A PROJECT AIMED AT IMPROVING READING AND STUDY SKILLS AT GONZAGA HIGH SCHOOL, ST. JOHN'S, NEWFOUNDLAND

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A PROJECT AIMED AT IMPROVING READING AND STUDY SKILLS AT GONZAGA HIGH SCHOOL, ST. JOHN'S, NEWFOUNDLAND

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ABSTRACT

The intern was interested in improving reading and study skills among the students of two grade ten classes at Gonzaga High School, St. John's. Since reading and study are processes fundamental to the learning process, it was thought that any improvement brought about by the building up of new skills in these areas would positively