level ahead by eight months but his tutee G pushed his ahead by 2.5 grade levels. Tutor D and his tutee J both made interesting gains. Tutor D pre-tested at grade 2.2 which was the score obtained for tutee J at post-testing. Even though tutor D made the greater gains of 2.1 grades, he was further behind his grade 7 placement than his tutee J who really accelerated his frustration reading level beyond his grade one placement. This same pattern emerged for these other pairs, tutor B and tutee H, tutor E and tutee K and tutor F and tutee L.

Question 4:1-12

Are significant gains in silent frustration reading grade levels from pre-test to post-test on the Standard Reading Inventory for (a) the tutors and (b) the tutees?

Tables 4:37 and 4:38 present the results of the pre-test and post test achievement indices for the tutors and tutees on their silent reading frustration level for the Standard Reading Inventory.

TABLE 4:35

TUTORS' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT INDICES ON ORAL READING: FRUSTRATION LEVEL ON THE STANDARD READING INVENTORY

Tutor	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
A	4.5	5.5	7.4	7.6	-2.9	-2.1	.8
B	4.5	6.5	7.4	7.6	-2.9	-1.1	1.8
C	6.5	*8.5	8.4	8.6	-1.9	-0.1	1.8
D	2.2	4.5	7.4	7.6	-5.2	-3.1	2.1
E	5.5	*8.5	8.4	8.6	-2.9	-0.1	2.8
F	5.5	7.5	7.4	7.6	-1.9	-0.1	1.8
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$	

*extrapolated

Paired t-test on PRE and POST achievement indices (5df) yields $t = -7.03$ which is significant at 1%.

TABLE 4:36

TUTEES' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT INDICES ON ORAL READING: FRUSTRATION LEVEL ON THE STANDARD READING INVENTORY

Tutee	Performance Level in Grade		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
G	0	2.7	1.7	1.9	-1.7	+0.8	2.5
H	3.2	4.5	2.7	2.9	+0.5	+1.6	1.1
I	3.7	5.5	4.7	4.9	-1	+0.6	1.6
J	1.4	2.2	1.7	1.9	-0.3	+0.3	.6
K	4.5	5.5	4.7	4.9	-0.2	+0.6	.8
L	3.7	5.5	4.7	4.9	-1	+0.6	1.6
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$	

Paired t-test on PRE and Post achievement indices (5df) yields $t = -4.86$ which is significant at 1%.

In Table 4:37, the paired t-test on the tutors' pre-test and post-test silent frustration reading level achievement indices (5df) yielded a $t = -5.31$ which was significant at the .05 and .01 level of significance. Therefore, the tutors had made statistically significant gains in their silent frustration reading grade levels. The tutors made an average gain of 1.6 grade levels. The tutors were able to push ahead their silent frustration reading grade levels an average of 1.6 grade levels from their pre-test score. The silent frustration reading grade level is one where the student is able to comprehend only 75% of the written material. In other words, the student is struggling to make sense out of the print to the extent that even with a teacher's help and guidance the effort is still fruitless. For the practical purposes of selecting materials for a student, it is essential that the teacher be aware at all times of the level at which a student can derive maximum learning from the printed page. The frustration reading level of any student should be avoided.

Often the oral and silent frustration reading grade levels match, however, for all the tutors except tutor F and D, this was the case (see Table 4:35 and Table 4:37). It seemed that tutor F performed at a higher post-test oral frustration reading level, 7.5, than at a post-test silent frustration reading level of 6.5. Tutor D pre-tested at a low 2.2 grade level for an oral frustration reading level

but 2.5 grade for a silent frustration reading level. By post-testing time in both oral and silent frustration reading grade levels matched at 4.5 grade levels.

In Table 4:38, the paired t-test on the tutees pre-test and post-test silent frustration reading level achievement indices (5df) yielded a $t = -3.49$ which was significant at the 5% and 2% level of significance. Therefore, the tutees made statistically significant gains in their silent reading frustration grade levels. The tutees made an average gain of 1.4 grade levels. This means the tutees pushed ahead their silent frustration reading grade levels 1.4 grade levels beyond their pre-test score.

It is noticed that the tutees' oral frustration reading grade level and silent frustration reading grade levels vary.

Tutees G and J, who were both in grade 1, were unable to score anything on their pre-test silent frustration reading grade level, but managed to score 1.7 and 2.5 respectively on their post-tests. Notice that these scores are both beyond their actual grade placement. It could be assumed by their classroom teachers that materials at these grade levels should be avoided for these two pupils.

Tutee H pre-tested at 1.7 grade levels for silent frustration reading grade levels but moved his frustration level for silent reading forward 2.6 grades to grade 4.5. Well beyond his grade 2 and his expected gain. He should be able to handle material at his grade level or slightly

beyond. Tutee K, in grade 4, did not change her silent frustration reading grade level from pre-test to post-test. This was seen as a two month loss since she was expected to gain at least two months. She would experience difficulty handling grade 4 materials. Tutees I and L, the other grade 4 pupils, were both post-tested for a frustration level at 4.5. This means that most grade 4 silent reading materials is going to be difficult for them to handle even with teacher direction.

Tables 4:24 and 4:25 indicate that the oral and silent frustration reading grade level for the tutors and tutees at pre-test often became the instructional reading grade level at post-test. This happened for tutors A and F and for all the tutees. For the other tutors, the frustration reading grade level at pre-test is nearly two grades below the instructional grade level at post-test. This indicates a substantial stretching of these students reading ability.

How I See Myself Scale

Question 4:2-01

Are there significant differences in the tutors' self-concept scores from pre-test to post-test on the How I See Myself Scale?

Table 4:39 presents the results of the pre-test and post-test total scores on the How I See Myself Scale. The paired t-test on the pre-test and post-test total scores

TABLE 4:37

TUTORS' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT
INDICES ON SILENT READING: FRUSTRATION LEVEL ON THE
STANDARD READING INVENTORY

Tutor	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
A	4.5	5.5	7.4	7.6	-2.9	-2.1	.8
B	4.5	6.5	7.4	7.6	-2.9	-1.1	1.8
C	6.5	8.5	8.4	8.6	-1.9	-0.1	1.8
D	2.5	4.5	7.4	7.6	-4.9	-3.1	1.8
E	5.5	*8.5	8.4	8.6	-2.9	-0.1	2.8
F	5.5	6.5	7.4	7.6	-1.9	-1.1	.8
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

*extrapolated

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -5.31$ which is significant at 1%.

TABLE 4:38

TUTEES' PRE-TEST AND POST-TEST READING GRADE ACHIEVEMENT
INDICES ON SILENT READING: FRUSTRATION LEVEL ON THE
STANDARD READING INVENTORY

Tutee	Performance Level in Grades		Actual Grade		Achievement Index		Actual Gains in Grades
	Pre	Post	Pre	Post	Pre	Post	
G	0	1.7	1.7	1.9	-1.7	-0.2	1.5
H	1.7	4.5	2.7	2.9	-1	+1.6	2.6
I	3.5	4.5	4.7	4.9	-1.2	-0.4	.8
J	0	2.5	1.7	1.9	-1.7	+0.6	2.3
K	4.5	4.5	4.7	4.9	-0.2	-0.4	-0.2
L	2.5	4.5	4.7	4.9	-2.2	-0.4	1.8
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$	

Paired t-test on PRE and POST achievement indices (5df)
yields $t = -3.49$ which is significant at 2%.

with (5df) yields $t = 0.7$ which was not significant at any level. Therefore, the tutors did not make statistically significant changes in their self-concept scores from pre-test to post-test. Practically, the tutors' total score means did change from pre-test to post-test by +.5 points, an unexpected change for a twelve month period. Out of the six tutors, three had positive changes in their total self-concept scores. These were tutors B, D and E. Tutor A showed the most negative score and tutor F indicated no change in his total self-concept score. Tutor E showed the most dramatic positive change as there was a +28 point difference between her pre-test and post-test scores. Tutor C's score is most interesting as he had a negative score but only -3 points in contrast to tutor A's -17 points.

In summary, it is unfortunate that there are no norms available for the How I See Myself Scale total score. There is no way of determining whether these six tutors were above or below a standardized mean. The most that can be stated is that the tutors' overall mean improved positively but not enough to be of statistical significance.

The How I See Myself Scale does have means for certain categories within the scale. There is a factor analysis for the following teacher-school, physical appearance, interpersonal adequacy, autonomy, academic adequacy, physical adequacy, girl social, peers, emotions, boy social, and language adequacy. The paired t-test was applied to the pre-test and

post-test achievement indices for each of the various factors to determine whether any factor was statistically significant. Whenever the population mean was available, this was examined in relation to the tutors and pre-test and post-test means to determine whether positive or negative achievement occurred.

The teacher-school factor was examined first and the results are represented in Table 4:40. Here the paired t-test was used on the pre-test and post-test achievement indices with (5df) and yielded a $t = 1.28$ which was not significant at any level. The population mean was 20.33 and as the table shows, the tutors means was 20.00 at pre-testing and fell to 17.33 with post-testing, a negative movement of 3 points. For practical significance, the change does not appear to have any significance assuming a positive change to be more advantageous. Upon closer examination of Table 4:40, it is revealed that only tutor E made any positive growth in this factor.

Table 4:41 is on the physical appearance factor. Here the paired t-test was used on the pre-test and post-test achievement indices with (5df) and yielded a $t = -1.9$ which is not significant. The tutors' mean at pre-testing was 24.66 against the population mean of 28.60. By post-testing the tutors' mean had moved to 29.00 which was a .04 movement above the population mean. However, this indicated a 4.34 positive movement from pre-test to post-test for this factor.

For practical significance there was some positive change for all the tutors except tutor F.

Table 4:42 indicated the personal adequacy factor. The paired t-test used on the pre-test and post-test achievement indices with (5df) yielded a $t = 1.07$ which is not significant. The population mean for this factor was 63.08. The tutors' mean at pre-testing was 57.33 and moved to 61.83 by post-testing. This was a positive movement of 4.50 points towards the population mean. All the tutors, except tutor F, had a positive movement for this factor. Practically then, this factor includes a substantial portion of the total number of items and showed a positive change for five of the six tutors.

The autonomy factor is presented in Table 4:43. The paired t-test used on the pre-test and post-test achievement indices with (5df) yielded a $t = 1.66$ which was not significant at the .05 level of significance, however, it is significant at the .10 level of significance. Therefore, this will not be accepted as statistically significant for this study which is using the .05 level of significance.

At pre-testing the tutors' mean was 26.66 against the population mean of 26.32. In other words, the tutors' mean was level to the population mean but regressed to 25.83 at post-testing indicating a negative change for the tutors. In fact, this meant a negative change for all the tutors, except tutor D, who made positive growth in autonomy. It

would seem that this factor did not have much practical significance for encouraging positive change.

Academic adequacy was dealt with in Table 4:44. The paired t-test used on the pre-test and post-test achievement indices with (5df) yielded a $t = -1.12$ which is not significant at any level. Practically, however, the tutors did show positive growth in this factor. The population mean was 19.88. The tutors' mean was 17.83 at pre-testing and moved to 19.16 at post-testing, revealing a positive movement of 1.33 points closer to the population mean. All the tutors made a positive change in academic adequacy except tutor B who regressed. Therefore, this factor did have some practical significance.

The next two factors are linked together according to Gordon (1968). These are the physical adequacy and the factor labelled emotions. In Table 4:45 representing the physical adequacy, the paired t-test on the pre-test and post-test achievement indices with (5df) yielded a $t = -0.16$ which is not significant at any level. The population mean was 14.72. The tutors' mean at pre-testing was 14.50 and at post-testing was 14.72. The movement was very slight, not even one point. The tutors were for practical purposes at the population mean for the pre-testing and post-testing, and therefore, showed no movement. Individually, this factor revealed that tutors B, C and D had positive growth while tutors A and F had negative movement. Tutor E stayed the same.

The emotions in Table 4:46 had very much the identical pattern. The paired t-test on the pre-test and post-test achievement indices with (5df) yielded a $t = -0.32$ which is not significant at any level. The population mean at pre-testing and post-testing were 13.16 and 13.66 respectively. Again for practical purposes, the tutors were at the population mean for both the pre-testing and post-testing and showed no movement. Individually, tutors B, C, D and E had positive growth while only tutors A and F were negative.

Table 4:47 represents the boy social factor. The paired t-test on the pre-test and post-test achievement indices with (4df) yielded a $t = 2.5$ which is not significant at the .05 level but is significant at the .10 level of significance. This is not accepted as statistically significant for this study. The population mean was 16.64. At pre-testing the male tutors were 17.20 which is above the population mean by .56 points and dropped to 14.40 at post-testing. This represents a regression of 2.24 points and is considered negative change. Only one male, tutor C, showed any positive growth. Practically, this factor only encouraged positive growth in one out of the five tutors and could not be considered to be of practical significance.

Table 4:48 was the girl social factor. Here again only the male tutors were involved with this factor. The paired t-test on the pre-test and post-test achievement indices with (4df) yielded a $t = -.23$ which was not significant at any level. The population mean was 17.83 and at

pre-testing the tutors' mean was 16.60. At post-testing the tutors' mean was 17.00 for practical purposes up to the population mean. Three tutors, A, B, and D, show positive growth while tutors C and F indicate negative movement. This factor did have practical significance as the tutors' means do indicate positive growth.

Table 4:49 represents the peers factor. The paired t-test on the pre-test and post-test achievement indices with (4df) yielded $t = -0.82$ which was not significant at any level. The population mean was 19.45. The pre-testing revealed the tutors' mean to be 12.80 and 19.40 at post-testing. This does show a positive growth of 6.6 points and does have practical significance for three of the five male tutors who had positive movement. Tutors D and F only had negative movement.

Table 4:50 is the language adequacy factor. The paired t-test on the pre-test and post-test achievement indices with (4df) yielded a $t = 0$ which is not significant at any level. The population mean for this factor was 19.47. The tutors' mean was 17.80 at pre-testing and post-testing indicating no movement. However, individually tutors C and D moved in a positive direction, tutor F stayed the same while tutors A and D regressed. For practical purposes this factor was significant for only two tutors.

In summary, the sub-factors of the How I See Myself Scale did not indicate any statistically significant factor

at the .05 level of significance selected for this study. However, the factors of autonomy, and boy social, were statistically significant at the .10 level of significance. Where the population means were compared to the tutors' means to determine whether positive growth had occurred, it became clear that factors physical appearance, interpersonal adequacy, academic adequacy, girl social and peers all showed positive growth. These could all be said to have had practical significance but not statistical significance.

TABLE 4:39

TUTORS' PRE-TEST AND POST-TEST TOTAL SCORES
ON THE HOW I SEE MYSELF SCALE

Tutors	Pre-test Total Score	Post-test Total Score	Actual Changes
A	159	142	-17
B	137	148	+11
C	168	165	- 3
D	117	124	+ 7
E	115	143	+28
F	101	101	0
Mean	132.83	137.16	+ 4.33

Paired t-test on PRE and POST total scores with (5df) yields $t = 0.7$ which is not significant at any level.

TABLE 4:40

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON TEACHER-SCHOOL ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	25	18	The Population mean is 20.33		4.67	-2.33
B	20	16			- .33	-4.33
C	19	16			-1.33	-4.33
D	16	15			-4.33	-5.33
E	19	23			-1.33	+2.67
F	21	19			- .67	-1.33
Means	20.00	17.83				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices with (5df) yields $t = 1.28$ which is not significant at any level.

TABLE 4:41

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON PHYSICAL APPEARANCE ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	14	17	The population mean is 28.60		-14.6	-11.6
B	21	23			- 7.6	- 5.6
C	36	38			+ 7.4	+ 9.4
D	28	33			- .6	+ 4.4
E	15	30			-13.6	+ 1.4
F	34	33			+ 5.4	+ 4.4
Means	24.66	29.00				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

TABLE 4:42

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON INTERPERSONAL ADEQUACY SCORES ON
THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	44	46	Population mean 63.08		-19.08	-17.08
B	44	54			-19.08	- 9.08
C	75	80			+11.92	+16.92
D	62	63			- 1.08	- .08
E	49	69			-14.08	+ 5.92
F	70	59			+ 6.92	- 4.08
Means	57.33	61.83				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices with (5df) yields $t = 1.07$ which is not significant at any level.

TABLE 4:43

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON AUTONOMY ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	27	21	Population mean 26.32		+ .68	-5.32
B	21	20			-5.32	-6.32
C	30	27			+3.68	+ .68
D	24	27			-2.32	+ .68
E	24	23			-2.32	-3.32
F	34	28			+7.68	+1.68
Means	26.66	25.83				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices with (5df) yields $t = 1.66$ which is significant at 10% level.

TABLE 4:44

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON ACADEMIC ADEQUACY ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	13	11			-6.88	-8.88
B	22	20			2.12	.12
C	21	24	The population		1.12	3.12
D	17	20			-2.88	.12
E	15	17	mean is 19.88		-4.88	-2.88
F	19	23			-.88	3.12
Means	17.83	19.16				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices (5df) yields $t = -1.12$ which is not significant at any level of significance.

TABLE 4:45

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON SECONDARY SCHOOL FACTORS: PHYSICAL ADEQUACY
ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	8	7			-6.72	-7.72
B	10	13			-4.72	-1.72
C	18	20	The population		3.28	5.28
D	16	17			1.28	2.28
E	16	16	mean 14.72		1.28	1.28
F	19	15			4.28	.28
Means	14.50	14.66				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices (5df) yields $t = -0.16$ which is not significant at any level.

TABLE 4:46

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON EMOTIONS ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	10	5			-3.69	-8.69
B	10	12			-3.69	-1.69
C	19	20	The population		5.31	6.31
D	16	19			2.31	5.31
E	7	12	mean 13.69		-6.69	-1.69
F	17	14			3.31	.31
Means	13.16	13.66				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices with (5df) yields $t = -0.32$ which is not significant at any level.

TABLE 4:47

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON BOY SOCIAL ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	15	10			-1.64	-6.64
B	19	14			2.36	-2.64
C	18	19	The population		1.36	2.36
D	17	14			.36	-2.64
E	-	-	mean 16.64		-	-
F	17	15			.36	-1.64
Means	17.20	14.40				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices with (4df) yields $t = 2.5$ which is significant at 10%.

TABLE 4:48

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON GIRL SOCIAL ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	13	17			-4.83	- .83
B	10	14			-7.83	-3.83
C	20	18	The population		2.17	.17
D	18	19			.17	1.17
E	-	-	mean 17.83		-	-
F	22	17			4.17	- .83
Means	16.60	17.00				
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$

Paired t-test on PRE and POST achievement indices with (4df) yields $t = -.23$ which is not significant at any level.

TABLE 4:49

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON PEERS ON THE HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Per	Post
A	13	14			-6.45	-5.45
B	14	19	The population		-5.45	-.45
C	16	27			-3.45	7.55
D	22	19	mean 19.45		2.55	-.45
E	-	-			-	-
F	24	18			4.55	1.45
Means	12.80	19.40				
	x_i	y_i	X_i	Y_i	$x_i - X_i$	$y_i - Y_i$

Paired t-test on Pre and Post achievement indices with (4df) yields $t = -0.82$ which is not significant at any level.

TABLE 4:50

TUTORS' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON LANGUAGE ADEQUACY ON HOW I SEE MYSELF SCALE

Tutors	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
A	17	15			-2.47	-4.47
B	20	16	The population		.53	-3.47
C	16	19			-3.47	-.47
D	14	17	mean 19.47		-5.47	-2.47
E	-	-			-	-
F	22	22			2.53	2.53
Means	17.80	17.80				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices with (4df) yields $t = 0$ which is not significant at any level.

Experimental Self-Concept Scale

Question 4:2-02

Are there significant differences in the tutees' self-concept scores from pre-test to post-test on the Experimental Self-Concept Scale?

Table 4:51 presents the pre-test and post-test total scores and the difference between them that the tutees achieved on the Experimental Self-Concept Scale. The paired t-test on the pre-test and post-test total scores with (5df) yielded $t = 1.17$ which was not significant at any level of significance. Therefore, the tutees did not make significant statistical differences from pre-test to post test on the Experimental Self-Concept Scale.

As far as practical significance, the tutees did make

a 3.16 gain in their mean from pre-test to post-test, a reasonable gain for only twelve weeks. All the tutees except tutees K and I made some gains in this self-concept scale. Tutees K and I both regressed three points. Tutees J and L both gained four points, tutee G gained only two points while tutee H gained fifteen points.

Table 4:52 presents the tutees' general self-concept pre-test and post-test scores. Here the paired t-test was applied to the pre-test and post-test general self-concept scores with (5df) and yielded a $t = 1.11$ which was not significant at any level. Therefore, the tutees did not make statistically significant gains in their general self-concept as measured in the Experimental Self-Concept Scale. The population mean for the Experimental Self-Concept Scale was 73.1. The tutees means for pre-test and post-tests were 53.33 and 58.00 respectively. This represents a positive gain of 4.67 points and, therefore, could be said to have some practical significance for the classroom teacher as positive movement occurred not regression. However, for tutees I and K regression did occur. Tutee I regressed three points and so did tutee K. The remaining tutees gained at varying rates. Tutee G gained three points, tutee H fifteen points, tutee J two points and tutee L four points.

Table 4:53 presents the tutees academic self-concept pre-test and post-test scores. The paired t-test on the pre-test and post-test academic self-concept scores with (5df) yielded a $t = 0.13$ which was not significant at any

level of significance. Therefore, the tutees did not make statistically significant gains in their academic self-concept scores as derived from the Experimental Self-Concept Scale.

Practically, the tutees did show a 1.87 point positive gain in their total means from pre-test to post-test on their academic self-concept scores. Tutees L and I regressed in their academic self-concept score while the remaining tutees showed positive gains.

Due to the fact that there was more positive movement among the tutees pre-test and post-test scores on the Experimental Self-Concept Scale, both general and academic, this could be considered of practical significance for the classroom teacher weighing the positive effects of a cross-age tutoring program on self-esteem over a short time period.

TABLE 4:51

TUTEES' PRE-TEST AND POST-TEST TOTAL SCORES
ON THE EXPERIMENTAL SELF-CONCEPT SCALE

Tutees	Pre-test Total Score	Post-test Total Score	Actual Change
G	59	61	+ 2
H	42	57	+15
I	64	61	- 3
J	52	56	+ 4
K	58	55	- 3
L	55	59	+ 4
Means	55.00	58.16	+ 3.16

Paired t-test on PRE and POST total scores with (5df) yields $t = 1.17$ which is not significant at any level.

TABLE 4:52

TUTEES' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON GENERAL SELF-CONCEPT ON THE EXPERIMENTAL
SELF-CONCEPT SCALE

Tutees	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
G	55	58			-18.1	-15.1
H	42	57	The population		-31.1	-16.1
I	58	55			-15.1	-18.1
J	59	61	mean 73.1		-14.1	-12.1
K	64	61			- 9.1	-12.1
L	52	56			-21.1	-17.1
Means	53.33	58.00				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices with (5df) yields $t = 1.11$ which is not significant at any level.

TABLE 4:53

TUTEES' PRE-TEST AND POST-TEST ACHIEVEMENT INDICES
ON ACADEMIC SELF-CONCEPT ON THE HOW I SEE
MYSELF SCALE

Tutees	Raw Scores		Means at Grade		Achievement Index	
	Pre	Post	Pre	Post	Pre	Post
G	31	33			- 6.2	- 4.2
H	24	34	The population		-13.2	- 3.2
I	38	30			.8	- 7.2
J	36	38	mean 37.2		- 1.2	.8
K	36	32			- 1.2	5.2
L	26	33			11.2	- 4.2
Mean	31.60	33.33				
	x_1	y_1	X_1	Y_1	$x_1 - X_1$	$y_1 - Y_1$

Paired t-test on PRE and POST achievement indices with (5df) yields $t = 0.13$ which is not significant at any level.

The Tutors and Tutees as Groups

Question 4:3-01

Among which group, the tutors or the tutees, was the greater gain in reading achievement?

Under the heading, Question 4:1-01 in this Chapter, Table 4:01 and Table 4:02 are described in more detail. Table 4:01 and Table 4:02 present not only the pre-test and post-test achievement indices on total reading achievement for the tutors and tutees but also the differences in achievement indices from pre-test to post-test for each.

Both the tutors and tutees made statistical and practical gains in their total reading achievement on the Woodcock Reading Mastery Tests. Table 4:01 shows the mean gain for the tutors was 14 achievement indices. The mean gain for the tutees was 8.5 achievement indices as shown in Table 4:02.

Under the heading Standard Reading Inventory in Chapter IV, Table 4:26 is described in detail. The mean gains of the tutors and tutees for oral and silent independent, instructional and frustration reading grade level are listed plus the total mean gain for each group. The total mean gain for the tutors on the Standard Reading Inventory was 1.61 reading grade levels compared to the tutees total mean gain in the same test of 1.22 reading grade levels. The tutors as a group made the greater gains in reading achievement on both the Woodcock Reading Mastery Tests and

the Standard Reading Inventory.

Question 4:4-01

Among which group (tutors or tutees) was the greater gain in attitude toward "self"?

Under the heading Question 4:2-01, Table 4:39 is described in detail. The mean gain on the How I See Myself Scale between pre-test and post-test total scores was +.5 for the tutors. There was no significant statistical change in the pre-test and post-test scores in self-concept for the tutors, however, positive changes did occur which are described in Question 4:2-01, explanations of Tables 4:40, 4:41, 4:42, 4:43, 4:44, 4:45, 4:46, 4:48, 4:49, 4:50. These positive changes have practical significance.

Under the heading Question 4:2-02, Table 4:51 is described in detail. The mean gain on the Experimental Self-Concept Scale between pre-test and post-test total scores was 3.16 for the tutees. However, there was no significant statistical change in the pre-test and post-test scores in self-concept for the tutees. The greater positive changes which occurred in the tutees mean scores appear to indicate that as a group the tutees made the greater gain in attitude towards "self".

Summary

A summary of the analysis of the test data are outlined below:

4:1-01 - There was both statistical and practical significant

gains in the tutor and tutees total reading achievement from pre-test to post-test in the Woodcock Reading Mastery Tests. Paired t-test on pre-test and post-test achievement indices (5df) yields $t = -5.68$ significant at .01. The actual reading grade levels of all the subjects was accelerated.

4:1-02 - There was no statistical significant gains in the tutors gains in the Woodcock Reading Mastery sub-test and Identification but there was a statistical significant gain for the tutees on this same sub-test. Paired t-test on pre-test and post-test achievement indices (5df) yield $t = -2.20$, significant at .05. From a practical standpoint, the tutees actual word identification scores increased, however, the tutees' actual scores were more dramatically accelerated.

4:1-03 - There was a statistically significant gain for the tutors on the Woodcock Reading Mastery sub-test Word Attack (paired t-test on pre-test and post-test achievement indices (5df) yield significance at .05) but no statistically significant gain for the tutees on this sub-test. Practically, however, while all the tutors showed some actual grade level gains, an alternate instructional mode would be sought for two tutors who did not benefit as much as the others as well as for four out of the six

tutees who made no actual gains in their word attack grade scores.

- 4:1-04 - There was both statistical and practical significant gains in the tutors and tutees gains on the Woodcock Reading Mastery sub-test Word Comprehension. Paired t-test on the tutors and tutees pre-test and post-test achievement indices (5df) yield $t = -4.84$ significant at .01, and $t = -3.91$ significant at .05 respectively. Practically, all the tutors and tutees made actual grade score gains at varying rates and for some tutees and one tutor to surpass their grade placement.
- 4:1-05 - The tutors made significant statistical gains in the Passage Comprehension sub-test from the Woodcock Reading Mastery Tests. Paired t-test on pre-test and post-test achievement indices (5df) yield $t = -5.40$ significant at .05 and .01. All the tutors' actual grade scores accelerated too. However, the tutees did not make statistically significant gain in this same comprehension area since all but one tutee failed to make any gains in their actual grade scores. This is of practical significance for the tutees since it does mean comprehension learning did take place for the majority of this group.
- 4:1-06 - There was no statistically significant gain in the tutees Letter Identification sub-test from the

Woodcock Reading Mastery Tests. Practically, three out of the six tutees increased in their letter recognition, the remaining three regressed.

4:1-07 - There was statistically significant gains in the tutors and tutees oral reading independent level. (Paired t-test on tutors and tutees pre-test and posttest achievement indices (5df) yields $t = -3.81$ significant at .05 level and $t = -2.68$ significant at .05 level.) Practically, this meant all the tutors except one made an average gain of 1.9 years, and the tutees made an average gain of eight months in their oral independent reading level. The tutors made large gains in this area.

4:1-08 - There were no statistically significant gains for the tutors in their silent independent reading levels, however, there was a statistically significant gain for the tutees in this area. (Paired t-test on tutees pre-test and post-test achievement indices (5df) yields $t = 10.26$ significant at .05 and .01 level.) Practically, only five tutors gained in silent independent reading and out of those five, two tutors gained two or more grade levels. The tutees made average gains of 1.2 grade levels, in fact, a year's growth occurred for five out of the six tutees. The tutees made larger gains than the tutors in this area.

- 4:1-09 - There was statistically significant gains for the tutors and tutees in their oral instructional reading levels (Paired t-test on pre-test and post-test achievement indices (5df) yields $t = -5.61$ significant at .01 level for tutors and $t = -4.38$ significant at .01 for the tutees.) Practically, this meant the tutors gain was an average of 1.6 grade levels while the tutees average gain was nine months. Such gains for the tutees meant they could all now be incorporated into a classroom reading program but only two of the tutors could be included into their classroom reading program. The remaining tutors were too far behind their grade placement to cope adequately.
- 4:1-10 - There was statistically significant gains for the tutors but not for the tutees in silent instructional reading grade level. (Paired t-test on pre-test and post-test achievement indices (5df) yields $t = -4.26$ significant at .01 level for the tutors.) Practically, this meant tutors average gains were 1.5 grade levels. However, only two out of the six tutors could be expected to cope with low reading grade level materials in their classroom. The average gain for the tutees was 1.1 grade levels. All the tutees except one made enough individual gains in their silent instructional

reading grade level to be able to cope in their classroom reading program. The tutors made the larger gains but most of the tutees reached their grade level.

- 4:1-11 - There was statistically significant gains in the tutors and tutees oral frustration reading grade level. (Paired t-test on pre-test and post-test achievement indices (5df) yields $t = -7.03$ significant at .01 for the tutors and $t = -4.86$ significant at .01 for the tutees.) The tutors made an average push forward of 1.5 grade levels in their oral frustration reading grade level which practically means that the tutors had difficulty reading materials at higher grade levels at post-test than at pre-test. The tutees pushed their frustration reading grade levels forward an average of 1.3 grades so that all were reaching a frustration reading grade level above their grade placements.
- 4:1-12 - There were statistically significant gains in the silent frustration reading grade levels for both the tutors and tutees. (Paired t-test on pre-test and post-test achievement indices (5df) yields a $t = -5.31$ significant at .01 level for the tutors and a $t = -3.49$ significant at .02 level for the tutees.) The tutors and tutees pushed forward their frustration reading grade level an average of

1.6 grades and 1.4 grade levels respectively. This practically speaking, means the tutors and tutees reached their frustration reading grade levels at higher grades than at pre-testing and their classroom teachers should avoid selecting materials at these grade levels.

4:2-01 - There was no statistically significant gains between the tutors pre-test and post-test total scores on the How I See Myself Scale. The tutors' overall mean improved positively but without a standardized mean there was no way to determine where the six tutors compared to the norm. An analysis of the sub-factors of the How I See Myself Scale did not indicate statistical significance at the .05 level only at the .10 level of significance. Where population means were compared to the tutors' means, the following areas showed positive change; physical appearance, interpersonal adequacy, academic adequacy, girl social and peer relationships.

4:2-02 - There was no significant statistical change in the pre-test and post-test achievement indices on the Experimental Self-Concept Scale for the General Self-Concept or Academic Self-Concept. The tutees did show a positive gain in their total means from pre-test to post-test for both the general and academic self-concept scale. Therefore, from a

practical standpoint, there was positive change.

4:3-01 - The tutors, as a group, made the greatest gains in reading achievement indices means.

4:4-01 - The tutees, as a group, made the greater gains in mean scores in attitude toward "self".

Chapter V will detail the analysis of the interrelationship of the test findings for each tutor and tutee. The format will be that of a case study. The following areas will be described for each student: background information, observed pre-test behaviours, general analysis of test results and reading strategies pre-testing and post-testing, plus a limited follow-up history of each youngster's present academic functioning. A summary table will conclude this chapter.

CHAPTER V

CASE STUDIES

Introduction

Remedial readers vary in their abilities as well as their characters. They do have some common characteristic or definable reading problems, however, there are so many differences between remedial readers it is difficult to establish absolute criteria for any one group. In this study, twelve remedial readers of varying ages and degrees of reading disability were involved in a crossage tutoring program. There were some very general observations concerning the test results described in the previous chapter but at the same time, many revealing and interesting observations were noted about each individual student's response to this remedial situation. These observations will be dealt with in a case study format of each student.

To preserve the confidentiality of the students, as was stated in Chapter IV, fictitious names were assigned to the tutors and tutees. Since the tutors and tutees were referred to by letters of the alphabet in Chapter I through IV, it was decided to use these letters as the initial letter of a fictitious name. In no way then, does the assigned name correspond or refer to the actual students who participated in this study as tutors and tutees.

In this chapter, for each individual student, the interrelationship between the pre-test and post-test results for all three diagnostic tests, that is, the Woodcock Reading Mastery Tests, the Standard Reading Inventory and the How I See Myself or the Experimental Self-Concept Scale, will be examined in the light of the reading strategies they reveal about the pupil.

First, a short background sketch of each student will be presented, followed by a description of the student during the initial interview at pre-testing. Particular attention will be drawn to the student's coping strategies during a test session. The general analysis of the student's test data will focus on the reading strategies which each particular student used when confronted with the various test instruments used in this study. A brief follow-up sketch will be included at the end of this chapter.

To provide a quick reference point for the reader, a table indicating the actual test scores for each student follows the case study.

The neutral term miscue will be used in the analysis of each student in the place of the word error. The miscue will be described as far as possible, in context to facilitate a qualitative evaluation because different levels of miscues exist. Some aid the reader to gain meaning while others neither hinder the flow of language nor the acquisition of meaning even though the miscue is not similar to the actual printed text. Therefore, those miscues which upset

the reading process and distort the passage meaning will be the ones given first attention and priority in the general analysis discussion.

In the general analysis, the following diagnostic questions will be used as guidelines for each case study discussion: (For the sake of expediency, the degree of change for each diagnostic question was not analyzed quantitatively but subjectively as yes or no or high, medium or low frequency of occurrence for a strategy's use by the subject.)

- 1) (a) Does the student use grapho-phonetic cues on coming to an unfamiliar word? (i.e. How the reader uses cues to see a relation between the printed form of our language and the spoken form.)
Yes (Y) or No (N)
(b) Does the student sacrifice meaning in order to "sound out" words? Yes (Y) or No (N)
- 2) Does the student substitute words that would seem to carry along the sentence meaning? (i.e. The student demonstrates the aim in reading is to get the author's message.) Yes (Y) or No (N)
- 3) Does the student demonstrate control over the syntactic system of the language? (i.e. The subsystem that provides cues as to how words, phrases and sentences are put together.) High (H) or Medium (M) or Low (L), frequency of occurrence.

- 4) Does the student miscue in content words? (i.e. Words such as nouns, verbs, objectives, which carry a burden of meaning? High (H) or Medium (M) or Low (L), frequency of occurrence.
- 5) Does the student use correction strategies? (i.e. when, where and frequency of self-corrections.) Yes (Y) or No (N)
- 6) Does the student shift terminal sentence boundaries? (i.e. Ignores punctuation and intonation patterns.) Yes (Y) or No (N)
- 7) Does the student respond to comprehension questions? (i.e. Uses own experiences in response to questions.) Low (L) or Medium (M) or High (H), frequency of occurrence.
- 8) Does the student demonstrate positive attitudes? (i.e. Toward self, school, peers, academics.) Yes (Y) or No (N)
- 9) Does the student use written language easily? (i.e. The ability to write down his/her thoughts.) Yes (Y) or No (N)

A summary table at the conclusion of this chapter will utilize these questions and the symbols indicated to provide an overview for the reading strategies discussed in the general analysis.

Case Studies

Alan

Background Information

Alan is a twelve year old boy who lives at home in a two bedroom apartment near the school, so Alan walks or rides his bike to school and goes home for lunch. He lives with his mother and sixteen year old brother, as his parents have been divorced for a long time. Alan's father supports the family financially but maintains no contact with the family. His mother does not work outside the home although Alan's brother does work, having left school recently.

Alan attended a city school for kindergarten and grade 3, then he moved into the present school division for grades 4 to 6. This is Alan's first year in junior high school, so he has spent a total of seven years in school plus a kindergarten year. School records have indicated that Alan has normal intellectual potential.

Alan's school progress was not very good. He seems to have been pushed along but he was not keeping up with his peers. By the time Alan was 10 years old and in grade 5, he was attending a low reading and mathematic class. He had acquired a reputation as a slow and dreamy boy. It was while in grade 5 that Alan was referred to the Child Guidance Clinic for Speech and Hearing assessment. This testing revealed that Alan had a bilateral hearing loss and his mother was advised to take him to see an ear specialist. He

received treatment for an ear infection, then he was retested by the ear specialist. The bilateral hearing loss still existed as this physical impairment has proved to be permanent damage to his ear. Alan continued in his low reading and mathematics class into grade 6 and, subsequently, was "passed" into grade 7, junior high school. After seven months in grade 7 Alan was failing in all his subjects. His teachers all complained that he daydreamed in every class and hardly ever completed an assignment. No amount of threatening had any effect upon him so he began a series of visits to the principal's office for more reprimands. This action sometimes got immediate results but Alan ultimately fell back into his old habits of letting everything slide. His attendance was regular.

Initial Interview and Behaviour During Pre-testing

Alan appeared to be slightly overweight for his age and height. He had short brown hair and eyes. He presented a neat appearance in both dress and hygiene. It was observed that he was a fierce nail biter. During the interview, prior to the actual testing, Alan seemed to be very timid and did not initiate any conversation. Through questioning, Alan said the only subject he liked in school was drama and he hated all his other subjects. He does not watch much television but prefers to stay out with his friends until bedtime at 9:00 p.m. As far as reading is concerned, it is something he rarely does at home. He admitted that he does

read comics but when pressed, revealed that he only really looked at the pictures, not the words.

In an attempt to assess Alan's concept of literacy he was asked to describe what one did when reading and writing. Alan replied, "...sheets to do but not reading ...can learn it...mum teaches me writing...don't know any more..." The sheets Alan referred to probably meant worksheets and/or workbook pages he has been subjected to during reading class. It seems he realized that this was not reading but somehow related. His reference to writing dealt with the mechanics only which his mum had taken upon herself to teach him at home. Alan's writing was a very large cursive script which he laboured over. As a result, he is painfully slow to write anything down.

During the testing, directions had to be repeated several times before Alan would attempt to carry them out. He seemed to have developed two strategies for attempting test items; first, he would scowl at the test item blankly and refuse to attempt it at all or leave it to go on to another item unless coaxed by his tester. His other strategy was to guess wildly at the answers giving the impression that by doing this the whole procedure would finish as quickly as possible. He would, when using this strategy, say the first thing that popped into his head then ask, "Is that right?". If the tester did not respond immediately, he would start wildly guessing at alternative answers. So Alan

continued throughout the testing situation, alternating between these two strategies.

General Analysis of Test Data

Alan's test scores for the Woodcock Reading Mastery Tests, Forms A and B, the Standard Reading Inventory, Forms A and B, and the pre-test and post-test scores in the How I See Myself Scale, Form 1 and 2, are listed in grade levels when possible in Table 5:01.

The pre-test and post-test scores in the sub-tests word identification and word attack on the Woodcock Reading Mastery Tests do not indicate a great deal of change. The word identification sub-test shows much the same range of low grade 3 to low grade 4 pre-test and post-test. The word attack, however, shows some slight improvement. The pre-test scores range from low grade 2 to low grade 4 while the post-test scores range from nearly mid grade 2 to mid grade 4. There was some upward mobility for Alan's test scores. Does this reflect any change in his decoding skills for words in isolation?

Alan's strategies for decoding words in isolation at pre-testing involved using the initial and final consonant sounds. He gave indications that he could use syllabication when he tried to sound out such words as "professional" and "broadcast"; he got as far as the first two syllables then gave up. This strategy was repeated in the word attack sub-test with nonsense words. Alan also added suffixes to

words that did not have any; for example, "quick" became "quickly"; "groan" became "groaned"; "giggle" became "giggling". He even added these suffixes in the middle of words so that, for example, the word "amazement" would become "amazedment". Nearly the same meanings but not quite.

When he was given single syllable words he had difficulty determining the medial vowel. This became particularly evident in the word attack sub-tests. For example, "maft" would be "mift", "wip's" would be "wipes", "tab" would be "tebe". He did better on multi-syllabled words on this sub-test. It is interesting to note that when Alan reached his frustration level he stopped trying to syllibicate, he just gave up.

At post-testing Alan was using the same decoding strategies but not as frequently. On the word identification sub-test he added only one suffix. On the Word Attack sub-test he did marginally better at decoding single syllable words so perhaps it could be said he had begun to look at the medial vowel positions in these words. He still did much better with multi-syllable nonsense words.

As he was reaching his frustration point, he did not omit words as he had done previously, but kept on trying to break them into syllables, indicating his involvement was greater for longer. The only place this is reflected on any of his test scores is in an increased academic adequacy on his How I See Myself Scale, Form 2, in Table 5:01.

In the general analysis, Alan did make gains in his pre-test and post-test scores as reflected in Table 5:01. His word comprehension sub-test shows at pre-test a range from grade 2 three months to grade 3 nine months while his post-test scores show a growth because the range is now grade 3 four months to grade 7 one month. The Passage Comprehension sub-test ranges grade 2 eight months to grade 4 five months at pre-test and grade 3 four months to grade 5 nine months at post-test.

The Standard Reading Inventory ranges showed a negative change at the oral independent level of two months and only a five month gain for the silent independent level. As Table 5:01 indicates Alan made a six month and eight month gain in his oral and silent instructional reading grade levels and an eight month gain in both his oral and silent frustration reading grade level. This in effect means that Alan was able to stretch his reading range upwards to a grade 5 level despite his negative change at the oral independent reading level between pre-testing and post-testing.

In the general analysis of Alan's reading strategies on the Woodcock Reading Mastery sub-test, Passage Comprehension and the paragraphs on the Standard Reading Inventory, there were observed changes in the types of miscues he employed at the pre-test and post-test situations.

On coming to an unfamiliar word, Alan used the initial and final consonant as graphophonic cues on the pre-test

passages. For example, this for these, or at for as. These substitutions did not carry along the same sentence meaning demonstrating a poor syntactic system of language. This was particularly evident where Alan deleted word endings such as "run" for "running", "silent" for "silently", "protect" for "protected". Alan often omitted words he did not know and read around as if they did not exist. He would "get stuck" and not want to leave a word and read on. Needless to say his comprehension suffered due to this overemphasis on each word. There was little fluency in his reading as he was not paying any attention to terminal sentence boundaries. He would read on through periods, questions and there would be times with long pauses where no pauses were indicated. Alan's miscues at this time tended to be content words which carried the burden of meaning for the sentence; for example, by miscuing "green" for "greens" or "tumble" for "tumbling", he changed the entire sentence meaning. Although he changed some nouns it was usually the verbs he miscued on, therefore, distorting the time sense of the passages. Correction strategies were largely missed from Alan's reading. Only once did he repeat a phrase and this he did without self-correcting. It was observed from Alan's strategies that his aim in reading was not to get the author's message as a result his response to the comprehension question did little to indicate that he had understood what he had read. Now that he used his own experience when asked to draw inferences.

Throughout this pre-testing session, Alan kept asking if each answer was correct. He appeared to be very unsure of himself when reading. Perhaps explaining why his concepts of literacy were so vague, because Alan did not really understand what he was supposed to do when he met the printed word.

During post-testing there was an observed difference in Alan's confidence. He seemed to have more staying power whenever the reading got difficult for him. He no longer used the final or initial consonant sounds and used configuration for graphonic cues instead his substitutes carried along the sentence meaning. For example, he would substitute "when the alarm bell sounded" for "when an alarm bell sounded". This kind of miscue indicates that he had more control over the syntactic system of language. He was no longer miscuing on content words such as verbs as he had done at pre-testing. He miscued on such words as "the" for "there" or "for" for "with". He certainly had abandoned the practice of leaving off word endings and changing verb tenses. It was in Alan's correction strategies that the major changes occurred. He had many more incidences of repetitions where he either was re-affirming a meaning to himself or he self-corrected. He would change his answers on the comprehension passage if it did not make sense and mutter audibly "no, doesn't make sense". He had begun to get the author's message and as a result his comprehension

of the Standard Reading Inventory as well as the passage comprehension sub-test improved slightly. At post-testing it was obvious some of Alan's reading strategies had changed but not consistently enough to affect major changes in his test scores. His concept of literacy did not reflect that he really had a very much better understanding of what he was doing when reading. He said "...reading something you learn, ...learn words, be happy...if know how to read ...people like to learn how to read...". Writing for Alan was still quite mechanical, "...use with pen or pencil... write letters, words, sentences...people like to write too ...". It is doubtful that this last phrase referred to himself as Alan never spontaneously wrote his report. He always had to be told. His reports never changed in form or content during the whole crossage tutoring program. For the short period that this program ran, it can not be said that it affected any major changes in Alan's reading behaviour if his test scores are to be any indication of this criterion.

Alan's tutee was a youngster named Geoff.

TABLE 5:01

SUMMARY OF ALAN'S PRE-TEST AND POST-TEST DATA FROM
THE WOODCOCK READING MASTERY TESTS, THE STANDARD
READING INVENTORY AND THE HOW I SEE MYSELF SCALE

Interpretation of Woodcock Test Results, Form A & B

Table 5:01 continued

Subtest		Score	Reading Grade Levels			Relative Mastery			
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	% ile Mark
Letter Identification	A	173	4.1	6.2	12.9	173	0	90	50
	B	173	12.0	12.0	12.0	173	0	90	50
Word Identification	A	165	3.2	3.6	4.1	202	-37	13	5
	B	164	3.1	3.5	4.1	205	-41	9	3
Word Attack	A	96	2.2	3.0	4.1	119	-23	42	12
	B	99	2.4	3.3	4.5	121	-22	45	13
Word Comprehension	A	76	2.3	2.9	3.9	101	-25	37	9
	B	91	3.4	4.7	7.1	104	-13	68	26
Passage Comprehension	A	90	2.8	3.4	4.5	117	-27	32	8
	B	100	3.4	4.5	5.9	120	-18	55	18
Total Reading	A	120	3.0	3.6	4.6	144	-24	39	4
	B	125	3.2	4.0	5.1	146	-21	47	6

Standard Reading Inventory, Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	3.2	2.5	3.7	3.5	4.5	4.5
B	3.2	3.2	4.5	4.5	5.5	5.5
Gains	-.2	.5	.6	.8	.8	.8

How I See Myself Scale, Form 1 & 2

	Form 1	Form 2	Difference
Total	159	142	-17
Teacher-School	21	19	- 2
Physical Appearance	34	33	- 1
Interpersonal Adequacy	70	59	-11
Autonomy	34	28	- 6
Academic Adequacy	19	23	+ 4
Physical Adequacy	19	15	- 4
Emotions	17	14	- 3
Boy Social	17	15	- 2
Girl Social	22	17	- 5
Peer	24	18	- 6
Language Adequacy	22	22	0

Geoff

Background Information

Geoff is a seven year old boy in grade 1 who is the second child in a family of four siblings. He has an older brother of 8 and another brother of 3 and a sister who is 2. Geoff's mother is in the home all day and his father is employed in a local firm.

Geoff was in kindergarten last year and has been in grade 1 for seven months. Geoff was seeing the resource teacher for extra help in reading as he seemed unable to keep up to his reading group. He had not mastered all the primer sight words as yet. He was very distractable in class and did not display much interest in reading. It was difficult to get Geoff to finish his assignments. His classroom teacher found it very difficult to maintain his attention for a whole lesson. Geoff opted out by daydreaming. It was felt by his classroom teacher that an experience as a tutee with his own tutor on a daily basis, first thing in the morning, might get Geoff off to a good start for the day. So he was referred for the initial testing and interview.

Initial Interview and Behaviour During Pre-testing

Geoff proved to be a shy little boy with large round brown eyes, a timid smile and a slight build for a 7 year old. He was delicate looking. Geoff was not a chatty youngster, speaking only when spoken to. He appeared and acted as if, at seven, he had given up all hope for success

in school. He did not smile or approach any task with confidence. He seemed to expect reading not to make sense for him.

General Analysis of Test Data

Table 5:02 is the summary of Geoff's pre-test and post-test scores for the Woodcock Reading Mastery Tests, the Standard Reading Inventory and the Experimental Self-Concept Scale. The table records the reading grade levels where indicated, otherwise, the raw scores are recorded.

At pre-testing Geoff knew his alphabet at an appropriate level for his grade placement. Certainly his letter identification sub-test on the Woodcock Reading Mastery Tests indicated scores which ranged from grade levels 1.9, 2.2 and 2.6, at mastery for grade 1. Therefore, this was not a skill worked on during crossage tutoring so it is not surprising that he scored at exactly the same level during post-testing (see Table 5:02).

On the Word Identification sub-test, Geoff attempted thirty test items and knew only sixteen test items. He did not try to sound out the sight words, rather he used the word's initial consonant and wild guessing. For example, "my" was read as "me", "cake" became "cook", however, "something" became "surprised", while "out" was read as "too" and "of" as "found". This was limited use of graphophonic cues when reading words in isolation.

On the pre-test sub-test Word Attack, Geoff indicated however, that he had a very good knowledge of his phonics in

isolation. He scored from grades 2.0, 2.6 to 3.5 above his grade placement. It appeared that he did not know how to utilize this knowledge very well as he certainly did not attempt to decode words phonically on the Word Identification sub-test.

On the Word Comprehension sub-test, he attempted only eight items. His scores ranged from grade 1.1, 1.2 to 1.3. He really had only the vaguest of ideas on how to do this type of analogy activity. Since vocabulary concept development does affect passage comprehension, Geoff was again at a loss when faced with the passage comprehension sub-test. He attempted only ten test items and his scores ranged from grades 1.4, 1.6 to 1.9. All the items he attempted had pictorial cues which he could not use, nor could he use print at all meaningfully. On the preprimer passage from the Standard Reading Inventory, Geoff's usual strategy was to wait until a word was given to him. These were usually the content words which carried the burden of the sentence meanings. For example, in the sentence "I want to play", said John, Geoff read "I what.....", said John. He had to be given the words "to play". The same pattern happened in this sentence, "I.....something to play with." Geoff was given the word "want". Later he omitted the word "looked" in the sentence "Mother looked down." This lack of attention to meaning and syntactic control really revealed itself when he read, "I is red and blue. I is to let" for the text "It is red and blue. It is not little." With no

substitutions carrying along the sentence meanings, plus his stilted word by word reading, it was not surprising that Geoff was not able to retell what he had read. It became obvious that reading did not make sense to him. He did not have an independent reading grade score, only an instructional reading grade score of 1.1. Geoff avoided reading activities by daydreaming. He had to be constantly brought back to the task which for him was essentially nonsense.

By post-testing many of Geoff's reading strategies had changed, for the positive as well as his self-concept. He showed a positive shift in the Experimental Self-Concept Scale from pre-test to post-test in his general self-concept and in his academic self-concept (see Table 5:02). Perhaps this change could be attributed to Geoff's reading gains. On the Word Identification sub-test at pre-test, Geoff's scores now range from grades 1.7, 1.8 to 1.9. He attempted 52 test items five times the number he had at pre-test and what was very encouraging to see was his near abandonment of wild guessing for sight words. The only really wild guessing he employed utilized the initial consonant when he read "after" for "airplane" and "slam" for "sleep". In his remaining miscues, he had begun to use both the initial and final consonants; for example, "soon" for "son", "ran" for "rain", "ned" for "need". He had begun in other words to use his good phonic skills with words in isolation. His phonic skills as revealed on the word attack sub-test did

not change from pre-test to post-test (see Table 5:02).

Although he did not score well on the Word Comprehension sub-test, at post-test his scores ranged from grades 1.6, 1.8 to 2.1, he did seem to use the picture cues to make sense of the analogies. Geoff's greatest growth occurred with the passage comprehension sub-test where he scored at post-test grades 1.9, 2.3 and 2.7 and on the Standard Reading Inventory where he achieved oral and silent independent reading grade levels of 1.1 and 1.2 and instructional level of 1.4 and a frustration level of 2.7 and 1.7 for oral and silent reading. Geoff had begun to make sense of print. He used self-correction strategies on both these tests as well as logical substitutions which carried along the author's meanings. For example, "They run to the boat house." for the text "They ran to the boat house." or "The farm has two animals. It has two pigs." for the text "The farm had toy animals. It had two pigs." He indicated the beginnings of syntactic control. He still miscued on content words which he waited to be given, rather than using any kind of decoding device but the frequency of this strategy had declined. He had developed some fluency skills which he demonstrated on the preprimer Standard Reading Inventory Passage. In point of fact, Geoff, by post-testing, had broken the literacy barrier. He was beginning to demonstrate reading strategies where not had existed before.

TABLE 5:02

SUMMARY OF GEOFF'S PRE-TEST AND POST-TEST
DATA FROM THE WOODCOCK READING MASTERY
TESTS, THE STANDARD READING INVENTORY
AND THE HOW I SEE MYSELF SCALE

Interpretation of Woodcock Test Results, Form A & B									
Subtest		Score	Reading Grade Levels			Relative Mastery			
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	% Mile Mark
Letter Identification	A	128	1.9	2.2	2.6	112	+16	98	82
	B	128	1.9	2.2	2.6	119	+ 9	96	70
Word Identification	A	72	1.5	1.6	1.7	87	-15	63	30
	B	96	1.7	1.8	1.9	108	-12	71	34
Word Attack	A	91	2.0	2.6	3.5	72	+19	99	83
	B	91	2.0	2.6	3.5	79	+12	97	72
Word Comprehension	A	7	1.1	1.2	1.5	48	-41	9	3
	B	51	1.6	1.8	2.1	56	- 5	84	40
Passage Comprehension	A	47	1.4	1.6	1.9	50	- 3	8	2
	B	69	1.9	2.3	2.7	57	+12	97	69
Total Reading	A	69	1.3	1.5	1.8	76	- 7	81	38
	B	87	1.7	2.0	2.3	83	+ 4	93	61

Standard Reading Inventory, Form A & B

	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	0	0	1.1	0	0	0
B	1.1	*1.2	1.4	1.4	2.7	1.7
Gains	.9	1	.1	1.2	2.5	1.5

*extrapolated

Experimental Self-Concept Scale

	Form 1	Form 2	Difference
Total	59	61	+ 2
General Self-Concept	55	58	+ 3
Academic Self-Concept	31	33	+ 2

Brian

Background Information

Brian is a thirteen year old boy who lives with his parents, his brother and sister in a three bedroom home located on the extreme north end of the school district. Brian is bussed to school daily and stays for lunch.

Brian's older brother is sixteen and still attends a local regional high school, while his eleven year old sister is in grade six at a nearby elementary school.

Brian's mother works part-time in real estate and his father works for the railway.

Brian's school attendance has been good. He has attended three schools in the same school district, the same elementary school for kindergarten to grade 6, then junior high for grade 7. This is Brian's second year in grade 7. He has spent a total of eight years in school, plus kindergarten.

School records indicate that Brian, who has normal intellectual potential, has experienced some difficulty with his reading throughout his school career but he was passed each year. His first year in grade seven proved disastrous and he failed all his subjects, therefore, he transferred into his present junior high to repeat grade 7 and take advantage of the developmental reading program offered by his present school.

After seven months in grade 7, the second time around

Brian was still not experiencing much success. His developmental reading teacher indicated that Brian tried but seemed to be overwhelmed and anxious and under a great deal of stress in his present situation.

Initial Interview and Behaviour During Pre-testing

Brian was a quiet blond boy of slight build. He presented a washed-out appearance due to his extremely pale blonde hair and complexion. He was neat and clean in his jeans, however, he was very nervous and rarely smiled. Instead, he blinked incessantly, rather like a nervous tick. He did not talk readily. He answered questions politely but never elaborating about himself. It was quite clear he did not wish to discuss his last year in grade 7.

Brian was quite interested in sports but due to his being bussed to school, he could not participate in after-school sports. This he said was disappointing as he had enjoyed sports the previous year. Brian watched a lot of television in the evenings, preferring this to reading anything. He usually went to bed about 9:30 p.m. He did say that everyone else at home read a lot, especially his dad.

During the testing it was observed that Brian could not, or wished not to, read anything silently, preferring to read orally. He said he found it easier to read orally because it helped him to remember! Even when asked to try to read silently those sections on the Standard Reading

Inventory, Brian had pronounced lip movements and moved his head from side to side as he laboured his way through the paragraphs.

Like Alan, Brian was asked to try to describe what he did when he read and wrote. He replied, "...I read, spell and work on sheets...spelling...spelling different words..." The sheets he referred to were mostly the reading skill sheets he was asked to work on in the development reading program. For Brian this was reading! Writing had something to do with spelling different words. Brian's writing was very spindly, small and messy, consequently, difficult to read.

During the testing, directions never had to be repeated to Brian. His strategy was to co-operate. He tried all the tasks given to him, even though he was very anxious. He did not ask for confirmation of any answer. It was as if he did not expect anything to make sense anyway, so why ask.

General Analysis of Test Data

Brian's test scores for the Woodcock Reading Mastery Tests, Forms A and B and the Standard Reading Inventory are given in grade levels. The How I See Myself Scale, Form 1 and 2 are given in raw scores only. These scores are all listed in Table 5:03.

Table 5:03 indicates there was no change between his pre-test and post-test scores on the sub-test word identification on the Woodcock Reading Mastery Tests. They remained

in the same grade level range.

Despite this, no change in Brian's test scores, his strategies for decoding words in isolation had changed between the pre-testing and post-testing periods. For one thing, Brian tried more test items at post-testing. He seemed much more confident, therefore, he was quite willing to attempt list items he would not tackle at pre-testing such as multisyllabled words like tranquilize, evaporate, alcoholic, where he was able to decode the first two syllables correctly. At pre-test he attempted only a few multisyllabled words like vehicle, jeopardize, relapse and could not decode even the beginning syllable. This same pattern occurred on the word attack wherever there were multisyllabled nonsense words. It was evident he did not know the common affixes and root words which make up such words as "television", "widely", "gruffly".

At pre-test he used quite consistently the initial consonant or blend when decoding a word, for example, "angle" for "angry", "white" for "while", "satisfact" for "surface", "supy" for "soapy". As can be seen, the word shape appears to determine his substitutions at the same time.

By post-test Brian had progressed beyond using only the initial consonants but also the medial vowels for example, "wealth" became "weather", "drawl" was "drawn" and the final consonants for example, "calendar" was "cylinder", "amateur" was "amisteur". It appears as if he had not as yet begun to

use all the decoding strategies he knew at the same time. He had begun to look at more than the beginnings of words and their shapes even when he tackled the nonsense words on the Word Attack sub-test and as a result he did much better. He had obviously learned to syllicate even when he miscued such examples as "febmissack" for "febmissack" or "pelnidlum" for "pelnidlum". He had developed a useful strategy which revealed that he had some word sense.

In the Word Attack sub-test, Brian at pre-testing was in the grade 2 three month to grade 4 four months range of reading levels. At post-testing his range was from grade 2 eight months to grade 5 six months indicating some upward mobility in his test scores.

Perhaps due to his new strategies, Brian's word comprehension and passage comprehension and post-test scores indicate the greatest changes. At pre-testing, Brian's test scores for word comprehension were grade 2 seven months to grade 5 one month. By post-testing, he had a range of grade 5 five months to grade 11 six months. Similar changes occurred in his passage comprehension scores which at pre-testing were from grade 4 five months to grade 7 eight months. The scores by post-testing ranged from grade 4 five months to grade 7 eight months. Besides the gains on the Woodcock Reading Mastery Tests, Brian made reading grade level gains of one year and eight or six months for all levels of the Standard Reading Inventory except in Silent Independent

reading level. It is interesting to notice that Brian also showed a positive change in eight areas, academic adequacy being one area at the post-test period on the How I See Myself Scale. This was reflected in his total score as well. Perhaps the How I See Myself Scale for Brian reflected his pre-test behaviour of nervousness and timidity. Certainly Brian's anxiety came forward during the word comprehension sub-test at this time. This analogy test was new to him and he not only gave up easily but responded with many "I don't know". At post-testing he attempted double the items and was much more confident about making errors. He self-corrected numerous times whenever he felt his choice of answer did not make sense. This strategy had been completely lacking at the pre-test period. It should be noted that Brian did not blink his eyes as much during post-test, in fact, his eye blinking was largely absent.

Contrasting Brian's various reading strategies between pre-testing and post-testing performance on the Passage Comprehension sub-test from the Woodcock Reading Mastery tests and the Standard Reading Inventory passages indicated perhaps why Brian was able to make test score gains.

By way of illustration, at the pre-test period, Brian read with little fluency. Being a word by word reader meant he shifted terminal sentence boundaries paying no attention to punctuation marks like periods or question marks which, of course, lent meaning to not only individual sentences but also the whole paragraph as well. As a result of this

strategy, the individual words assumed great significance for Brian. So much so that he sacrificed meaning of phrases and clauses by substituting words which were contrary to the whole sentence meaning. He made these kinds of miscues "went he got there his father and mother howled and laughter." The test sentence was, "when he got there his father and mother howled with laughter". The substitution of "went" for "when" indicated he was using the initial consonant as a graphophonic cue, however, syntactically and semantically it was a poor substitution as was "and" for "with". In this case and in others, Brian demonstrated poor control over the syntactic system of language that is not paying attention to clauses or phrases, and therefore, the appropriate words to substitute for these sub-systems of the language.

The types of content words Brian omitted or miscued in were usually adjectives and verbs, all of which carry a burden of meaning so that he miscued in the following way. "He watched in them" for the text "He watered it each day" or "The booking of the howling owl was well known to the beaver" for "The hooting of the horned owl was well known to the orphan beaver."

The absence of correction strategies at pre-test reaffirmed Brian's lack of attention to reading for meaning. Therefore, his responses to comprehension questions were poor as his pre-test scores reflected.

The most significant change in Brian's reading

strategies at post-testing was his improved attention to reading for meaning. It mattered to him whether the sentence made sense especially when reading the passage comprehension sub-test on the Woodcock Reading Mastery Test. He self-corrected spontaneously while reading the sentences.

His miscues reflected a change because he had started to substitute words which tended to carry along the sentence meanings. For example, Brian read "when he got to the studio he was assisted to the make-up man" when the text read "when he got to the studio he was assigned to a make-up man." The meanings of "assisted" and "assigned" in this sentence are close. He was still using the strong graphophonic cues of the two words but he had added syntactic and semantic cues as well. Another example which showed Brian's improved reading strategy was found in this sentence, "the door jammed at his heel and he bumped his forehead" for the text "the door jarred his heel and he stumbled bumping his forehead." Brian substituted "jammed" for "jarred" using the same tense and type of content word as well as good graphophonic cues. The fact that he changed the very tense of "bumping" to "bumped" plus its grammatical function when he omitted "stumbled" illustrated his improved control of the syntactic system of language. Of course, he no longer read word by word as his oral fluency had improved along with his reading strategies, and carried over into silent reading as well.

Whenever he repeated the text it was a repetition of a whole phrase not just a single word as he had done at pre-test. He still did fall back on his pre-test strategies sometimes so that he read "He rushed together the revolving door at the exit" for the text "He rushed through the revolving door at the entrance." It was the noticeable lack of this kind of miscue at post-test which no doubt helped Brian toward the higher comprehension scores.

Brian's writing improved a good deal from pre-test to post-tests. He developed the ability to spontaneously write his reports and he was able to progress from writing ungrammatical sentences to a reasonably punctuated paragraph. So his reports improved both in content and style. His writing production went from a sentence to a five sentence paragraph.

By the post-test period Brian was well on his way to becoming a more confident learner. He had begun to try again without the great fear of failure which had inhibited him so dreadfully at pre-testing. Brian's tutee was Henry.

TABLE 5:03

SUMMARY OF BRIAN'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS,
THE STANDARD READING INVENTORY AND THE
HOW I SEE MYSELF SCALE

Interpretation of Woodcock Test Results, Firm A & B

Table 5:03 continued

Subtest		Score	Reading Grade Levels			Relative Mastery			%ile Mark
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	
Letter Identification	A	173	12.9	12.9	12.9	173	0	90	50
	B	173	12.9	12.9	12.9	173	0	90	50
Word Identification	A	159	3.0	3.3	3.8	202	-43	7	3
	B	160	3.0	3.3	3.8	205	-45	6	2
Word Attack	A	98	2.3	3.2	4.4	119	-21	47	14
	B	104	2.8	3.8	5.6	121	-17	58	19
Word Comprehension	A	83	2.7	3.6	5.1	101	-18	55	19
	B	105	5.5	8.4	11.6	104	-1	89	48
Passage Comprehension	A	102	3.6	4.7	6.2	117	-15	63	22
	B	110	4.5	5.9	7.8	120	-10	75	30
Total Reading	A	115	2.8	3.3	4.1	144	-29	27	3
	B	130	3.6	4.5	6.0	146	-16	61	10

Standard Reading Inventory, Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Forms A	2.7	2.5	3.7	3.5	4.5	4.5
	B	4.5	3.5	5.5	5.5	6.5
Gains	1.6	.8	1.6	1.8	1.8	1.8

How I See Myself Scale, Form 1 & 2

	Form 1	Form 2	Difference
Total	137	148	+ 9
Teacher-School	16	15	- 1
Physical Appearance	28	33	+10
Interpersonal Adequacy	62	63	+ 1
Autonomy	24	27	+ 3
Academic Adequacy	17	20	+ 3
Physical Adequacy	16	17	+ 1
Emotions	16	19	+ 3
Boy Social	17	14	- 3
Girl Social	18	19	+ 1
Peer	22	19	- 3
Language Adequacy	14	17	+ 3

Henry

Background Information

Henry was a nine year old Metis boy who was the third child in a family of four children. He had an older brother of fifteen, a sister of ten and a younger brother of six. Henry's mother was at home. Currently, his father was on Welfare. Off and on, he was employed as a snow remover for the City.

Henry had attended kindergarten and three grade 1's because the family moved a lot. This was his second year in grade 2 having repeated grade 1. Lack of attendance was a problem for this child. His attendance in grade 2 after seven months had been spotty and as a result he was very far below the level of the other children in his reading performance.

Henry showed a great deal of interest in reading but would not participate well in class when he was in attendance. This puzzled his classroom teacher. He was referred to the initial testing and interview because his classroom teacher felt that if Henry were made to feel special by having his own tutor, perhaps he would not only participate better but also attend school on a more regular basis.

Initial Interview and Behaviour During Testing

Henry was a very good looking nine year old with huge round black eyes, a light brown complexion enhanced by shaggy straight black hair. He appeared to be small in stature for

a nine year old Metis, yet he was not delicate looking. Henry looked like he had just gotten out of bed, jumped into his clothes and come to school. This was indeed the case, when he was asked to tell about his morning routine. He occasionally had breakfast as his mum usually did not get up, leaving the younger members of the household in the care of the older brother and sister to get them off to school. Sometimes the older brother or sister would forget to wake up Henry and he would wake up late. Sometimes he would come to school anyway, especially when the weather was reasonable, however, as soon as the cold weather set in he no longer made the effort to come to school, even late.

Henry appeared tired and it was observed that he had dark circles under his eyes. It was difficult to determine whether Henry's lethargy was due to fatigue or if it was his way of coping with difficult situations. He presented himself as a child who was very suspicious of adults in authority. He gave up very easily all the tasks given to him and no amount of gentle coaxing could get him to continue a task once he had decided that he had had enough.

Henry was very reluctant to talk about himself or his family. He answered questions with the minimum verbal responses with his head down and eyes cast down. This particular behaviour confused his teacher who was unaware that Henry was not being shy but showing respect to an elder according to his cultural values. The fact that Henry was

not spontaneous and talkative with adults he did not know, could be attributed to this fact.

General Analysis of Test Data

A summary of Henry's pre-test and post-test data is found in Table 5:04. The grade level scores are listed for the Woodcock Reading Mastery Tests as well as for the Standard Reading Inventory. However, only the raw scores are recorded for the Experimental Self-Concept Scale.

As Table 5:04 indicates, Henry's overall performance in all areas tested shows a positive growth. On the total reading grade score on the Woodcock Reading Mastery Test, he scored grades 2.2, 2.5 and 2.8 at pre-test but at post-test he scored grades 2.8, 3.2 and 4.0.

On the letter identification sub-test at pre-test Henry scored grades 2.1, 2.5 and 2.9 mainly because he was experiencing difficulty recognizing letters of the alphabet in cursive script. By post-testing he had mastered all but a few of these cursive script letters so that he scored grades 2.6, 3.1 and 3.7.

When Henry did the word identification sub-test he attempted only 80 test items. If he did not recognize the word instantly, he gave up with a quiet "I don't know." He appeared to use the initial consonant, word shape and final consonant when he attempted such words as "strange" but he said "strong", similarly he said "witch" for "watch", "baby" for "body", "buzy" for "busy". What is worth noting here is

that he used real words not nonsense words. He sensed that these words were supposed to be meaningful. He scored at pre-test grades 2.3, 2.6 and 2.9 which was really just at his grade placement of 2.7 but Henry is nine years old and this was his second year in grade 2 and there did not appear to be any lack of intelligence on his part. It was more lack of exposure to instruction since Henry's high absenteeism had obviously affected his academic performance.

At post-testing Henry attempted 96 test items and had successfully scored in grades 2.6, 2.9 and 3.2, surpassing his grade placement. His strategies did not appear to change. He still used "I don't know" for words he did not recognize instantly but the frequency of this occurrence had reduced, instead he tried the words more often than not as he seemed to have more confidence. Using still the initial and final consonants plus the word shapes he read "sistern" for "system", "manager" for "major", "hurt" for "heart" and "country" for "century". This was much more sophisticated vocabulary than he had miscued on at pre-testing.

On the Word Attack sub-test from the Woodcock Reading Mastery Tests, Henry scored grades 3.7, 5.4 and 10.1 at pre-test. These were his highest scores on any of the sub-skills examined at pre-testing. This kind of performance meant that Henry had learned decoding strategies exceptionally well, however, he did not know how to apply these decoding skills

skills when he was actually reading, so in a sense this knowledge was not very useful to him when he was reading. It was a skill he had learned in isolation with no thought to its application. He demonstrated this on the word comprehension sub-test with grade scores 2.2, 2.7 and 3.6 and on the passage comprehension sub-test with grade scores 2.1, 2.5 and 3.1 at pre-test. The answers Henry gave on the word comprehension test did have some logical basis, in other words, he was able to handle this type of exercise, however, he had not had much experience in doing word analysis. He would not guess at an answer even when coaxed to do so. This lack of self-assurance was demonstrated by him in the passage comprehension test also. If he did not instantly see the appropriate word, he gave up. He did not appear to have any strategies to use, other than his sense of syntax. By this is meant when he was reading, he could fill in an appropriate part of speech but yet not make sense semantically. For example, on the Standard Reading Inventory he read, "...first there was a loud pouting." for the text "...first there was a loud pounding." Another similar type of miscue occurred when Henry read "...slowly he was feeling asleep." for the text "...slowly he was falling asleep." He was not making sense by substituting words which carried along the author's meaning. He was using his graphophonic cues and syntactic ability but very inappropriately. The particular words he miscued on are content words which carry a large

part of the sentence meaning. The omissions Henry had were also content words, usually the verbs, so that much of the sentence meaning was again lost to him. For example, he read "Then somebody _____ and something crashed to the ground." The omitted word was "whistled." Only once in all the reading of passages did Henry self-correct when he miscued on a verb. He read "...the rabbit hard him running..." for the text "...the rabbit heard him running..." The fact that he had this strategy within his repertoire was very encouraging since it did mean that he had not given up reading for meaning entirely.

On the Standard Reading Inventory at pre-test Henry had an independent oral and silent reading grade level of 1.1. At this level, he knew all the vocabulary yet he did not read with a great deal of fluency. His intonation and fluency were poor and unnatural. Henry's oral and silent instructional reading grade levels were 2.7 and 1.4 at pre-test. What was obvious at this time was Henry's inability to read silently with as high a degree of comprehension as he could when reading orally. He seemed at this time to need to hear himself read to reinforce his comprehension. As a result his frustration reading grade level orally was 3.2 but his silent frustration reading grade level was 1.7.

At post-testing Henry's scores on the Word Attack sub-test from the Woodcock Reading Mastery Tests decreased but were still well above grade level. He obtained scores

ranging from grades 3.5, 4.9 and 8.1. He still demonstrated that he had mastery over all the decoding skills. It was the application of these while reading which were significant. Henry still needed to be coaxed while doing the word analogies, however, he did not appear to be as anxious as he had at pre-testing. He would not guess at the relationships if he did not see the meanings at once but he did attempt more test items. He scored at post-testing on the passage comprehension sub-test from the Woodcock Reading Tests grades 2.4, 3.0 and 4.1.

It was on the passage comprehension sub-test that Henry showed good reading strategies. He was willing to risk a guess for an answer and he had begun to self-correct spontaneously if his guess seemed incorrect to him. As a result, his scores ranged from grades 2.7, 3.2 to 4.2 above his grade placement. On the Standard Reading Inventory Passages, he used self-corrections effectively and consistently where he had only used this strategy once at pre-testing. For example, he first read "...the dog, Prince, sniffing along the ground beside him..." then he self-corrected to the actual text "...his dog, Prince, sniffed along the ground beside him..." It was noticed he was using essentially the same reading strategies as he had at pre-testing, that of initial consonants and good syntactic sense, however, he had added meaning as an important element, so that his miscues were at a higher level because he self-corrected.

Another interesting feature of his post-testing reading were his omissions, which now shifted to nouns and adjectives rather than just verbs. For example, he read "...Horseshoe Bend is a long _____ about a half mile from my home." for the text "...Horseshoe Bend is a long shallow pond about a half mile from my home." In this example these content words do carry the greatest proposition of sentence meaning and would have to be considered high level miscues. These occurred at his frustration oral reading grade level on the Standard Reading Inventory where he scored grade 4.5 but such miscues did not occur at his instructional reading grade level which were grades 3.7 and 3.5 for both oral and silent reading respectively. At these levels he omitted adjectives and nouns separately, never together in a sentence, therefore, retaining sentence meaning. For example, he read "...Bob felt better _____," for the text "...Bob felt better for having company". In another instance he read "...He had just finished putting the film in the camera when an _____ bell sounded." The omission was "alarm". These were low level miscues.

Henry, at post-testing, was able to read silently and comprehend at nearly the same grade level as his oral performance. He made great gains with his oral and silent independent reading grade level on the Standard Reading Inventory with grade scores 3.7 and 2.7.

Henry's increased confidence appeared to be reflected

in a positive way on the Experimental Self-Concept Scale since he increased fifteen points in his general self-concept score and ten points on his academic self-concept score from pre-testing to post-testing.

Henry's most significant remark was made during post-testing when he said "I can now read hard books!"

TABLE 5:04

SUMMARY OF HENRY'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS,
THE STANDARD READING INVENTORY AND THE
EXPERIMENTAL SELF-CONCEPT SCALE

Interpretation of Woodcock Test Results, Form A & B									
Subtest		Score	Reading Grade Levels			Relative Mastery			
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Mark
Letter Identification	A	135	2.1	2.5	2.9	141	- 6	82	35
	B	149	2.6	3.1	3.7	145	- 4	85	40
Word Identification	A	136	2.3	2.6	2.9	141	- 5	84	45
	B	147	2.6	2.9	3.2	147	0	90	50
Word Attack	A	113	3.7	5.4	10.1	93	+20	99	84
	B	111	3.5	4.9	8.1	95	+16	98	79
Word Comprehension	A	73	2.2	2.7	3.6	72	+ 1	91	52
	B	77	2.4	3.0	4.1	75	+ 2	92	54
Passage Comprehension	A	42	2.1	2.5	3.1	78	-36	15	4
	B	89	2.7	3.2	4.2	82	+ 7	95	64
Total Reading	A	99	2.2	2.5	2.8	104	- 5	84	39
	B	114	2.8	3.2	4.0	108	+ 6	95	67

Table 5:04 continued

Standard Reading Inventory, Form A & B						
	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	1.1	1.1	2.7	1.4	3.2	1.7
B	3.7	2.7	3.7	3.5	4.5	4.5
Gains	2.4	1.4	.8	1.9	1.2	2.6

Experimental Self-Concept Scale

	Form 1	Form 2	Difference
Total	42	47	+15
General Self-concept	42	57	+15
Academic Self-concept	24	34	+10

Carl

Background Information

Carl is a 14 year old boy who is the eldest of two boys. His younger brother is 9 and in the fourth grade at a nearby elementary school. Carl lives at home with his mother and father. His father has his own business and his mother does not work, but is at home. Carl lives near enough to walk to school and to go home for lunch. School records show Carl has experienced difficulties throughout his school career. He was given extra tutoring help in reading through the resource teacher in grade 2, 3 and 4. It was reported that he was extremely high-strung and a nervous boy who was trying very hard. Carl attended grades

1 to 6 in the same elementary school and is at present in grade 8 in junior high school. He did not do well in grade 7 and the school asked for a psychological assessment on this boy. Carl's assessment indicated that he had low to normal intellectual potential, therefore, he was 'passed' into grade 8. Carl has spent a total of eight years in school, plus kindergarten.

After seven months in grade 8, Carl was failing most of his subjects. He was visibly anxious and uptight.

Initial Interview and Behaviour During Pre-testing

When Carl presented himself for testing, he was friendly, talkative and well mannered. Carl was average in build and height for his age. He had reddish brown hair and lots of freckles. However, he was very tense and sat on the edge of his seat during most of the testing. He gave the impression of trying too hard. He never relaxed during the testing for one second. He was so tense in fact, that he appeared to tremble slightly and stumble over his words as he answered. He appeared to answer with the first thing that came into his head as he never stopped to contemplate an answer. Rather, he tried out several in rapid succession. It seemed that for Carl the testing situation was to be finished as soon as possible.

It was difficult to know whether the pressure which Carl put himself under came from a self induced inner drive due to high expectations or this was Carl's reaction to

external pressure from home and school to achieve.

Like Brian, Carl said he enjoyed a good deal of television every evening rather than reading. If he had to, he admitted that he would read horror and war stories. At home his dad apparently read books and magazines frequently. Carl was involved in hockey outside of school and played in a league. This he obviously enjoyed but was concerned that his parents would force him to cut out his hockey because his marks were too low.

It was observed that during the testing Carl could read silently with slight lip movements. He preferred silent reading to oral reading he said, especially in class as he got very nervous reading out loud in school. He knew it did not sound right when he read orally, therefore, he did not like to do it.

Carl was asked to describe what he did when he read and wrote. His replies were as follows, "...reading is taking a book and reading a story about somebody or something ...concentrate on the story or you can't recall things when you have read." His explanation of writing was "...when you take paper and pen and write down names of things."

The fact that Carl said you had to concentrate while reading might explain why he was so intense while reading as he was trying to memorize everything, word by word, rather than trying to comprehend the whole passage sense or zero in on thought units within a sentence as he read.

General Analysis of Test Data

Carl's test scores are outlined in grade levels in Table 5:05 for the pre-test and post-test Woodcock Reading Mastery Tests, Form A & B and the Standard Reading Inventory, Forms A & B. The How I See Myself Scale, Form 1 & 2 indicates only the raw scores.

Table 5:05 shows that Carl made considerable gains in reading grade levels on every sub-test. In fact, Carl's overall total reading grade levels on the Woodcock Reading Mastery Tests ranged from 5.1, 7.5 and 11.8 at post-testing compared to 3.5, 4.4 and 5.8 at pre-testing.

His most significant gains were made on the Word Attack and Passage Comprehension sub-tests where he managed to surpass his grade 8 placement. With scores such as 3.6, 5.1, 9.0 at pre-testing on the Word Attack sub-test, going to 8.1, 12.9, 12.9 at post-testing, he showed impressive gains. Can it be assumed he mastered phonic skills and applied these to his paragraph reading? It cannot be said for certain, however, he did make superlative gains on the Passage Comprehension sub-test also. He pre-tested at 3.4, 4.5 and 5.9 and then post-tested at 6.4, 8.7 and 12.9. On the Standard Reading Inventory, Carl demonstrated gains by touching his grade 8 placement level at the frustration reading grade level by post-testing.

He made gains on the Standard Reading Inventory pre-testing a grade 3 level for independent reading grade level,

grade 5 for instructional reading grade level and grade 6 for frustration made grade level, he jumped to a grade 6 for an independent reading grade level, grade 7 for an instructional reading grade level and grade 8 for a frustration reading grade level.

Although a change in the test scores reflect some change in Carl's ability, it is only in analyzing his pre-test and post-test reading strategies that significant information can be gained concerning his reading abilities.

At post-testing, on coming to an unfamiliar word either in isolation or in context, Carl would use grapho-
phonic cues such as the initial consonant and word shape, and occasionally he would use the final syllable. For example, while reading words from the Woodcock Reading Mastery Test sub-test word identification he would say "gruffdy" for "gruffly", "fridge" for "frigid", "sketet" for "skeletal", "sloppy" for "soapy", and "geopardice" for "jeopardize". It should be pointed out that only one miscue is actually a word "fridge". The remaining miscues were all nonsense words. It appeared that this was not a worrisome occurrence to Carl. It could be concluded that he was used to viewing many words in isolation as nonsense and took it as a matter of course. When Carl was using context he substituted words using the initial consonant and word shape, however, he never substituted a nonsense word, always a real word. For example, on the Standard Reading Inventory he

said "Besides speaking pastures for his sheep and goats, Sifan haven tasks at home" for the text which read "Besides seeking pastures for his sheep and goats, Sifan had tasks at home". Another excellent example is this sentence of his, "...This was really little cub of salt, for salt was for scare in Tibet that it served in place of coin money." The text read "...This was really little cubes of salt, for salt was so scarce in Tibet that it served in the place of coined money". As one can observe, Carl is substituting real words for the text, however, his substitutions do not carry along the sentence meaning. On the Woodcock Reading Mastery Tests, passage comprehension as well as on the Standard Reading Inventory, he demonstrated control over the syntactic system of the language as his substitutions were the same parts of speech that is nouns for nouns, verbs for verbs but these are the very words which carry the burden of meaning. He never sounded out words in context or in isolation but immediately said a word and read on without shifting terminal sentence boundaries and with some fluency. He certainly was not reading word by word haltingly. He subvocalized while he read even when asked to read silently.

There was no evidence at this time of correction strategies, that is, he never self-corrected or even repeated a substituted word. Wherever a repetition occurred, it was a whole phrase and it occurred when he had read the text correctly. He was very nervous and tense so the repetitions

could have been due to this tension as it did not appear to be due to a stalling for time while he was processing meaning. Needless to say Carl's comprehension was poor because he had missed so many of the important context words in the passages. He found it difficult to draw inferences and use his own experiences when asked comprehension questions perhaps because he expected what he was reading to be nonsense.

At post-testing time, Carl had significantly changed his reading strategies while reading words in context. This was evident in the substitutions he made which now carried along the sentence meaning. For example he said "...It was a kind of bloody army robbery to obtain food, slaves and booty", while the text read "...It was a kind of bloody armed robbery to obtain food, slaves and booth." He repeated the word army and self-corrected to armed, something there had been no evidence of at pre-testing. Another example which illustrates that he was reading more for meaning, occurred in this sentence where Carl said "...Out by the edge of the sea ice a longer hunter, Anauta..." when the text read "...Out by the edge of the sea ice a lone hunter Anauta..." Carl repeated "longer" and substituted "lone" thereby retaining the sentence meaning. On the Woodcock Passage Comprehension sub-test he often would be heard to say "no" while reading and go back to repeat the sentence correctly. He was using his repetitions productively, that is, trying out words but not losing sight of the author's

meaning. To make sense while reading now had obtained an importance for him even when reading words in isolation on the Woodcock sub-test Word Identification. He had fewer words which were pure nonsense and more real words for example, "alliance" for "alienate," "generous" for "gregarious", "efficient" for "edifice" and "protein" for "ptomaine". He is using word shape still and the initial consonant but he is using it to derive meaning not just a nonsensical utterance.

Carl was more relaxed and comfortable while reading now and appeared more willing to risk an error in a reading situation as he had developed confidence to deal with miscues as well as strategies to self-correct. He no longer felt the need to subvocalize while silent reading. This meant, of course, that Carl's comprehension of the passages given to him greatly improved as evident from the shift in his test scores.

On the How I See Myself Scale (see Table 5:05), Form 1, Carl's total was 168 points at post-testing on Form 2, his score was 165 points a drop in total scores, however, when viewing the sub-scores on physical appearance, interpersonal adequacy, academic adequacy, physical adequacy, emotional, boy social, peers, and language adequacy he became slightly more positive. Even though this was not statistically significant, it is evident from this boy's academic performance that he had slightly altered his self-perceptions.

Carl's ability to put his thoughts down on paper improved from pre-testing to post-testing if his daily written reports are used as qualitative evidence to support this statement. At pre-testing, Carl's reports contained little or no punctuation, usually his report consisted of one continuous run-on sentence which he felt constituted a paragraph. By the post-testing phase, Carl had mastered the ability to write a sentence appropriately punctuated as well as the rudiments of paragraph writing. What was observed to be significant as was his changed attitude towards writing. He no longer sat staring at the blank page but instead he easily wrote a full notebook page for a report. In other words, he had overcome his inability to put his thoughts to paper. He was far from mastering the ability to write, but he appeared to be more self-directed towards writing. It was Carl who was able to plan his own tutoring lessons by the termination point. Carl's tutee was a grade 4 boy named Ian.

TABLE 5:05

SUMMARY OF CARL'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS
THE STANDARD READING INVENTORY AND
THE HOW I SEE MYSELF SCALE

Interpretation of Woodcock Test Results, Form A & B

Table 5:05 continued

Subtest		Score	READING GRADE LEVELS			RELATIVE MASTERY			
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Mark
Letter Identification	A	173	12.9	12.9	12.9	173	0	90	50
	B	173	12.9	12.9	12.9	173	0	90	50
Word Identification	A	184	4.1	4.8	6.0	204	-20	50	18
	B	200	5.5	6.9	9.1	209	-9	77	32
Word Attack	A	112	3.6	5.1	9.0	120	-8	79	54
	B	131	8.1	12.9	12.9	122	+9	96	72
Word Comprehension	A	69	2.0	2.5	3.3	103	-34	18	3
	B	100	4.6	6.9	10.3	106	+6	95	65
Passage Comprehension	A	100	3.4	4.5	5.9	119	-19	53	16
	B	123	6.4	8.7	12.9	124	+1	91	52
Total Reading	A	129	3.5	4.4	5.8	145	-16	61	10
	B	145	5.1	7.5	11.8	148	-3	87	38

Standard Reading Inventory, Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	3.7	3.5	5.5	5.5	6.5	6.5
B	6.5	6.5	7.5	7.5	*8.5	*8.5
Gains	2.6	2.8	1.8	1.8	1.8	1.8

*extrapolated

How I See Myself Scale, Form 1 & 2

	Form 1	Form 2	Difference
Total	168	165	- 3
Teacher-School	19	16	- 3
Physical Appearance	36	38	+ 2
Interpersonal Adequacy	75	80	+ 5
Autonomy	30	27	- 3
Academic Adequacy	21	24	+ 3
Physical Adequacy	18	20	+ 2
Emotions	19	20	+ 1
Boy Social	18	19	+ 1
Girl Social	20	18	- 2
Peer	16	27	+11
Language Adequacy	16	19	+ 3

Ian

Background Information

Ian is a nine year old boy who is in grade 4. This was his fourth year in school. He had attended kindergarten also. Ian is the eldest of four boys. His brothers are seven, six and three. Ian's mother is at home with the youngest boy while the others are all in school. His father has a job with the Municipal City Government.

Ian has seen the Resource Teacher in grade 2 as he did not seem to be making continuous progress in reading. After seven months in grade 4 and no resource input Ian seemed to be making very little progress in reading. He was becoming very anxious and uptight about learning and was not learning as well as he could, according to his classroom teacher.

Initial Interview and Behaviour During Pre-testing

Ian appeared for his pre-testing and presented himself as a shy, quiet, small, fairhaired nine year old who rarely smiled. He seemed to be very serious. He did not talk spontaneously about his home or his likes or dislikes. He liked to watch a lot of television and would watch just about anything, otherwise, he liked to play outside. Ian seemed to be quite immature for a nine year old as far as his interests were concerned since he mostly just liked to play. He really could not express his definite interests.

During the pre-testing, Ian's most common strategy

was to stare the word down. He would not attempt to decode the word. It appeared as if he did not have any strategies, if he did not know a word other than just staring at it, hoping that it would dawn on him.

Ian seemed to be the type of child who was concerned about being as inconspicuous as possible. By not putting himself forward he would be largely ignored by the teacher. He was what Stott (1970) would call an unforthcoming child, the withdrawn child. Ian never really became involved with any of the reading tasks presented to him, he held back his involvement perhaps to protect himself from failure but at the same time, this prevented him from success as well.

General Analysis of Test Data

Table 5:06 is a summary of Ian's pre-test and post-test data for the Woodcock Reading Mastery Tests, the Standard Reading Inventory and the Experimental Self-Concept Scale. The test scores for the Woodcock Reading Mastery Tests and the Standard Reading Inventory are given in grade levels while only the raw scores are listed for the Experimental Self-Concept Scale.

As Table 5:06 indicates, Ian's total reading performance on the Woodcock Reading Mastery Tests at pre-test was grades 3.0, 3.6 and 4.6 which was approximately a year below his actual grade placement. Ian was performing in class at the beginning of grade 3 in reading but his placement was the middle of grade 4. He did not have difficulty with

Woodcock letter identification sub-test as Table 5:05 clearly indicates but his Woodcock Word Identification sub-test scores in grades 2.8, 3.2 and 3.6 are low for the middle of grade 4 achievement. On this sub-test Ian attempted 93 test items, 87 of them successfully. His strategy was to use the initial and final consonant as well as the word shape occasionally. For example, he read "gravy" as "grazy", "human" as "humour", "twilight" became "twill-light" and "produce" became "product". He usually did not sound out the word. It is interesting to note that Ian's choice of substitutions were not always real words. This would seem to indicate that although he had reasonable decoding strategies, these were not firmly linked to meaning. In other words, when he was reading unfamiliar words in isolation of primary importance to him was not meaning. This strategy was confirmed, when he performed so well on the Woodcock Word Attack sub-test with scores of 3.5, 4.9 and 8.9. These were all nonsense words which have to be decoded. This did not give him trouble and indicated he knew all of phonic conventions necessary for grade 4 and more. The Woodcock Word Comprehension sub-test really floored Ian. It appeared as if he had never thought of word relationship before, that for Ian, each word was an identity unto itself. The miscues he made here reflected a total lack of logic, random guessing was his strategy. He scored at pre-test on these test items grades 1.9, 2.3 and 2.9. He never tried to decode any of

the unfamiliar words; his good decoding strategies continued to remain in isolation.

On the Woodcock Passage Comprehension Test, Ian scored grades 3.6, 4.7 and 6.2 at pre-test which was right at his grade level. This was very encouraging except when closer examination of his miscues were made. Ian invariably miscued on content words which carried the meaning of the sentences. On this sub-test, he was not required to handle more than two sentences of print at any one time, so that if he miscued on high level content words the total sentence meaning was lost to him. It appeared from these sub-tests that Ian had a lot of skills in isolation, however, the classroom demands were such that he had to handle larger units of print, such as whole paragraphs similar to the Standard Reading Inventory.

It was on this test that Ian's reading strategies were revealed. He read at an independent oral and silent reading grade level of 2.7 and 1.7 and an instructional oral and silent reading grade level of 3.2 and 2.7. His frustration oral and silent reading grade levels were 3.7 and 3.5. Ian did miscue on high level content words as he had on the Passage Comprehension sub-test, but in this case, it proved disastrous because the whole paragraph meaning and adversely affected. For example, he read "...He _____ out for house _____ and looked for something to take a picture." This text read "...He darted out of the house immediately and

looked for something to take a picture." Another example where he miscued by omission of a key word is in this sentence which Ian read as "...when he got there his father and mother howled with _____." The omitted word was "laughter" a key word not only for this sentence but to the paragraph.

Ian was using many appropriate reading strategies such as self-corrections and syntactic miscues. For example, he read "...Henry was angry and so he head home." and self-corrected to "...Henry was hungry so he hurried home." In this example he obviously put meaning as a high priority for himself since his substitutions make sense, semantically and syntactically. The fact that he was able to self-correct confirms this assumption. Another example where he used this strategy is in this text sentence; "...He saw a soldier on horseback and took his picture." Ian read the sentence as, "...who say a sailor on horseback and took his picture." As can be seen, Ian self-corrected on the word "who" which obviously did not make sense, however, he left the word "sailor" as a substitution for "soldier" which he felt did make sense. Ian was able to make very high level syntactic miscues in this case he read "...Then someone was whistling and something crashed to the ground." The text read "...Then somebody whistled and something crashed to the ground."

On comprehension questions about the passages, Ian was successful with literal comprehension but found it difficult

to use inference questions consistently. The fact that Ian read in a monotone did not help his comprehension either and probably interfered a great deal with his silent reading where he lost meaning at a lower reading level. It was felt that Ian had the basis of a lot of good reading strategies whose frequency had to be increased for him to become a more successful reader.

By post-testing, Ian's test scores reflected a change in his reading strategies. Meaning had become more important to him when reading words in isolation on the Word Identification sub-test. He had more miscues which made sense than not. For example, "heart" became "hurt", "system" became "stem", "mute" became "mule", "wreck" became "week". As a result of applying this additional strategy to decoding Ian scored at post-test grades 3.3, 3.8 and 4.5. It is not surprising then that Ian did more poorly on the Word Attack sub-test at post-test because meaning was now important to him and on this sub-test of decoding nonsense words, his new strategy was not used. He still performed appropriately for his grade with scores 3.1, 4.2 and 6.4. This does reflect his inability to be flexible with his reading strategies when he uses one strategy to the exclusion of others rather than a blend of many reading strategies.

The area where Ian excelled was on the Word Comprehension sub-test. By post-testing Ian had learned to handle word analogies. His grade scores reflected this since they

ranged from 3.8, 5.5 to 8.4. He was applying word meanings which he found so difficult to do at pre-test.

On the Passage Comprehension sub-test from the Woodcock Reading Mastery Tests, Ian scored reading grades of 3.8, 5.0 and 6.5. Here again he learned and demonstrated that he could use meaning when reading.

His miscues on this sub-test appeared to have some logical sequence or pattern. They were not just random guessing. Ian still did not use intonation as well as he should which did affect his performance on this sub-test. He was still reluctant to complete a sentence then go back to fill in the word on this cloze exercise. This means, of course, that he still was placing too much emphasis on the individual words within the sentence rather than paying attention to the whole sentence meaning. On the long passages from the Standard Reading Inventory, Ian was able at post-test to score at a higher level than at pre-test. As well he demonstrated some different reading strategies. Perhaps the most noticeable was his increased use of repetitions. He appeared to use the repetitions as breathers, perhaps to process the author's meaning as his repetitions were often followed by self-corrections. For example, he read "...A turtle likes a sunny spot in sandy soil there is good drainage" and repeated with a self-correction and phrase "a sunny spot in sandy soil where..." Needless to say such miscues do not make very good use of intonation

patterns he had lost. Ian would be reading and ignore the period at the end of a sentence and begin a new sentence without taking a pause which caused him to repeat whole phrases to catch not only his breath but also the author's meaning. This would account for many of Ian's repetitions being at the beginning of sentences rather than the end. Ian scored an independent oral and silent reading grade level of 3.7 and 3.5 and an instructional oral and silent reading grade level of 4.5 and 4.0. His frustration oral and silent reading grade level was 5.5 and 4.5. Ian did learn how to read silently at a much higher level than he had at pre-test. By post-test his oral and silent reading were more in line with each other.

The Experimental Self-Concept Scale gave a negative result for Ian from pre-test to post-test so that his overall score regressed by three for general self-concept and eight for academic self-concept. Ian did not perceive that he had improved his reading ability yet his test performance and use of different reading strategies indicated to the contrary.

In summary, Ian had made very adequate gains in his reading scores as well as in his reading strategies. Perhaps he became too confident that his problems in reading would vanish over twelve weeks and when they did not, he was disappointed.

TABLE 5:06

SUMMARY OF IAN'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS
THE STANDARD READING INVENTORY AND
THE EXPERIMENTAL SELF-CONCEPT SCALE

Interpretation of Woodcock Test Results, Form A & B									
Subtest		Score	Reading Grade Levels			Relative Mastery			%ile Mark
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	
Letter Identification	A	173	12.0	12.0	12.0	169	+ 4	93	60
	B	173	12.0	12.0	12.0	170	+ 3	93	58
Word Identification	A	155	2.8	3.2	3.6	182	-27	32	15
	B	170	3.3	3.8	4.5	185	-15	63	28
Word Attack	A	111	3.5	4.9	8.1	110	+ 1	91	53
	B	107	3.1	4.2	6.4	111	- 4	85	40
Word Comprehension	A	65	1.9	2.3	2.9	91	-26	34	5
	B	95	3.8	5.5	8.4	92	+ 3	93	56
Passage Comprehension	A	102	3.6	4.7	6.2	102	0	90	50
	B	104	3.8	5.0	6.5	103	+ 1	91	52
Total Reading	A	121	3.0	3.6	4.6	132	-11	73	24
	B	129	3.5	4.4	5.8	133	- 4	85	35

Standard Reading Inventory Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Forms A	2.7	1.7	3.2	2.7	3.7	3.5
B	3.7	3.5	4.5	*4.0	5.5	4.5
Gains	.8	1.6	1.2	1.2	1.6	.8

*extrapolated

Experimental Self-Concept Scale

	Form 1	Form 2	Difference
Total	64	61	- 3
General Self-Concept	58	55	- 3
Academic Self-Concept	38	30	- 8

Donny

Background Information

Donny is the second youngest of six children. He is thirteen years old. He lives at home with his mother and father, a fifteen year old brother and a nine year old brother. Their home is within walking distance of school. Both Donny's brothers are still in school, the elder is at a local regional high school and the younger is attending grade 4 at a nearby elementary school. Donny's remaining siblings are all married and living away from home. Donny's father is a trucker and his mother works the night shift at a local old people's home. The boys must fix their own breakfast but their mother is home during the day to prepare lunch. Donny's parents speak Ukrainian at home but he does not speak it well. Donny attended kindergarten and grades 1 to 6 in the same nearby elementary school. His school reports indicate he attended the resource teacher's program for extra tutoring in reading. This is Donny's first year in junior high grade 7. He has spent a total of seven years in school as he did not attend kindergarten. His school attendance has always been regular.

Donny was referred by the school for a psychological assessment because he could not cope with any of his academic subjects. He enjoyed and was good at shops, music and drama. His teachers all reported he was always cheerful and good natured. He always tried his assignments but appeared to

have no staying power. His psychological assessment indicates that he has very low average intellectual potential. However, the psychologist felt that he had higher potential than the tests indicated due to a mixed language environment in the home, combined with poor academic achievement at school and lack of confidence in himself as a learner. After seven months in the developmental reading program, he appeared to have made very limited progress.

Initial Interview and Behaviour During Testing

Donny presented himself for testing in a friendly and co-operative manner. He appeared to be of medium build and height for his age. He had light brown hair and blue eyes. He smiled easily and seemed to have a very cheerful personality upon first meeting. He did not display any outward signs of tension, rather he appeared relaxed and content to be there.

Donny talked freely about his interests which were mostly involving sports. He had played on the school soccer team and he was planning to join up for volleyball. At school he disliked reading most as a subject and most other subjects, the exception was drama. He liked to act out plays especially the comic roles.

Television plays a large role in Donny's life. He likes to watch the cartoon shows but will watch just about anything. He said that he usually ate his meals while watching television at noon and at the evening meal.

He did not recall if his parents ever read magazines at home, he certainly did not! He sometimes saw his dad read the newspaper which the family received daily. Donny would sometimes look at the comic section in the newspaper.

Donny's staying power while trying test items appeared to be long. In fact, he seemed to take forever to answer any question. His strategy was to go super slow. It was unclear as to whether this was his way of processing information or in fact, that the test items were too difficult for him. It could have been that by not answering quickly he would not be found out, or that he was totally at a loss as to how to tackle the test items. By going slowly he would put up a good front of trying.

Donny was asked about what he thought reading was all about and he said, "...concentrate...helps to do stuff for the future like get jobs..." This could explain why he laboured over the test items. He was concentrating but did not know what to concentrate on but he kept hoping something would happen if he concentrated hard enough.

His definition of writing was revealing in its lack of understanding of the writing process. He said, "...writing was to strengthen your muscles." This was a characteristic type of answer for Donny who felt one must always answer no matter how ludicrous the answer might appear. This for him was a safer strategy than admitting that he did not know the answer. In fact, as the testing proceeded, it

became clear that Donny really did not know what he did know. This written media was mostly nonsense to him and he had accepted this as a fact of his life.

In talking with Donny about his school activities, it became apparent that he totally denied any academic problems in school. Everything was just fine, however, this was far from the truth.

General Analysis of Test Data

Donny's test scores are outlined in grade levels for the pre-test and post-test Woodcock Reading Mastery Tests, Forms A and B and the Standard Reading Inventory, Forms A and B in Table 5:07. The How I See Myself Scale, Forms 1 and 2 also listed in Table 5:07 give only the raw scores.

On the sub-test Word Identification from the Woodcock Reading Mastery Tests, Donny scores ranged from grades 1.7, 1.8 to 1.9 at pre-testing. He attempted 57 test items all words found at the primer level of reading. These basic sight words were very difficult for him. He tended to use the initial consonant and word shape or both as decoding strategies. Significantly, he never substituted a nonsense word, always a real word so he knew the test items were words. For example, he read "me" for "my", "awhere" for "away", "beer" for "bear", "cold" for "could", "work" for "walk", "beater" for "better". The most significant behaviour he displayed while reading these words was that he tried to sound them out. It seemed that he was able to recognize only

a few of these words by sight. Needless to point out, this was a slow laboured process as he worked his way through sounding all these words. It did seem to take forever!

On the Word Attack sub-test from the Woodcock Reading Mastery Tests, Donny's grade scores at pre-test ranged from 2.2, 3.1 to 4.2 indicating that he had mastered most of the initial and final consonants plus the short vowel patterns. He attempted some 30 test items out of a possible 50 giving up when he came to multisyllabled words. Judging from his performance on the Word Identification sub-test, he was able to apply these phonic skills when presented with real words, even though it was done slowly.

Donny found at pre-test the sub-test Word Comprehension from the Woodcock Reading Mastery Tests very difficult. He literally laboured through 20 test items. It was as if he had never thought about word relationships before which is the essential element in this analogy test. At the completion of this test he was able to read the test items to eliminate the reading aspect of the task and to determine whether he could orally handle the task. He did not do any better which would lead to the conclusion that this was a relatively new or very difficult thinking task for this boy. His scores ranged from grades 1.7, 1.9 to 2.4 at this time. Thus far, it can be determined that Donny had rudimentary phonic skills, a very limited sight word repertoire and an undeveloped vocabulary comprehension scheme.

Donny tried fourteen test items on the Woodcock Reading Mastery sub-test Passage Comprehension test. He essentially read everything orally even asked to read silently, he could not. His scores ranged at pre-test from grades 1.8, 2.1 to 2.5. As this sub-test is a close test, it is necessary that the student demonstrate the ability to read on to the end of a sentence before attempting an answer. Donny could not do this. He laboured over each word so long that the total sentence meaning was soon lost to him. If he did not see the answer immediately, he gave up. The test items which he completed successfully were illustrated which no doubt provided him with pictorial cues. On the Standard Reading Inventory passages, Donny's independent reading at pre-test was grade 1.1 for both oral and silent reading and at the grade 1.7 for his instructional oral and silent reading but at the grades 2.2 and 2.5 respectively for his oral and silent frustration reading. When reading these paragraphs Donny usually stopeed at words he did not know, waiting for the examiner to tell him. Occasionally, he substituted a word and it was always a real word. Wherever he did this, he used the initial consonant. For example, he read "They like with Mother and Father" for the text, "They live with Father and Mother." Another example of his reading was this sentence, "They are same _____ on the farm." for the text, "There are some animals on the farm." Donny read these sentences very haltingly or word by word. He waited

until he was given the word "animal" before he would read on. It did not appear to concern him that his own substitutions of "like" for "live" and "they" for "there" were inappropriate choices because the author's meaning was not carried along. He did substitute the same part of speech which demonstrated some syntactic control. This was true on the passage comprehension sub-test also.

This was an on-going strategy of his since he read "John wanted to make a _____." for the text "Joe wanted to make a garden." and "The rabbit hide his running" for the text "The rabbit heard him running." The words which Donny miscued were usually content words which carried the burden of meaning, consequently, his comprehension of the passages was very limited.

He never demonstrated any of his phonetic ability. He never sounded out any words in context nor did he self-correct any words substituted while reading. He did repeat a lot but these repetitions did not precede a substitution, they were more breathers or time-outs as he was trying to recognize the next word. As a result of the repetitions plus the word by word reading, all phrasing and fluency was absent. He shifted all terminal sentence boundaries since he did not use or pay attention to any punctuation which could have cued him to intonation patterns. Listening to Donny read was not only a painful experience for the listener but also for him as well.

When asked comprehension questions, Donny usually tried to repeat word for word what had been read. He never attempted to summarize the sentence or passage in his own words. If he could not remember the passage literally, he had no comprehension.

For the purposes of functioning academically in Junior High School, Donny could be described as next to illiterate.

From pre-test to post-test, Donny's reading scores on all his tests, as well as his overall reading strategies, improved.

On the sub-test Word Identification from the Woodcock Reading Mastery Tests, at post-test (see Table 5:07) Donny's test scores ranged from 1.9, 2.1 to 2.4 grade levels. He attempted eighty test items and showed mastery over the basic grade 1 vocabulary. Unlike his performance at pre-testing, Donny did not try to sound out these words but recognized them as sight words. He continued to use the initial consonant and word shape as decoding strategies but to these he added looking at the medial letter cues as well. For example, he read "soon" for "son", "now" for "know". He did not spend as much time over each test item. He had sped up perhaps displaying a new confidence.

On the Woodcock Mastery sub-test of Word Attack, Donny excelled at post-testing. His grade scores ranged (see Table 5:07) from 5.4, 10.1 to 12.9 indicating mastery

over the basic phonic elements. He was able to demonstrate his ability to syllibicate slowly but accurately.

At post-testing, Donny did not find the word comprehension sub-test from the Woodcock Reading Mastery Tests very difficult. He did not labour over every answer. He appeared to have developed some word analogies as his test scores reflect. He ranged from grades 2.7,3.6 to 5.1. He had attempted over 49 tests items this time, nearly twice the number from pre-testing. What was significant was the fact that he seemed to know what he was supposed to be doing. His wrong answers were usually very close and revealed a logic which had not been evident at pre-testing.

Donny by post-testing illustrated that he could read silently. Whereas he had previously attempted only fourteen test items on the Passage Comprehension sub-test from the Woodcock Reading Mastery Tests, now he attempted 40 items. His scores ranged from grades 2.7, 3.3 to 4.3 (see Table 5:07) indicating good improvement from pre-testing. He had learned to read to the end of a sentence and leave out the missing element. He could use context much more effectively to determine his answers. This resulted in his having more staying power so he did not give up so easily as he had at pre-testing on the sub-test.

The total sentence meaning was now more important than the individual words, that is, he appeared to put the author's message ahead of individual words. On the Standard

Reading Inventory (see Table 5:07) Donny demonstrated new reading strategies as well as improved test scores. His independent oral and silent reading grade levels were grades 2.7 and 2.5 at post-testing while his instructional oral and silent reading grades were 3.2 and 3.5. His frustration oral and silent reading grade levels were not 4.5.

The most significant reading strategy Donny illustrated at post-testing was his ability to self-correct and read silently. This had been totally absent at pre-testing. By post-testing it became clear that Donny now read for meaning. It was supposed to make sense. If a sentence did not make sense he would repeat it. For example, he read "...grandmother was a the kitchen..." for the text "...grandmother was in the kitchen..." He repeated this phrase correctly, after hearing his miscue. He continued to use the initial consonant when he substituted words but not in the same high frequency as at pre-testing. Instead he used similar meaning words, for example, he read "...this was a bright summer day..." for the text "...it was a bright summer day..." or he read "...put it in the cap" for the text "put it in his cap..."

Donny's repetitions included whole phrases now and were linked to self-corrections. He was able to maintain some intonation patterns which must have meant that he was paying attention to the sentence punctuation. Unfortunately, Donny still relied upon someone else to give him a word

usually a noun that he miscued on by omission. It is revealing that the words he did self-correct were the verbs rather than the nouns. For example, he read "...Bob was making along the _____ of the woods" for the text "...Bob was walking along the edge of the woods". He self-corrected "making" to "walking" but had to be given the word "edge". The verbs, of course, carry a great deal of the sentence meaning, particularly the action, so his ability to self-correct on these particular words was significant as they contribute so highly to overall comprehension. Donny did illustrate that he no longer tried to memorize as he read, his answers to comprehension questions showed he could summarize the author's message and retell in his own words.

Donny, at pre-testing, could barely write a sentence. His spelling was so terrible it was difficult reading which seemed strange because his strength at pre-testing had been word attack. He labored over his writing a much longer time than the others. By post-testing Donny was able to write his report with more ease. Although his actual production had not increased that is he still wrote only a few lines, they were now readable. The spelling had improved also. His sentences were better constructed and properly punctuated.

Donny's overall attitudes had also changed from pre-test to post-test. His scores reflected (see Table 5:07) a seven point more positive difference on the How I See Myself Scale. It is interesting to note that although Donny's

Woodcock Reading Mastery and Standard Reading Inventory scores showed improvement from pre-test to post-test, he did not feel he had made improvements as his academic adequacy, teacher-school, language adequacy scores on the How I See Myself Scale were both negative at post-testing. A positive change on physical appearance, interpersonal adequacy, emotions, girl social and peers, areas of course relating to greater personal self-esteem, showed up at post-testing.

From observations, Donny was still not satisfied with his academic performance, however, he did appear to become more self-confident as a learner.

In summary, Donny was still academically no longer illiterate, but nevertheless, in Junior High School the reading demands were 4 to 5 grade levels beyond him. Perhaps the scores on the How I See Myself Scale reflect his knowledge of this fact and his frustrations. Donny worked with a tutee named John.

TABLE 5:07

SUMMARY OF DONNY'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS,
THE STANDARD READING INVENTORY AND
THE HOW I SEE MYSELF SCALE

Interpretation of Woodcock Test Results, Form A & B

Table 5:07 continued

Subtest		Score	Reading Grade Levels			Relative Mastery			% ile
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	
Letter Identification	A	173	12.9	12.9	12.9	173	0	90	50
	B	173	12.9	12.9	12.9	173	0	90	50
Word Identification	A	101	1.7	1.8	1.9	202	-101	0	0
	B	120	1.9	2.1	2.4	205	-85	0	0
Word Attack	A	97	2.2	3.1	4.2	119	-22	45	13
	B	123	5.4	10.1	12.9	121	+2	92	55
Word Comprehension	A	57	1.7	1.9	2.4	101	-44	7	0
	B	83	2.7	3.6	5.1	104	-21	47	10
Passage Comprehension	A	64	1.8	2.1	2.5	117	-53	3	0
	B	89	2.7	3.3	4.3	120	-31	23	5
Total Reading	A	98	2.2	2.5	2.8	144	-46	5	0
	B	117	2.9	3.4	4.2	146	-29	27	3

Standard Reading Inventory, Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	1.1	1.1	1.7	1.7	2.2	2.9
B	2.7	2.5	3.2	3.5	4.5	4.5
Gains	+1.4	+1.2	+1.3	+1.6	+2.1	+2.1

How I See Myself Scale, Form 1 & 2

	Form 1	Form 2	Difference
Total	117	124	+7
Teacher-School	20	16	-4
Physical Appearance	21	23	+2
Interpersonal Adequacy	44	54	+10
Autonomy	21	20	-1
Academic Adequacy	22	20	-2
Physical Adequacy	10	13	+3
Emotions	10	12	+2
Boy Social	19	14	-5
Girl Social	10	14	+4
Peer	14	19	+5
Language Adequacy	20	16	-4

John

Background Information

John is a six year old boy in grade 1. John is the youngest of two children as he has a sister in grade 4. John has attended kindergarten where he appeared to be reasonably able to cope. John's mother is at home and his father works regularly.

John was very timid and shy. He seemed to be unable to manage his learning in grade 1. He found it difficult to retain even the pre-primer words. He also found it difficult to identify beginning consonant sounds. John's teacher notices that he has difficulty with his fine motor control. His ability to name all the letters of the alphabet was very poor. His classroom teacher was concerned because John was a rather vague boy who apparently was not learning in the classroom environment. He was receiving resource help in a small group but he needed more individual attention on a daily basis. On this basis, the classroom teacher referred John for testing and for the initial interview.

Behaviour During Initial Interview and Pre-testing

John presented himself for testing as a small built, disheveled little boy. He had soft brown eyes and hair and a medium complexion. He had an ethereal air about him. He was pleasant but distant throughout the whole interview. He did not talk spontaneously ever during this session, rather he politely answered any questions about himself and his

family with one or two word answers. John came across as a flat personality, that is, much of his affective behaviour was absent.

It was observed that even for such a small boy he was a nail biter, perhaps indicating an underlying tenseness. During the testing, John made many facial grimaces while trying difficult test items. He lost his place frequently as his attention span was limited for any one test item. His normal strategy when he came upon a word he did not know was to squint at it for five seconds then look away to the floor, ceiling, anywhere but at the print, searching for an answer then he would give up. This whole process would take less than half a minute. It appeared that John had become very good at avoiding learning situations which required him to interact with print.

General Analysis of Test Data

Table 5:08 is a summary of John's pre-test and post-test data for the Woodcock Reading Mastery Tests, the Standard Reading Inventory and Experimental Self-Concept Scale. The scores for the Woodcock Reading Mastery Tests and the Standard Reading Inventory are given as grade equivalents whereas the raw scores are recorded for the Experimental Self-Concept Scale.

Upon examination of all John's pre-test and post-test scores, it can be observed that he did not make great gains in any one skill area on the Woodcock Reading Mastery Tests,

however, he did make good gains on the Standard Reading Inventory. John's pre-test scores for total reading were grades 1.5, 1.7 and 2.0 on the Woodcock Reading Mastery Tests. These had only slightly improved by post-test to grades 1.6, 1.9 and 2.2. The two significant sub-tests (see Table 5:08) which showed improvement for John on the Woodcock were Letter Identification and Word Comprehension. John scored at pre-test grades 2.1, 2.5 and 2.9 on the Letter Identification which was above his grade placement of grade 1. He recognized all the alphabet letters not written in cursive script. By post-testing he had begun to even master cursive script so his grade scores went up to 2.5, 2.9 and 3.5.

On the Woodcock, Word Identification sub-test, John did not appear to make any gains from pre-test to post-test when his grade scores of 1.6, 1.7 and 1.8 are only viewed. However, this was misleading because John's decoding strategies changed during this time period. At pre-test John attempted thirty test items of which he was successful at twenty-five. The kind of miscues he made were "flu" for "fly", "cat" for "cake", "work" for "water" or "slep" for "sheep". He appeared to use only the initial consonant as a cue to the word. His other strategy at this point in time was to simply take a wild guess, for example, he read "over" for "away".

By post-testing John was capable of attempting fifty-

six test items and was successful on twenty-nine. He was still using the initial consonant as his main decoding strategy when he read words such as "be" for "here", "there" became "they", while "rug" became "ran", "cry" was "carry". However, he had also added the use of word shape, some final consonants and medial vowels. For example, "some" became "same", "room" became "rom", "rain" became "ran" and "happen" became "happy".

On the Word Attack sub-test of the Woodcock Reading Mastery Tests, at pre-test John demonstrated that he knew most of the initial consonants and a few short vowel patterns. As was suspected from his performance on the Word Identification sub-test but little of the remaining phonetic conventions tested. This task was extremely painful and difficult for him to carry out and he went through great face contortions as he proceeded with the test items. By a large effort on his part, he scored grades 1.7, 2.0 and 2.7 at this pre-test period. His scores essentially did not change by post-test. However, his performance had. He approached the task with much more self-confidence and demonstrated a good use of both final and initial consonants even though his knowledge of long and short vowel patterns was shakey, that is not consistent.

The Word Comprehension sub-test at pre-test was incomprehensible to John even after the sample items were illustrated and explained to him. This was an area where he

had no insights and no teaching as yet. It was clear that John had not yet gone beyond looking at the graphophonic aspects of words to regard their meaning. On this sub-test he scored one item out of six so that his grade scores were 1.1, 1.2 and 1.3. Even when the test items were read orally to John he could not succeed any better so it was concluded that this was a skill beyond his current repertoire. By post-testing John was able to attempt twelve test items and succeed on six after much encouragement. He was not certain what he was trying to do as he demonstrated that he thought this sub-test was a rhyming exercise rather than anything to do with comprehension. He had no fixed strategies for dealing with word relationships. His scores reflect a slight gain with grade scores of 1.4, 1.6 and 1.8.

The Passage Comprehension sub-test proved difficult for John because he would not read to the end of a passage to use context cues. He did not use the picture cues well, focusing in on the wrong elements and drawing inappropriate conclusions. He kept losing his place and his train of thought. He was quite pre-occupied with the correct pronunciation of the words but his limited graphophonic background held him back. There did not appear to be any indication on John's part that this exercise was supposed to be making sense so he scored grades 1.5, 1.8 and 2.1. On the Standard Reading Inventory, John again clearly showed his lack of making sense out of print. He was able to read at an

independent oral level only grade 1.1 and a frustration oral level of grade 1.4. He repeated individual words two or three times as he tried to decode the next word or words. This word by word reading destroyed most of the passage comprehension for John. As well as he miscued on high meaning content words. For example, he read "I would to _____, said John." He omitted the word "play" and miscued the word "would" for "want". Although it appeared to illustrate some syntactic control the passage meaning became obscure to him. He did not have very syntactic control when he miscued on these sentences, "I see something you play with, said Mother" or "Jack in a _____." The text here should have read, "I see something you play with, said Mother" and "Jack is a boy". Basically, John had few useful decoding strategies beyond knowing how to apply the initial consonants to words in isolation and context without attention to meaning.

The most significant change in John's reading strategies at post-testing was his more appropriate use of meaning and graphophonic cues. On the Woodcock Passage Comprehension sub-test, John was able to read to the end of the sentence and return to fill in the blank. He was much more successful using this strategy so although at post-test his grade scores were the same as at pre-test, his increased confidence allowed him to attempt more test items. It was on the Standard Reading Inventory that John obtained his

greatest successes. By post-testing John had an oral and silent independent reading grade level of 1.4, an instructional oral and silent reading grade level of 1.7 and a frustration oral and silent reading grade level of 2.2 and 2.5.

He had developed correction strategies. For example, he read "It see it, said John." and self-corrected to "I see it, said John." Another example he read, "they have fun", he self-corrected to "They will have fun". There is an indication here that John had better syntactic control than he had at pre-test. As well the ability to reject words which did not carry along the author's message. He still over-relied on graphophonic cues when substituting words like "here" for "he", "was" for "will", "from" for "farm" in these sentences "Here wanted to play with it", the text read "He wanted to play with it" and John was able to self-correct. He did the same on this sentence, "They was have fun" for the text "They will have fun". When John read "He wanted a toy from" for the text "He wanted a toy farm", this use of graphophonic cues really threw him. He did not self-correct in this case, consequently, he lost the sentence meaning. Notice that this particular miscue is a high level one because of the content word involved and John's inappropriate use of syntactic cues substituting a preposition for a noun. It is interesting to note that as John read this passage he eventually was able to self-correct

the word "from" to "farm" so that he was able to do quite well on the comprehension questions for this passage. If he had not been able to do this, the whole passage meaning would have been lost to him.

Whenever John self-corrected it was usually at the beginning of a sentence rather than the end. His self-corrections were accompanied by improved intonation patterns. There was some indication that he had begun to read in chunks of meaning or phrases rather than word by word which dominated his reading at pre-testing.

In summary, John by post-testing, had begun to develop some useful reading strategies. He had managed to break and literacy barrier and was seeing himself as a learner. This might account for his increased self-concept scores (see Table 5:08) on the Experimental Self-Concept Scale.

TABLE 5:08

SUMMARY OF JOHN'S PRE-TEST AND POST-TEST DATA FROM THE WOODCOCK READING MASTERY TESTS, THE STANDARD READING INVENTORY AND THE EXPERIMENTAL SELF-CONCEPT SCALE

Interpretation of Woodcock Test Results, Form A & B

Table 5:08 continued

Subtest		Score	Reading Grade Levels			Relative Mastery			
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	%ile Mark
Letter Identification	A	135	2.1	2.5	2.9	141	- 6	82	35
	B	146	2.5	2.9	3.5	145	- 1	89	48
Word Identification	A	84	1.6	1.7	1.8	141	-57	2	5
	B	88	1.6	1.7	1.8	147	-59	1	5
Word Attack	A	83	1.7	2.0	2.7	93	-10	75	30
	B	82	1.7	2.0	2.6	95	-13	68	24
Word Comprehension	A	15	1.1	1.2	1.3	72	-57	2	0
	B	43	1.4	1.6	1.8	75	-32	21	5
Passage Comprehension	A	54	1.5	1.8	2.1	78	-24	39	11
	B	55	1.6	1.8	2.1	82	-27	32	9
Total Reading	A	74	1.5	1.7	2.0	104	-30	25	5
	B	83	1.6	1.9	2.2	108	-21	47	14

Standard Reading Inventory, Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	1.1	0	0	0	1.4	0
B	1.4	1.4	1.7	1.7	2.2	2.5
Gains	.1	1.2	1.5	1.5	.6	2.3

Experimental Self-Concept Scale

	Form 1	Form 2	Difference
Total	52	56	+ 4
General Self-Concept	59	61	+ 2
Academic Self-Concept	36	38	+ 2

Edna

Background Information

Edna is a fifteen year old girl who is the second eldest girl in a family of four. She lives at home with her mother and father and two younger brothers aged thirteen and nine. Their elder sister, who is eighteen, has recently married and left home. Edna's mother works part-time a few evenings a week and her father works for the Provincial Government.

Edna has attended a local elementary school from kindergarten to grade 6. Her school records showed she had difficulties in grades 5 and 6 but she was not included in a resource program. She attended junior high grade 7 and was unsuccessful. She repeated her grade 7 year at the same school. She then switched junior highs to her present situation where she went into grade 8. After four months in grade 8, Edna was experiencing great academic difficulties. The school's guidance counsellor became involved with Edna because her attendance began to drop off. She missed at least two to three mornings a week because of severe headaches and blackouts. She complained of not sleeping well and had crying bouts at night which kept her from doing her homework, therefore, she did not want to come to school. Edna's parents were very concerned about their daughter's mental health as well as her poor academic progress. Edna was referred for testing by the school counsellor.

Behaviour During Initial Interview and Pre-testing

Edna arrived for testing and hesitantly took her seat. She was a pretty youngster with long brown hair, a slim but not skinny build. She was very solemn looking and sat very uptightly during the whole interview and testing. She was extremely nervous at first and spoke only when asked a question. She would not elaborate upon any answer about herself. She was very afraid to talk about herself. She had a tendency to avoid all eye contact when she spoke to you. The closest eye contact made was when she looked at the tester through the top of her eyes for a few seconds toward the end of the testing session. She never smiled once. There was not a hint of enjoyment about being in this situation. She was a nervous, frightened girl who was a fierce nail biter. She could not tell the tester when she got headaches but they were so bad that she could not do her homework or even sleep. She said she was worried because the headaches seemed to be getting worse. When asked about school she said there were just so many things she could not do no matter how hard or how long she studied. She just did not get it! She did not say she was stupid but the implication was clear from her body language and mannerisms. She felt she had something wrong with her. This produced in her an anxiety making her non-functional in school. The only subject area where Edna experienced any success was in home economics. She liked to cook and sew and often did these at

home. Sports activities did not hold much interest for her.

General Analysis of Test Data

Table 5:09 indicates all the grade levels scores for both pre-tests and post-tests which Edna achieved on the Woodcock Reading Mastery Tests, the Standard Reading Inventory plus the raw scores of the How I See Myself Scale.

Edna, as her scores reflect, made considerable gains in all areas tested. Her total reading scores on the Woodcock Reading Mastery Tests were grades 2.7, 3.1 and 3.8 at pre-test but increased to grades 3.8, 4.8 and 6.8 by post-testing.

A close examination of each sub-test on the Woodcock Reading Mastery Tests revealed a change in her reading strategies. On the sub-test Word Identification (see Table 5:09) she pre-tested at grades 3.6, 4.2 and 5.0. Her strategy for unlocking words in isolation was to use the initial consonant, the word configuration and rudimentary syllabication, that is, she knew words could be broken into syllables but she was not clear how to do this, perhaps because basic affixes and roots were not used by her as starting points. For example, she said "rejent" for "urgent", "excurade" for "excusable", "amusement" for "amazement". The most distressing aspect here are the appearance of nonsense words. Her definition of reading was "...how to figure out the letters ...learn the words...think about what they're saying..." She felt that meaning was an important aspect of reading but

apparently not in isolation judging from her performance. When she came to the three words previously cited, she tried unsuccessfully to pronounce them, then decided she did not know the remaining and stopped.

On the Word Attack sub-test (see Table 5:09), she demonstrated that she was experiencing difficulties with the basic phonic elements such as short vowels in a consonant vowel consonant pattern, for example, "nen" became "nin", "nudd" became "nodd", "beb" became "beeb", "chen" became "chan", "plon" became "plone". Initial consonants often became confused with initial blends such as "wip's" becoming "whips". The same lack of syllabification appeared so that "pipped" would become "piped", "wötfab" was "wotfab", "bafmotbem" was "baffmdnben". It appeared that Edna knew a few word attack strategies but not enough to be useful and overcome her anxiety which, of course, became very high during this sub-test.

At post-test, Edna's scores on the Word Identification sub-test had not increased. She scored grades 3.3, 3.8 and 4.4, however, she was now using the more suitable strategies of substituting a real word for an unknown word, such as "central" for "century". She still gave up easily. On the Word Attack sub-test she scored grades 3.8, 5.6 and 11.2 by post-testing. These considerable increases perhaps were contributed to the fact that she was less anxious, that she was more confident approaching this particular task, therefore

she performed better. At the same time, she had managed to sort out through her crossage tutoring experience to basic phonic elements which had confused her at pre-testing. It is interesting to note that no concerted effort was made to provide Edna with a review of phonics other than having her play the Stott games with her tutee as a "filler" at the end of the tutoring session. Phonics was really an incidental activity for her during the tutoring. The greatest emphasis was placed on developing her word comprehension and passage comprehension which at pre-test were (see Table 5:09) grades 2.6, 3.4, and 4.7 and 3.6, 4.7 and 6.2 respectively.

The Word Comprehension sub-test which is word relationships were difficult for her to grasp. The types of miscues she made did not appear to have any logic. She really appeared to not have many clues as to what she was supposed to be doing on this sub-test. The fact that she was hesitant to guess at an answer also hindered her performance.

Edna did not appear to use context easily when reading. The cloze passages on the Passage Comprehension sub-test were very difficult for her. She could not read silently but subvocalized constantly. She read so slowly that this hindered her comprehension so that she would have to go back and labour through the sentence twice before making any sense out of it, if at all. There was limited intonation and fluency in her reading. On the cloze passages she did

demonstrate some syntactic sense in that she used the correct parts of speech when she miscued. Interestingly enough, this was not the case when she read passages on the Standard Reading Inventory. She put aside her syntactic sense then. She miscued on context words, especially verbs and substituted real words using the graphophonic cues, however, the result was a loss of meaning. For example, the text read "...later he met the dogs. He had heard them many times." Edna read the first sentence but miscued on the word "heard". Her reading was "...later he met the dogs. He had learned them many times." She repeated this miscue several times. It was supposed she was trying to make sense but did not self-correct. In fact, during pre-testing, she never once self-corrected on any test item. There was an urgency to get through the session.

Due to the fact that Edna made high level miscues while reading the Standard Reading Inventory passages (see Table 5:09) her comprehension suffered. Her scores reflected her low level of performance. She scored at pre-testing grades 3.7 and 3.2 for oral and silent independent reading, grades 4.5 and 4.5 for oral and silent instructional level reading and grades 5.5 and 5.5 for oral and silent frustration level reading. It became clear during the pre-testing session that Edna had decided she was a "dumbie" and had withdrawn from learning into self-induced emotional turmoil. Her poor performance on the pre-testing seemed to reinforce

her poor self-image. She scored the second lowest on the How I See Myself Scale.

Post-testing for Edna was not as nerve wrecking an experience as pre-testing had been. For one thing, Edna now smiled easily. She knew she could learn and had proved this to herself. She had begun to read for pleasure, borrowing books from this researcher and the library. This helped her to consolidate her new-found comprehension abilities. On the Word Comprehension sub-test she scored grades 3.6, 5.1 and 7.7 at post-testing. She was more relaxed, therefore, able to logically think out the relationships. She often guessed when she was not sure of an answer so that her miscue now reflected some logical pattern. In other words, Edna was trying to search for meaning which was not evident at pre-testing.

On the passage comprehension sub-test, she did not appear to get discouraged and give up with "I don't know" as she had at pre-testing. Her new confidence permitted her to attempt items which previously she probably would have dismissed as too difficult. Towards the top end of this sub-test, she remarked "...they're getting hard now!" but this was a challenging, not a defeatist statement because she was smiling and still eager to continue. Her scores on the Passage Comprehension were grades 5.5, 7.4 and 10.2.

Her reading strategies indicated that she continued to use good syntactic sense as she had at pre-testing. She

read with more fluency, therefore, retaining the intonation patterns of the sentences which aided her comprehension. These strategies she applied to the Standard Reading Inventories also, so that her miscues reflected a higher level. She now substituted words in context which reflected that she understood what she was reading. She was using graphophonic cues but she had linked them up with semantic and syntactic cues as well. For example, the text read "...when he turned to go back he saw that a large crack separated the ice on which he stood from the mainland." Edna read "... when he turned to go back he saw that a large creak separated the ice on which he stood from the mainland."

The appearance of self-correction strategies linked to repetitions was also a sign that Edna had begun to use meaning as a basic ingredient in her reading. For example, she read "Now could he jump across the black water" for "Nowhere could he jump across the black water" but she self-corrected the word "now" to "nowhere" when she repeated the whole sentence. Her first reading was with a questioning intonation pattern but the text punctuation cued her to go back and change not only the word "now" to "nowhere" but also the intonation pattern from a questioning to a statement intonation pattern. Edna's scores on the Standard Reading Inventory at post-testing were grades 6.5 for oral and silent independent level reading, 7.5 for oral and silent instructional level reading and 8.5 for oral and silent frustration

level reading. Her comprehension question answers revealed a higher level of thinking. She seemed to be able to now handle the inference questions. She could draw conclusions from what she had read which she found very difficult to do at pre-testing.

Edna's How I See Myself scores increased the most of all the tutors (see Table 5:09). She scored positively on all the sub-tests except autonomy which substantiate her new self-confidence which was observed and described.

Edna was able to write a report at the end of the crossage period quite easily. She went from writing three short sentences to the ability to write a complete paragraph reasonably punctuated. She also developed the ability to design her own lessons if she was given an outline.

In summary, by the end of the crossage tutoring, Edna gave all the appearances of a happy teenager who had confidence in her abilities as a learner both in and out of school. Edna's tutee was a girl named Karen.

TABLE 5:09

SUMMARY OF EDNA'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS,
THE STANDARD READING INVENTORY AND
THE HOW I SEE MYSELF SCALE

Interpretation of Woodcock Test Results, Form A & B

Table 5:09 continued

Subtest		Score	Reading Grade Levels			Mastery Score at Grade	Achieve- ment Index	Mastery at Grade	File mark
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%				
Letter Identification	A	173	4.1	6.2	12.9	173	C	9C	5C
	B	173	12.9	12.9	12.9	173	C	9C	5C
Word Identification	A	176	3.6	4.2	5.0	208	-32	21	5
	B	169	3.3	3.8	4.4	209	-4C	1C	3
Word Attack	A	98	2.3	3.2	4.4	121	-23	42	9
	B	114	3.8	5.6	11.2	122	- 8	79	31
Word Comprehension	A	81	2.6	3.4	4.7	105	-24	39	10
	B	93	3.6	5.1	7.7	106	-13	63	26
Passage Comprehension	A	102	3.6	4.7	6.2	122	-2C	5C	15
	B	118	5.5	7.4	10.2	124	- 6	82	38
Total Reading	A	111	2.7	3.1	3.8	147	-36	15	1
	B	133	3.8	4.8	6.8	148	-15	63	11

Standard Reading Inventory, Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	3.7	3.2	4.5	4.5	5.5	5.5
B	6.5	6.5	7.5	7.5	*8.5	*8.5
Gains	2.6	3.1	2.8	2.8	2.8	2.8

*extrapolated

How I See Myself Scale, Form 1 & 2

	Form 1	Form 2	Difference
Total	115	143	+28
Teacher-School	19	23	+ 4
Physical Appearance	15	30	+15
Interpersonal Adequacy	49	69	+20
Autonomy	24	23	- 1
Academic Adequacy	15	17	+ 2
Physical Adequacy	16	16	0
Emotions	7	12	+ 5

Karen

Background Information

Karen is a ten year old Metis girl who was Henry's elder sister. Karen is in grade 4, having repeated grade 2. Karen had been in at least four schools other than her present situation, however, this was her first year in grade 4. Like her brother Henry, Karen found it difficult to get to school. Her frequent absences and changes of schools has contributed to her weakness in all school subjects. Currently Karen's mother is at home and her father is not on Welfare but employed as a snow remover by the city.

Karen is very quiet in class and rarely contributes to class discussions. She is completely lost in the grade 4 reading program so her teacher has her on an individual reading scheme with a few others in her class.

Initial Interview and Behaviour During Pre-testing

Karen was a tall slim, raven haired girl whose large, sad brown-black eyes rarely sparkled. She had a natural grace which added to her attractiveness. She was shy and withdrawn upon first meeting, keeping her eyes cast down and answering as briefly as possible when questioned about herself and her family. What really struck home from Karen's behaviour was, here was a child who had given up on herself as a successful learner in school. She was mostly indifferent to school activities and found it difficult to describe anything she really enjoyed doing other than watching

television at home. She was not involved in any after-school or community activities and had few friends preferring to be uncommunicative. When questioned about her frequent absences from school, she replied that she slept in then did not want to come to school late.

During the testing, Karen would never attempt to answer anything unless she was absolutely certain of the answer. She preferred not to take any risks.

General Analysis of Test Data

Karen's pre-test and post-test data is summarized in Table 5:10. Her reading grade scores are shown for the Woodcock Reading Mastery Tests and the Standard Reading Inventory but only the raw scores are listed for the Experimental Self-Concept Scale. As Table 5:10 indicates, Karen showed in all skill areas a gain. Her total reading score on the Woodcock Reading Mastery Tests went from a pre-testing range of grade 3.0, 3.6 and 4.6 to a post-testing range of grade 3.5, 4.4 and 5.8, reflecting increases in all the sub-tests on the Woodcock.

The Letter Identification was not an area of concern since she scored in the grade 12.0 area at both pre-testing and post-testing. At pre-test her scores for Word Identification were grades 3.1, 3.4 and 3.9. Karen used the word shape and initial consonants as decoding strategies in such miscues as "buzz" for "busy", "surfic" for "surface", "product" for "produce" "infant" for "inventor". It was

noticed that Karen had the ability to go beyond the initial consonant and use the first syllable of these words. Her miscues substitutions for the most part made sense, in other words, she substituted real words rather than nonsense words but her lack of confidence resulted in her giving up quite easily. Her scores ranged from grade 3.1, 3.4 to 3.9. At post-testing, she did not show a change in decoding strategies, but her increased confidence allowed her to stay at the task longer and consequently, she scored in the higher ranges of grades 3.4, 3.9 and 4.7. Renewed confidence is not the only interpretation possible, she was applying her decoding strategies more effectively, whereas at pre-testing her Word Attack skills were in the grades 3.0, 4.1 to 6.1 range by post-testing they had increased to grades 4.4, 6.7 and 12.9. At pre-testing she was having difficulty with multisyllable words although she knew the rest of the major phonic conventions such as initial consonants, long and short vowels, the blends, by post-testing she was able to apply this knowledge to words of three or more syllables.

The Word Comprehension sub-test was very hard for Karen. She just could not interpret the word analogies. Her answers did not show any logical pattern so her low scores at grades 2.1, 2.7 and 3.5 reflected this. Her reluctance to guess was understandable since it appeared that she had no idea what she was supposed to do with the words even though she could decode them satisfactorily. Her

indepth knowledge of vocabulary was lacking since all her energy to date had concentrated on developing her graphophonic decoding strategies to the detriment of her semantic strategies. This affected her passage comprehension scores which ranged from grades 2.7, 3.2 to 4.2 at pre-testing. Her reluctance to guess using meaning as a primary concern made her substitution miscues seem illogical when she read the paragraphs on the Standard Reading Inventory and accounted for her performance scores on independent oral and silent reading grades of 3.2 and 2.5 with her instructional oral and silent reading grades at 3.7 and 3.5. Her frustration oral and silent reading grade levels were 4.5 which was below her grade placement. By way of illustration, Karen read the text "...one night he went further than usual in search of new greens" as "...one night he went further than unusual in such a new greens". Obviously she lost the sense of semantic cues inappropriately. Another example where she used graphophonic cues and syntax but not semantics was when she red "...he heard for water, but the dogs cut him off", when the text read "he headed for water, but the dogs cut him off". Since Karen had a high level of this type of miscue her ability to answer comprehension questions on what she had read was quite limited. This seemed strange to her teachers unless they were carefully listening to what she actually read, since she often managed to retain the intonation patterns of the sentences especially at her

instructional reading grade level and to a large extent even at her frustration grade level.

Karen did use self-correction strategies but ineffectively as these occurred on low level content words such as articles or pronouns and did not contribute to the total paragraph meaning. In other words, it did not really matter whether she self-corrected in these instances or not. For example, she read "...later he met a dogs" for "...later he met the dogs", or "...he watered each day" for "...he watered it each day".

At post-testing on the Word Comprehension test, Karen appeared better equipped to handle the word analogies. Even those test items she had difficulty with indicated she had a logical approach to this task. Her confidence was not up to the level where she would risk guessing on any test items. Her post-test scores on this sub-test of the Woodcock were grades 3.0, 4.1 and 6.0.

On the Passage Comprehension sub-test from the Woodcock Reading Mastery Tests, Karen scored at post-test grades 3.2, 4.1 and 5.4. This was a considerable improvement from her pre-test scores and reflected her ability to use semantic cues more when reading. When she read the Standard Reading Inventory paragraphs her independent oral and silent reading grade levels were 3.7 and 3.5, her instructional reading grade levels were 4.5 and 3.5 and her frustration level was now at grades 5.5 and 4.5. She was able to use semantic

cues. Her substitution miscues reflected this. For example, she read "...two men started into the street waving guns" for the text "...two men darted into the street waving guns". Her self-corrections occurred on high level content words. For example, she read "He said that Henry would be reserved" but self-corrected the word "reserved" to "rewarded". She was using her self-correction strategies more effectively and this paid off for her when she was asked the comprehension questions. Karen appeared to increase her use of repetitions, but these miscues usually were accompanied by self-corrections and decreased in the middle of sentences with whole phrases rather than simple words. Up to frustration reading grade level, Karen's intonation and stress patterns continued to remain for the most part, intact contributing no doubt to her good comprehension. It is surprising that with these improved reading strategies and performance levels that Karen did not reflect some aspects of this in her Experimental Self-Concept raw scores. Both her general self-concept score and academic self-concept indicated a negative difference of - 3 and - 4 respectively, from pre-test to post-test.

In summary, Karen made very adequate reading gains and appeared from observation to be a much more confident learner. Even though she smiled a lot more, reflecting a change in her confidence, this was not enough to show up as a change on the Experimental Self-Concept Scale.

TABLE 5:10

SUMMARY OF KAREN'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS,
THE STANDARD READING INVENTORY, AND
EXPERIMENTAL SELF-CONCEPT SCALE

Interpretation of Woodcock Test Results, Form A & B									
Subtest		Score	Reading Grade Levels			Relative Mastery			
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	% ile Mark
Letter Identification	A	173	12.0	12.0	12.0	169	4	93	60
	B	173	12.0	12.0	12.0	170	3	93	58
Word Identification	A	162	3.1	3.4	3.9	182	-20	50	22
	B	172	3.4	3.9	4.7	185	-13	68	30
Word Attack	A	106	3.0	4.1	6.1	110	-4	85	42
	B	118	4.4	6.7	12.9	111	+7	95	66
Word Comprehension	A	72	2.1	2.7	3.5	91	-19	53	11
	B	87	3.0	4.1	6.0	92	-5	84	38
Passage Comprehension	A	88	2.7	3.2	4.2	102	-14	66	23
	B	97	3.2	4.1	5.4	103	-6	82	38
Total Reading	A	120	3.0	3.6	4.6	132	-12	71	22
	B	129	3.5	4.4	5.8	133	-4	85	35

Standard Reading Inventory, Form A & B							
	Reading Grade Levels						
	Independent		Instructional		Frustration		
	Oral	Silent	Oral	Silent	Oral	Silent	
Form A	3.2	2.5	3.7	3.5	4.5	4.5	
B	3.7	3.5	4.5	3.5	5.5	4.5	
Gains	.3	.8	.6	0	.8	0	

Experimental Self-Concept Scale			
	Form 1	Form 2	Difference
Total	58	55	- 3
General Self-concept	64	61	- 3
Academic Self-concept	36	32	- 4

Frank

Background Information

Frank is a thirteen year old who is the eldest boy, but the middle child of three siblings. His younger brother who is ten, is in elementary school, while his elder fifteen year old sister is in junior high school. Frank lives at home with his mother and father and the rest of his family. Frank's home is a considerable distance from school, therefore, he is bussed to school and stays for lunch. His mother is a homemaker while Frank's dad works as a canner in a local plant. Frank attended the same elementary school for grades 1 through six. This is his first year in grade 7 in junior high school. Frank did not attend kindergarten prior to grade 1, therefore, some help was requested from a Child Guidance Clinic regarding his placement during kindergarten. The results of his assessment indicated that Frank has average potential but some speech problems. After some speech therapy, those problems were corrected and his case was closed to the Clinic by the end of grade 1.

After seven months in grade 7, Frank was experiencing a lot of difficulties in all his subjects. His language arts teacher suspected a reading problem and requested help. Frank was at this time a regular visitor to the principal's office for misconduct both in school and on the playground.

Initial Interview and Behaviour During Pre-testing

Frank arrived for the testing session with a very

sullen look on his handsome face. He was of average height and build with blue eyes and blonde hair and a fair complexion complementing his neat, well-dressed appearance. He did not smile but once, but remained anxious to be there at all. His tenseness was also revealed in nail bitten fingernails on his clenched fists. He sat quietly rigid with his clenched fists in his lap. He answered questions about himself as briefly as possible, that is, he gave only one word answers never elaborating further either about himself or his interests.

It seemed that Frank's main interests involved the television which he watched from the time he reached home at four o'clock until bedtime at nine-thirty. He watched everything and anything without too much discrimination. He perceived that the others in his family read but only his mother and sister read books, his father read the newspaper. Frank admitted he sometimes read the comics.

As far as sports were concerned, he had a periphery interest in hockey and soccer but did not belong to any league.

Frank's strategy during this testing session was to talk little and to think little. He usually answered test items very rapidly so that it appeared that he was saying the first thing that popped into his head.

While reading, he moved his head from side to side rather than just his eyes. With such involved physical

activity as he displayed, it is no wonder his teachers reported that he gave up easily!

General Analysis of Test Data

Table 5:11 illustrates Frank's pre-testing and post-testing scores in grade levels for the Woodcock Reading Mastery Tests and the Standard Reading Inventory. The raw scores only for the How I See Myself Scale are shown.

It is interesting to note that Frank's strengths obviously lie in the Word Attack sub-test where at pre-test his scores ranged from grades 5.8, 12.0 to 12.0 yet all his other sub-test scores are very low in comparison. He found the Word Attack sub-test very easy to do and he appeared to have no trouble blending or recognizing the main vowel consonant patterns. He used his word attack ability when decoding words on the Word Identification sub-test sparingly. His scores ranged from grades 3.4, 3.9 to 4.7. Such words as "valid" became "vailed", "jeopardize" was "jeoparture", "urgent" became "argument". He seemed to lapse into nonsense and stop using what he did know when he came to more than two syllable words.

On the Word Comprehension sub-test his pre-test scores ranged from grade levels 2.0, 2.5 to 3.2. He found this sub-test very difficult. He appeared to answer without hesitation and what is more disturbing, there did not seem to be any logical pattern to his answers. He became quite agitated during this sub-test which, from his performance and mannerism,

was nonsensical to him. This was especially true after the first ten items, when the picture clues are eliminated.

The last sub-test on the Woodcock Reading Mastery Test, Passage Comprehension, revealed pre-test grade level scores from 3.1, 4.0 and 5.3. Frank did this cloze exercise on a hit and miss basis. He did not indicate from his answers that he had any useful comprehension strategies. He never read to the end of a sentence, then went back to fill in the word, instead he supplied a word immediately and paid no attention as to whether it was an appropriate choice or not. He had pronounced lip movement which increased to audible oralizing as the test items increased in complexity. He vocalized when he read paragraph passages or the Standard Reading Inventory at all levels. His independent silent and oral reading levels at pre-test were 3.7 and 4.5. Even at this level he repeated a lot of phrases so that in no way could one say he had any kind of smooth fluency. It was a staccato-like performance where terminal sentence boundaries were ignored as well as intonation patterns. At the point where he reached his oral and silent instructional reading levels, his repetitions increased in their staccato style but they now had substitutions added to a new dimension. His substitutions indicated that he used graphophonic cues, however, these were devoid of context references. For example, he read "...he had learned them many times..." for "...he had heard them many times..." Not only was his choice

"learned" an inappropriate substitution for the context, it shows an insensitivity to syntax. This similar miscue occurred in such sentences as, "One night he went further than usual in searching a new greens." His addition of "a" syntactically just did not fit nor does the addition of the pronoun "him" in this sentence, "His heavy coat protected him, and his sharp teet fought him off the dogs long enough for him to escape." In both cases, the meaning has been altered. It was no wonder that Frank had difficulty with the re-telling of this passage. He read at a frustration reading grade level for the next passages determining his frustration reading grade level scores for silent and oral reading to be 5.5.

Perhaps Frank's agitation and tenseness were pronounced because he was at odds with his own definition of reading. He said that reading "...is something that you read... and you read and learn..." He thought he was reading but he was not learning and he did not know why. So Frank was struggling approximately three years below his grade 7 placement.

At post-testing Frank appeared generally more confident. During the Word Identification sub-test, he showed a greater willingness to apply his word attack skills. He attempted to "sound out" multisyllabled words. The most significant strategy he employed was his use of meaning. Even when he was unable to sound out a word accurately, he

always substituted a real word rather than a nonsense word as he formerly had done. For example, "naive" became "navy", "monologue" became "monopoly", "opaque" became "opium". There is good use of the word configuration in these examples. His scores on this Word Identification sub-test now ranged from grades 5.8, 7.4 to 9.9 so he had, in fact, reached his grade level of grade 7. Likewise, he scored at mastery on the Word Attack sub-test with scores ranging from grade levels 8.1 to 12.9.

The Word Comprehension sub-test at post-testing did not pose as a nonsense task to him. His miscues had a logic to them. He appeared to have some good strategies to figure out the analogies given to him. As a result his scores reflect an increased growth in this vocabulary area. His scores ranged at post-testing from grades 4.6, 6.9 to 10.3. Such increases in vocabulary growth were bound to affect changes in his Comprehension Passage scores which was the case. On the Passage Comprehension sub-test he scored grade levels 4.9, 6.4 and 8.7. He had learned the strategy of reading to the end of a line or sentence before choosing an appropriate word. He used self-correction strategies a lot. He would try a word and if it did not fit he would mutter to himself "that doesn't sound right". Then he would try something else. As for the passages on the Standard Reading Inventory, he still repeated a great deal but his repetitions now were consistently for self-correction purposes to correct

poor word substitutions. For example he read, "...out by the edge of the sea ice a long hunter, Anauta, struggled to land a walrus he had just harpooned". The "long" was self-corrected to "lone" during a repetition. Another example illustrating his increased control of syntax occurred when he read "...usually other hunters would he rush to help him,..." then realized his miscue on the "he" was totally inappropriate and self-corrected. The following example of a miscue was a real indication that Frank was reading for meaning. He read "...rapidly the crack winded and the ice-pan drifted out to sea." The text read "...rapidly the crack widened as the ice-pan drifted out to sea." Frank self-corrected the word "winded" to the text's "widened", however, he left "and" in substitution for "as". The same meaning is implied, therefore, he saw no need to correct in this case. Notice that he substituted the same part of speech.

His scores on the Standard Reading Inventory by post-testing reflect his higher level reading strategies. His scores now ranged from grade levels 5.5 and 4.5 for oral and silent independent, 6.5 and 5.5 for oral and silent instructional and 7.5 and 6.5 for frustration. Although Frank did not quite reach his grade level for instruction, he had learned to read and comprehend with better reading strategies. He was able to use his own experiences when he answered the inferences questions on the Standard Reading Inventory. He

was now learning when he read which had puzzled him before because this had not been occurring.

Frank's obvious observed confidence was not reflected in the How I See Myself Scale. There was no difference in his total raw scores which stayed constant. The sub-scores on the physical appearance, interpersonal adequacy, peer and girl social became slightly more positive while the remaining areas regressed. The question arises as to whether his self expectations had risen as his academic performance had risen so that he still rated himself low.

Frank's written ability improved immensely both in content and in form. At the beginning of crossage tutoring he wrote a long continuous sentence as a report with no punctuation. By post-testing he wrote a short paragraph with attention paid to punctuation. He was able to offer comments about the activities he had taught as well as plan a lesson by choosing activities from a set outline.

In summary, for Frank the crossage tutoring did make significant changes both in his attitudes and his academic performance. Some of these were revealed in changed test scores, while others were observed changes in his behaviour. Frank's tutee was a boy named Luke.

TABLE 5:11

SUMMARY OF FRANK'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS,
THE STANDARD READING INVENTORY AND
THE HOW I SEE MYSELF SCALE

Interpretation of Woodcock Test Results, Form A & B									
Subtest		Score	Reading Grade Levels			Relative Mastery			
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	% ile Mark
Letter Identification	A	173	12.7	12.7	12.7	173	0	90	50
	B	173	12.7	12.7	12.7	173	0	90	50
Word Identification	A	172	3.4	3.9	4.7	203	-31	23	7
	B	203	5.8	7.4	9.9	205	-2	99	45
Word Attack	A	125	5.8	12.0	12.0	120	+5	94	65
	B	131	8.1	12.9	12.9	121	-10	75	30
Word Comprehension	A	69	2.0	2.5	3.2	102	-33	19	3
	B	100	4.6	6.9	10.3	104	-4	85	42
Passage Comprehension	A	96	3.1	4.0	5.3	118	-22	45	13
	B	113	4.9	6.4	8.7	120	-7	81	36
Total Reading	A	127	3.4	4.2	5.4	144	-17	58	9
	B	144	4.9	7.2	11.3	146	-2	88	42

Standard Reading Inventory, Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	3.7	4.5	4.5	*5.0	5.5	5.5
B	5.5	4.5	6.5	5.5	7.5	6.5
Gains	+1.6	-.2	+1.8	+.3	+1.8	+.8

*extrapolated

How I See Myself Scale, Form 1 & 2

	Form 1	Form 2	Difference
Total	101	101	0
Teacher-School	25	18	-7
Physical Appearance	14	17	+3
Interpersonal Adequacy	44	46	+2
Autonomy	27	21	-6
Academic Adequacy	13	11	-2
Physical Adequacy	8	7	-1
Emotions	10	5	-5
Boy Social	15	10	-5
Girl Social	13	17	+4
Peer	13	14	+1
Language Adequacy	17	14	-3

Luke

Background Information

Luke is a nine year old boy who is in grade 4 for the first time. Luke is the eldest boy in a family of two children. His sister is a year younger than Luke. Luke attended kindergarten and grade 1 in his present school, however, he repeated grade 1 which meant his younger sister was in his class. He made slow progress in grade 2. By the end of third grade, he was referred to a reading clinician for an assessment.

At that time, Luke was approximately a year below his grade level in reading development. His language development was normal as was his intellectual potential. It was recommended that he continue into grade 4 but receive special reading help from the resource teacher.

Although Luke was in a special reading group his grade 4 teacher was not pleased with his progress. He still showed little interest in reading and had difficulty following directions as well as attending to a set task. Luke's parents tried reading with him at home but found he did everything to avoid the situation. Both his parents liked to read and he had been read to in his infancy. His mother observed that she felt he was very immature for his age. She was naturally very anxious about his school progress. Luke on the other hand, did not appear to care much.

Initial Interview and Behaviour During Pre-testing

Luke was a towheaded little boy who smiled and talked easily throughout the test situation. He tried most test items readily with no coaxing. If anything, Luke had a tendency in his approach to tasks to be inconsequential, that is, he did not think through his actions before answering questions or doing a task. Although Luke presented himself as easy-going and not caring too much about his progress, that in fact this was a cover-up and his impulsivity was due to an underlying anxiety. Luke had to vocalize all his answers to himself first in whispers. It was as if he had to first say his responses to himself to try them on for size, then he felt confident enough to repeat them out loud. He did not trust himself thinking out an answer; all his answers were thought out loud.

General Analysis of Test Data

A summary of Luke's pre-test and post-test data is found in Table 5:12 where the grade level scores for the Woodcock Reading Mastery Tests and the Standard Reading Inventory are listed. The raw scores for the Experimental Self-Concept scale are recorded together with the other test data.

Examining Luke's overall performance on the Woodcock Reading Mastery Tests, he achieved a total reading score at pre-test of grades 2.6, 2.9 and 3.4 by post-testing these grade scores were 3.0, 3.6 and 4.6. He indicated improvement

in all skill areas tested.

In the Letter Identification sub-test at pre-test, Luke was experiencing difficulties recognizing such letters as "y", "n", and "v" in cursive script, however, by post-testing he was able to recognize these letters, therefore, his grade scores reflect this achievement. At pre-test he scored grades 3.4, 4.3 and 12.9 but achieved grades 12.0, 12.0 and 12.9 by post-testing on the Letter Identification.

It appeared at pre-testing that Luke's primary strategy to decode words in isolation was to use a laboured sounding out method plus guessing. He applied these strategies to the Word Identification sub-test on the Woodcock but he was not very successful with these endeavours as they enabled him to score only in the grades 2.3, 2.6 and 2.9 areas. The types of miscues he produced were "place" instead of "peace", "scared" for "strange", "and" for "angry", "price" for "piece", "comforward" for "comfort", "puddles" for "public", "brother" for "brought". Luke seemed to use the initial consonant and a guess based upon the word shape. The one positive aspect of these miscues was the absence of nonsense words. All his substitutions made sense, in the fact he replaced real words with real words.

Luke's phonic ability on the Word Attack sub-test indicated that he indeed knew how to decode in isolation. His scores at pre-test were grades 2.2, 3.1 and 4.2 illustrating that he knew the basic primary phonic skills. He

experienced difficulties with multi-syllabled words plus common affixes such as "able", "ed", "tele", "ing" or "sub". It appeared that Luke's ability to apply his phonic skills to words on the Word Identification sub-test did not match his ability to manipulate decoding strategies in isolation as illustrated on the Word Attack sub-test.

By post-testing Luke was able to consolidate some of his phonic knowledge. He was able to use his phonic skills a little more appropriately on the Word Identification sub-test so that he scored grades 2.8, 3.1 and 3.5. However, the same inappropriate strategies which he had used at pre-test were predominate. Miscues such as "complain" for "caterpillar", "ore" for "area", "hurt" for "heart", "weather" for "wealth", "distant" for "distance", "mult" for "mute" illustrate this fact. Word shape, the initial consonant and guessing were still used by Luke.

On the Word Attack sub-test at post-test, he had begun to master the common affixes and the rudiments of syllabication which had caused him such trouble at pre-testing. As a result, his grade scores were 3.0, 4.1 and 6.1 which indicated reasonable gains.

In the area of Word Comprehension Luke had a tremendous amount of difficulty at pre-test. He had been so pre-occupied with the graphophonic elements of words that he had little time left for the word meanings. He did very poorly on this word analogy test, perhaps because he had such

limited strategies to cope with this type of task. He scored grades 2.1, 2.6 and 3.4. His answers were devoid of a logical pattern and reflected his random guessing which he had employed on the other sub-tests. During the Passage Comprehension sub-test from the Woodcock Reading Mastery Tests, where Luke scored grades 2.2, 2.6 and 3.1, he was unable to silently read without audible subvocalizing at pre-test. He whispered to himself. It was as if he had to hear himself to be reading. He was obviously more concerned at this point in time at pre-testing, with vocalizing each word rather than chunking words into meaningful thought units. This start and stop technique or stilted word by word reading was the type of performance he gave on the paragraphs from the Standard Reading Inventory. He did not self-correct and his word substitutions did not carry along the sentence meaning. His omissions were content words carrying a high meaning load for the sentence. For example, he read "...Bob sat up no the _____ for his bed" while the text read "...Bob sat up on the edge of his bed". The sentence meaning was obliterated here so that Luke was unable to visualize what was going on in the passages. His comprehension scores reflected this inability to pay attention to meaning. He scored at pre-test an independent oral and silent reading grade level of 2.7 and 1.1, an instructional oral and silent reading grade level of 3.2 and 1.7 and reached frustration at 3.7 and 2.5.

By post-testing Luke had made considerable progress in developing strategies to deal with the Word Comprehension sub-test. He had difficulty thinking through the word relationships, however, he could do so. He reflected upon his answers, which was an indication that he was thinking about the words beyond a mere decoding stage. In this situation he still tended to rely too much on word configuration which was not conducive to successful answers all the time. The fact that he acted puzzled when his answers did not make sense was a good sign that meaning was beginning to take precedence over the graphophonic elements. He scored grades 3.0, 4.1 and 6.0 on the Word Comprehension and on the Passage Comprehension he scored grades 2.8, 3.4 and 4.5. On these short sentences on the Passage Comprehension, Luke illustrated he was able to read these silently where formerly he had read only orally. Luke had more confidence by this time and would ask for words he did not know while silent reading the passages from the Standard Reading Inventory. The most significant strategy that Luke had begun to develop by post-testing was the ability to self-correct while reading. For example, this sentence "...no one knows how long". Luke read "...on one knows how long", but self-corrected as there was no meaning in what he had read and he realized this. This was just a beginning because Luke also read this sentence and did not self-correct; "...a turtle likes to swim shiny in sandy sail where there is good danger." for the

text which read "...a turtle likes a sunny spot in sandy soil where there is good drainage." In these miscues Luke is relying heavily on the graphic elements of "s" and "d" but his choice of substitutions words is poor both from a syntactic and semantic viewpoint. Luke had, by this time, developed more ability to chunk words into phrases while reading so that his fluency was much improved. Terminal sentence boundaries had some meaning for him. Luke's miscues still tended to be the content words in sentences which, of course, directly affected his comprehension answers. Luke found it difficult to answer questions beyond a literal comprehension level at his instructional reading level. Although there were signs that Luke was beginning to use more appropriate reading strategies, he had not yet begun to do so on a consistent basis. He was still too preoccupied on individual words. Luke felt better or more confident about himself as his scores on the "Experimental Self-Concept Scale" reflected a positive change in both his general self-concept and academic self-concept.

In summary, Luke had begun to use different and more appropriate reading strategies while reading as the gains in his reading scores reflect. Certainly he was feeling more positive about his abilities and himself by the end of the crossage tutoring.

TABLE 5:12

SUMMARY OF LUKE'S PRE-TEST AND POST-TEST DATA
FROM THE WOODCOCK READING MASTERY TESTS,
THE STANDARD READING INVENTORY AND
THE EXPERIMENTAL SELF-CONCEPT SCALE

Interpretation of Woodcock Test Results, Form A & B									
Subtest		Score	Reading Grade Levels			Relative Mastery			
			Easy Reading Level 96%	Reading Grade 90%	Failure Level 75%	Mastery Score at Grade	Achievement Index	Mastery at Grade %	% Mile Mark
Letter Identification	A	165	3.4	4.3	12.9	169	- 4	85	37
	B	173	12.0	12.0	12.9	170	+ 3	93	58
Word Identification	A	136	2.3	2.6	2.9	182	-46	5	5
	B	153	2.8	3.1	3.5	185	-32	21	11
Word Attack	A	97	2.2	3.1	4.2	110	-13	68	26
	B	106	3.0	4.1	6.1	111	- 5	84	40
Word Comprehension	A	71	2.1	2.6	3.4	91	-20	50	10
	B	87	3.0	4.1	6.0	92	- 5	84	38
Passage Comprehension	A	75	2.2	2.5	3.1	102	-27	32	8
	B	90	2.8	3.4	4.5	103	-13	68	25
Total Reading	A	108	2.6	2.9	3.4	132	-24	39	7
	B	121	3.0	3.6	4.6	133	-12	47	7

Standard Reading Inventory, Form A & B

	Reading Grade Levels					
	Independent		Instructional		Frustration	
	Oral	Silent	Oral	Silent	Oral	Silent
Form A	2.7	1.1	3.2	1.7	3.7	2.5
B	3.7	2.7	4.5	3.5	5.5	4.5
Gains	+ .8	+1.4	+1.2	+2.6	+1.6	+1.8

Experimental Self-Concept Scale

	Form 1	Form 2	Difference
Total	55	59	+ 4
General Self-Concept	52	56	+ 4
Academic Self-concept	26	33	+ 8

The summary Table 5:13 provides an overview of how the tutors' and tutees' reading strategies changed from pre-test to post-test. The first letter represents the pre-test while the second letter the post-test. The complete questions which are abbreviated for Table 5:13 are found at the beginning of Chapter V.

In general, most changes occurred in the tutors' and tutees' abilities to use meaning more appropriately while making word substitutions and self-corrections.

An examination of each of the question guidelines individually revealed that at pre-test all the subjects except Donny and Geoff could use graphophonic cues which meant essentially the initial consonant sound was used to decode a word. This would have been a strength if the author's meaning had not been sacrificed while the tutor or tutee sounded out the word. Only Ian, a tutee, actually had this strength. By post-testing, the remaining tutees and tutors had developed this ability also.

At pre-testing one tutor, Frank, and one tutee, Ian, substituted words while reading which carried along the author's meaning of the sentence. Only these two subjects revealed that the aim in reading was to get the message. By post-testing all the tutors and all the tutees, except John, had developed this ability.

At pre-testing Henry and Ian, two tutees, demonstrated that they had some control over the syntactic system of language while the remaining youngsters did not have much

insight into how words, phrases and sentences are put together. By post-testing, Tutors Alan, Carl, Edna and Frank and tutees Henry, Ian and Karen had developed and could demonstrate from their miscues that they used this strategy to a high degree. The remaining tutors, Brian and Donny plus tutees Geoff, John and Luke, had begun to develop this strategy to a medium or greater degree where previously the occurrence of this strategy was very infrequent.

Content words such as nouns and verbs carry the burden of meaning in a sentence. If a reader miscues on these particular kinds of words as opposed to function words, "the", "of", "from", "where", "when", etc., much of the sentence meaning is lost. Unfortunately, at pre-testing, all the tutors and tutees illustrated a very high degree of miscues on content words because of their low sight vocabulary ability. By post-testing this had decreased to a medium degree for tutors Alan and Donny and tutees Henry, Ian, John and Luke who were all still struggling with sight vocabulary. Tutors Brian, Carl, Edna and Frank and tutees Geoff and Karen appeared to have a lower frequency of miscues on content words perhaps due to their improved sight vocabulary abilities. At pre-testing, only two tutees spontaneously self-corrected while reading. Because this strategy was encouraged during the crossage tutoring, all the tutors and tutees demonstrated the use of this strategy by post-testing.

A student who shifts terminal sentence boundaries, ignores punctuation and intonation patterns often sacrifices a lot of meaning while reading. Karen and Luke, two tutees, did not do this. They demonstrated at pre-testing adequate fluency while reading. The remaining tutors and tutees read word by word in a stilted manner. Geoff who has an "0" for pre-testing had no intonation patterns at all since he was a non-reader at this time. By post-testing all the tutors and tutees had developed some abilities to use intonation patterns appropriately.

At pre-testing all the tutors and tutees could respond to some literal comprehension questions except tutee Geoff who had no ability in this area. Tutee Ian had a medium ability but the rest of the tutees and tutors were in the low to medium range. By post-testing all the tutors and tutees had increased their ability to answer comprehension questions, especially tutee Geoff, who could now do this to a low degree. Tutors Brian, Carl and Edna excelled to a high degree in this strategy.

At pre-testing all the subjects showed a very poor attitude towards school, peers and reading. By post-testing there were no observed changes in tutors Alan's and Frank's or tutee Ian's attitudes. The remaining tutors and tutees were seen to have observed attitude changes.

The written language of the tutors was examined during the crossage tutoring program through the tutors written

daily reports. Only Alan's reports showed no change from pre-test to post-test period. The remaining tutor's reports changed both in content and form from pre-test to post-test.

The summary Table 5:13, can in no way replace or contain all the information described in the case studies, however, it does reveal some trends in reading strategy changes which occurred for the tutors and tutees.

Follow-up Background to Case Studies

Recognizing that children must maintain themselves not only in the present but also in the future. This researcher inquired about each of the twelve sample subjects current academic status. Briefly, each of the youngsters will be described. In some cases, it was not possible to obtain information beyond a few years from the crossage tutoring program's termination four years ago.

Alan is now seventeen. Alan completed grade 7 and 8 in his same junior high school then moved into a grade 9 preparatory program aimed at a grade 10 work experience. Alan spent four months in this grade 10 work experience program then withdrew. Alan's teacher remarked he was disinterested in school and work. He is at home and is currently unemployed.

Ten year old Geoff is in grade 4 in the same elementary school he started in. He has not failed a grade and is expected to pass his grade 4. He is in the low reading group but coping according to his grade 4 teacher.

TABLE 5:13

SUMMARY OF THE READING STRATEGY GUIDELINES USED IN THE CASE STUDIES FOR ANALYSIS DURING THE PRE-TESTING AND POST-TESTING

	Tutors						Tutees					
	Alan	Brian	Carl	Donny	Edna	Frank	Geoff	Henry	Ian	John	Karen	Luke
1. a) Graphophonic cues	YY	YY	YY	NY	YY	YY	NY	YY	YY	YY	YY	YY
b) Sacrifice meaning	YN	YN	YN	YN	YN	YN	YN	YN	NN	YN	YN	YN
2. Substitutions carry meaning	NY	NY	NY	NY	NY	YY	NY	NY	YY	NY	NY	NY
3. Syntactic control	LH	LM	LH	LM	LH	LH	LM	MH	MH	LM	LH	LM
4. Content word miscues	HM	HL	HL	HM	HL	HL	HL	HM	HM	HM	HL	HM
5. Correction Strategies	NY	NY	NY	NY	NY	NY	NY	YY	YY	NY	NY	NY
6. Shift terminal Sentences boundaries	YN	YN	YN	YN	YN	YN	ON	YN	YY	NN	NN	NN
7. Comprehension	LM	LH	LH	LM	LH	LM	OL	LM	MM	LM	LM	LM
8. Positive attitude	NN	NY	NY	NY	NY	NN	NY	NY	NN	NY	NY	NY
9. *Uses Written Language	NN	NY	NY	NY	NY	NY	-	-	-	-	-	-

*tutors only

Y - Yes
N - NoL - Low
M - Medium
H - High

O - Nil

Brian is seventeen years old and in a grade 10 work experience program at a local high school. He completed grade 7 and 8 at the original junior high school then transferred into the same preparatory grade 9 class that Alan had entered. From his teacher's reports, Brian is doing very well in this program. He is enthusiastic and self-confident about his abilities. He is expected to continue in this program next year in grade 11.

Henry is now thirteen years old and in grade 5 in another school division. Since leaving the original school, he has attended one other school. Henry has not failed a grade since the crossage tutoring program. Absenteeism continues to be a slight problem, not his reading; however, he is expected to pass his grade 5 year according to his classroom teacher.

Carl is eighteen years old and in a regular grade 10 program in high school. He completed grades 8 and 9 at the original junior high school. He is a low student but a very conscientious hard worker according to his teachers. He is expected to pass his year and go into grade 11 next year.

Ian is thirteen years old and in grade 7. Since he participated in the crossage tutoring program he has completed grade 4 and 5 in the original elementary school then moved to another school division where he completed grade 6. Reports from his classroom teachers say he is an average student. He is co-operative and quite willing to participate

in class. He is expected to pass his grade 7 year.

Donny is seventeen years old and in a grade 10 work experience program in a local high school. He completed grades 7 and 8 at the original junior high, then entered a preparatory work experience grade 9 with Alan and Brian. Although a weak student, Donny continues to show enthusiasm and participation in all his classes. He does not appear to have any lack of confidence according to his classroom teachers. He is expected to proceed into grade 11 in the work experience program.

John is now ten years old. He did not have a great deal of success in grade 2 and was placed in a developmental education class for his grade 3 the following year. It was during this grade 3 year that John's family moved to a rural school division. John's current progress is unknown.

Edna is nineteen years old and has been working in a local garment factory as a seamstress for a year. She obtained this employment after successfully completing grade 10 of the work experience program which Brian and Donny are still enrolled in. Edna completed grade 8 in her junior high then transferred to the preparatory grade 9 program. Her teachers recounted that she was a cheerful, well-adjusted student who did extremely well on the work experience program. So well, in fact, she was offered her present employment.

Karen is fourteen years old and in grade 7. Since participating in the crossage tutoring program, her family

moved from the school district. She has attended two different schools for grades 5 and 6. Her attendance was regular. Her teachers expect her to pass her grade 7 year.

Frank is seventeen years old and still in grade 7. Since the crossage tutoring program Frank transferred to another junior high school within the same school division to repeat grade 7. During this second round in grade 7, Frank's family moved out of the school division and he failed to complete grade 7 in his new junior high. Frank's family moved again, and he is for the third time, in grade 7. His teachers report that he is frequently absent, therefore, he is not expected to pass grade 7 this time around either.

Luke is thirteen years old and in grade 7. He is in a low reading group in language arts and is experiencing some problems. He had successfully completed grade 5 and 6 in the original crossage tutoring elementary school before going into grade 7. Luke's teachers say he appears to be trying and with resource help for reading and study skills, he might be able to pass his grade 7 year.

Summary

Out of six tutors, Alan became a dropout and Edna an employee; Carl, Brian, Donny and Frank are still in school. Only Alan and Frank failed to continue to make progress.

Of the six tutees, five are in school, Geoff, Henry, Ian, Karen and Luke are coping in their expected grade levels. John's whereabouts are unknown.

So, after a four year time lapse, it appears that nine, possibly ten, of the original twelve participants in the crossage tutoring program are still experiencing some school successes.

Chapter VI will discuss the summary and conclusions of this study. Chapter VI will also offer limitations inherent in this study, then follow with a short discussion as the results relate to the research discussed in Chapter II. The final section of this Chapter will be a short listing of implications for educational practice and future research.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This study endeavoured to answer these general questions:

- 1) Can crossage tutoring make a measurable difference in the tutor's and tutee's reading achievement?
- 2) Can crossage tutoring make a measurable difference in the tutor's or tutee's attitude towards "self"?
- 3) Among which group (tutors or tutees) was the greater gain made in reading achievement?
- 4) Among which group (tutors or tutees) was the greater gain made in attitude toward "self"?

A total of twelve comprized the sample in this study. Six tutors and six tutees were involved in an one-hour daily, twelve week structured crossage tutoring program. The activities outlined daily by the program manager for the tutors were reading related such as teaching sight vocabulary, reading to the tutee, doing comprehension exercises together plus word attack skill games. The tutors were expected to write and hand in every day, a tutoring report to which the program manager responded. Before working with their tutee, the tutors were trained for one hour for each

day for six days in various teaching procedures. Group supervision sessions were held every six days once the crossage tutoring was underway to discuss problems and re-inforce or introduce teaching techniques.

The junior high school tutors ranged in age from fifteen to twelve with the average age being thirteen. The tutors grade placements were grade 7 and 8. The tutees were all in elementary school in either grades 1, 2 or 4. Their ages ranged from six to ten with the average age being eight. The commonality among these children was their reading failure which was accompanied by a low self-esteem.

Each of the sample subjects was individually assessed before and after the crossage tutoring program. The tests used were the Woodcock Reading Mastery Tests, the Standard Reading Inventory and the How I See Myself Scale or the Experimental Self-Concept Scale. In addition to a statistical analysis of the pre-test and post-test data, plus changes in their reading strategies to determine not only the statistical significance, but also the practical significance of the crossage tutoring for each subject.

The findings and conclusions are summarized below:

6:1-01 All the tutors and tutees made statistically and practically significant gains from pre-test to post-test on the Woodcock Reading Mastery Tests. (The paired t-test on each of the tutors' and tutees' total reading achievement indices with 5 degrees of

freedom indicated a $t = -5.58$ which was significant at the .05 and .01 level of significance.) Ten of the subjects made dramatic gains in actual total reading achievement grade scores while two subjects, 1 tutor and 1 tutee, made only small gains in their grade scores.

Sub-tests Word Identification, Word Attack, Word Comprehension, Passage Comprehension and Letter Identification from the Woodcock Reading Mastery Tests are summarized:

6:1-02 The tutees made statistically significant gains in word identification (paired t-test on pre-test and post-test word identification indices (5df) yield $t = -2.70$ significant at .05.) From a practical standpoint, the tutors were successful only to a moderate degree in accelerating their actual word identification scores, therefore, this program would be more useful for developing the tutees word identification skills than the tutors since the daily sight word practice obviously proved effective for the tutees.

6:1-03 Likewise this program would be more useful to develop the tutors' Word Attack skills as their gains were statistically significant (paired t-test on pre-test and post-test achievement indices (5df) yields $t = -3.0$ significant at .05.), while the tutees' gains were not. Practically, this view held as only two

tutees made any actual grade score gains, whereas, all the tutors made grade score gains. It would seem that the tutors learned their Word Attack skills by teaching them, but were unsuccessful in developing these skills in their tutees.

6:1-04 Both the tutors and tutees had statistically significant and practical gains on Word Comprehension (paired t-test on the tutor and tutee pre-test and post-test achievement indices (5df) yield $t = -4.84$ significant at .01 and $t = -3.91$ significant at .05 respectively.) All the subjects were able to increase their grade scores. One tutor in fact, surpassed his actual grade placement. It could be conjectured that by having each crossage pair do word analogy puzzles and related vocabulary exercises, that it is mutually beneficial to both students' vocabulary development.

6:1-05 On the Passage Comprehension the tutors rather than the tutees made statistically significant gains in their passage comprehension ability. (Paired t-test on pre-test and post-test achievement indices (5df) yield $t = -5.40$ significant at .05 and .01 for the tutors.) Practically, the grade scores of all the tutors and five out of six tutees, increased. Therefore, comprehension learning did take place not only for the tutors but for the majority of the tutees as well. It could be concluded that the daily reading

practice was mutually beneficial to both groups with the edge given to the tutors who were integrating their knowledge more because they had to read, then teach, whereas, the tutees had only to read.

6:1-06 Only the tutees were tested on Letter Identification, however, their scores showed no statistical significance. Practically, only three out of the six tutees made gains in this area. It could be concluded that either more work needed to be directed towards this skill, or in view of the gains the tutees achieved in other reading skills, that this skill should have been disregarded in the teaching routine entirely. Perhaps the learning would have accrued incidentally.

6:1-07 and 6:1-08

On the Standard Reading Inventory there were both statistically and practically significant changes from pre-test to post-test scores for both the tutors and tutees. There were statistically significant gains for both the tutor and tutees on the oral independent reading grade level. (Paired t-test on tutors or tutees pre-test and post-test achievement indices (5df) yields $t = -3.81$ and $t = -2.68$ significant at .05 level.) However, there was no statistical significance for the tutors, only the tutees, on silent independent reading grade levels. (Paired t-test on tutees pre-test and post-test achievement

indices (5df) yields $t = 10.26$ significant at .01 level.) Practically speaking, this means all the tutees gained more facility to read orally and silently at independent reading grade levels.

At the same time, the tutors, at least five out of the six, gained independent reading grade level of at least a year or more. From a remedial standpoint, any gains made in developing silent reading ability is significant for these students as it opens up the possibility that over-learning has occurred so that the inevitable loss of learning which usually occurs for these students and others would not be so great.

6:1-09 and 6:1-10

There was a statistically significant gain for both the tutor and tutees on their oral instructional reading grade level. (Paired t-test on tutors' or tutees' pre-test and post-test achievement indices (5df) yields $t = -5.61$ and $t = -4.38$ significant at .01 level.) In silent instructional reading level, there was only statistically significant gains for the tutors. (Paired t-test on pre-test and post-test achievement indices (5df) yields $t = -4.26$ significant at .01 level.) Translated into classroom practices, these gains for the tutees meant all of them could be included in their classroom reading instructional program since the classroom instruction

relies more heavily upon oral reading ability in the primary grades than silent reading ability. The reverse is true in the upper grades where silent reading ability is essential, therefore, it was encouraging to see that this was the area where the tutors made most gains. Two out of the six tutors could now cope in their regular classroom in a low reading group while the others could now handle group reading instruction geared at an instructional level of grades four or five.

6:1-11 and 6:1-12

There were statistically significant gains in both oral and silent frustration reading grade level for both the tutors and tutees. (Paired t-test on the tutors' or tutees' oral frustration pre-test and post-test achievement indices (5df) yields $t = -7.03$ and $t = -4.86$ respectively, significant at .01 level and the paired t-test on the tutors' or tutees' silent frustration pre-test and post-test achievement indices (5df) yields $t = -5.31$ and $t = -3.49$ significant at .01 level and .02 level respectively.) This meant all the tutees and two tutors reached their frustration reading grade level at or above their grade placements. For their classroom teachers it meant that except for two tutors the remaining were struggling with most classroom materials at their

grade level and instructional materials would have to be lowered. The tutees could all benefit from their classroom instruction.

Significant changes occurred in the tutor and tutees reading strategies which were analyzed and described as case studies (see Chapter V) for each youngster. Briefly, all the participants learned to use grapho-
phonic cues more appropriately, that is without sacrificing the meaning in order to "sound out" words. They all began to use word substitutions which seemed to carry along the author's meaning of the sentence. In doing this, the tutors and tutees demonstrated more control over the syntactic cuing system of the language indicating they had developed a better understanding of how words, phrases and sentences are put together to make sense grammatically. Most of the tutors went from miscuing context words to a high degree to a medium or a low degree in direct relation to gains on their post-test ability on sight and comprehension vocabulary. Correction strategies were used by all the students where formerly only two tutees had employed this strategy. The tendency to disregard all sentence boundaries and, therefore, the intonation of sentences decreased considerably from pre-test to post-test for all the students, especially as their comprehension question responses improved.

The tutors production of written language for all but one tutor increased as well as the style and content of the written work.

6:2-01 and 6:2-02

The crossage tutoring in this study could not make measurable differences in the tutor's and tutee's attitudes towards self. Although observed changes in behaviour were recorded in the case studies, which is to say that positive changes did occur, but not large enough or great enough to be statistically significant. Any observed change of attitude in a remedial student is of practical significance because changes are so difficult to affect.

6:3-01 The greatest gains overall were made by the tutors if quantity is the strict criteria. The tutors were further behind their grade levels than the tutees, but managed to move rapidly towards their grade level. However, many of the tutees managed to reach their grade level.

6:4-01 The tutors made the greatest gains in attitudes toward "self" if the means from their pre-test and post-test achievement scores are used. The tutors means were 132.83 at pre-test and moved to 137.16 at post-test, a gain of 4.33 points while the tutees pre-test means were 55 and post-test means were 58.16, a 3.16 positive shift. Neither of these groups made statistically significant changes.

Limitations

Several limitations in this study need to be recognized and considered when using the findings as presented:

- 1) The most severe limitation in this study was the lack of a control group, especially when dealing with such a small sample of twelve students; the inclusion of the case study information was an effort to accommodate this deficit.
- 2) The statistical analysis, while interesting, was not definitive because of the small number of subjects.
- 3) The time of twelve weeks also posed limitations, as remedial treatments, to be effective and measurable should be longer in duration as this lends more credibility to the study as well as reducing the Hawthorne affect.
- 4) The instruments used to measure self-esteem were not as sensitive as the writer would have liked to use during such a short duration of twelve weeks. Either an observation check or another more sensitive monitoring instrument should have been used.
- 5) Quantitative analysis of each student's reading strategies would have yielded more measurable information than using only guidelines in the case studies. The employment of the Miscue Analysis Inventory would have yielded this type of quantitative data.

6) There were so many variables in this study it was difficult to delineate which variables contributed to what learning. It is still unclear why some students progressed more rapidly than others. If this could have been done more effectively, it would have enhanced this study.

7) A better choice of sample more clearly delineated would have added more credibility to this study. That is, a more even distribution of both sexes, a complete intellectual assessment such as the Stanford Binet or WISC, and a learning style test plus a classroom observation checklist to be filled out by the classroom teacher, would have yielded information useful to the development of the case studies.

8) The employment of video tapes to observe changes in both tutor and tutee behaviour would have been additional data to support observed changes in attitude and self-esteem. Video tapes can also be analyzed for increased "attending" behaviour of the subjects which did occur in this study but could not be documented adequately.

9) It is very difficult to clearly generalize the findings from this study beyond the remedial students in this study. This study reflects what happened with a particular group of remedial students and to generalize beyond them to all remedial students would be presumptuous.

Discussions

In view of previous research and theory discussed in Chapter II, the findings of this study must be interpreted.

Experimental and observational data (Gartner, 1971; Riessman, 1965; Bradshaw, 1971) has shown that children who were retarded in reading have low self-concepts. This correlation between low self-concept and reading disability is not limited to extreme cases. Research (Bond and Tinker, 1967) on the relationship describes a reading disability as reading at one to two years below grade level. The sample youngsters in this study all qualified as reading disabled based on this criterion. Research (Dechant, 1968; Spache, 1957) has also shown that achievement in reading is essential for a child's feeling of well-being. Failure in reading blacks a youngster's personal development while threatening his self-esteem. Other subjects are affected by reading failure as the child has difficulty adjusting to other curriculum areas due to feelings of inadequacy. The case study background information seemed to indicate this was the case for the twelve sample children.

As a group, these students fell easily into Spache's (1957) observation that poor readers as a group tend to be more aggressive and defensive than others their ages. They are less insightful and relatively poor in knowing how to handle situations of conflict. Combs (1965) elaborated this by saying that what individuals believe about themselves

affects every aspect of their lives and is the point of origin for all their behaviour. When all twelve of these students began the crossage tutoring program they were unable to read because they believed they could not learn to read. They had developed concepts of themselves as children who could not learn to read. They were prisoners of their own negative self-perceptions. A circular pattern of behaviour develops in such children who experience failure in reading. The tutors all had early reading failures similar to their tutees which had lead to maladjustments, which in turn impeded further reading growth. The case studies of these twelve youngsters seemed to substantiate this factor. The reading failures and low self-esteem stemmed from different causes for all the tutors and tutees but the relationship between reading failure and low self-esteem suggests that they each serve as fuel to the other.

Gordon's (1966) research has indicated that children behave in terms of the way they see themselves and this self-portrait is well integrated by age three, however, it is not unalterably fixed. In fact, he states that it may be altered by experience, that is, transactions within the environment. The self-portrait possesses infinite capacity for change. Children in school have self-concepts which are in the process of becoming. It is upon this basis that a structured crossage tutoring program is built. Such a program offers the opportunity to a teacher to help a child begin a new

circular behaviour pattern based upon success.

The crossage tutoring allowed the tutor as well as the tutee to develop new self-perceptions through increased reading achievement. The degree of improved self-perception varied with each youngster. For some, it had barely begun; in others, it was well into becoming a permanent part of their self-portrait. This study agreed with those of Gartner (1971), Thelan (1969), Lippetts (1968) and Jenkins (1973) who found that youngsters who participated in crossage tutoring did learn how to learn, that basing a program on the premise one learns by teaching, is a valid starting point for a remedial student. The teacher involved with crossage tutors believes the students will succeed, an essential element in any educational process as Rosenthal and Jacobson (1968) consistently emphasize. This crossage tutoring situation reduced the stress and anxiety behaviour all of the study's participants revealed at pre-testing. The tutors in this study, like Powell's (1975) began to see themselves differently due, it is felt by this researcher, to the authority accorded them, not only by the tutees, but also by the other teachers, who had any contact with the tutors.

Those tutors who took on the tutoring role could not do so without becoming personally involved with teaching their tutee. Where this happened, the tutor was able to transfer reading skills from a knowledge level of learning

into an application level. It is felt by this researcher that this happened for all the tutors except Alan who was unable to give that personal involvement. The results of his tests and a review of his behaviour and attitudes substantiates this. His later school dropout behaviour in a sense was inevitable unless that personal commitment necessary for change occurred somewhere in his school life.

It was interesting to observe that all the tutees did make gains independent of their tutor's gains, in other words, the gains of the tutors did not seem to relate in quantity to the gains of the tutees. This would seem to concur with Niedmeyer's (1970) and Harrison's (1967) studies who stated that the tutees always seemed to make gains but it was the tutors who made the dramatic gains over short time periods.

Many of the changes in attitude and learning behaviour which Gartner's (1971) book described did occur with this studies crossage tutoring pairs which confirmed the necessity to use descriptive observational data as well as test scores to obtain a more vivid picture of what occurred.

Recognizing the inevitability of rapid change, children need to develop self-views which can stand against the exigencies of tomorrow. Follow-up investigations to this study did indeed find that this had happened for ten of the twelve youngsters. It would seem, at least for ten of these youngsters, they are no longer doomed to failure.

Implications for Educational Practice

The thrust of this study was aimed directly at practical application as a result several applications to the educational needs of remedial readers can be gleaned.

- 1) Remedial reading teachers who are pressed for time and large numbers of remedial students, could consider crossage tutoring as instructional technique to use with some remedial students who need an approach different from the traditional remedial small group instruction classes.
- 2) It appears that large amounts of learning can take place in short time periods where crossage programs are employed and structured like this particular study.
- 3) The personal commitment to learning appears to be fostered in a crossage tutoring program like this study.
- 4) The role of the remedial teacher, when viewed in the context of this study, changes from a dispenser of all knowledge to that of an advisor.
- 5) Crossage tutoring has a hidden curriculum. The "tutor training" is actually direct teaching of the tutors. The "crossage tutoring", while direct teaching for the tutees, is actually a reinforcement of learning technique for the tutors.

Implications for Future Research

This study has provided insights into the dynamics of a crossage tutoring program but at the same time, it has raised these questions. They are:

- 1) What are the variables which cause some students to learn well with this approach and not others?
- 2) What are the long term effects of using this educational approach on reading comprehension and self-esteem?
- 3) Is this educational approach more effective in developing reading comprehension than others?
Hence the need for a constructive and comparative study using crossage tutoring and another clearly defined remedial approach on two groups of remedial readers similar to Jenkins (1973) study.
- 4) How does the adoption of a crossage tutoring program affect the roles of the resource, the remedial and classroom teachers?
- 5) How many pair of students can be worked with effectively in a crossage tutoring program?
- 6) What are the cost or time effectiveness variables implied by using a crossage tutoring program instead of other remedial approaches?

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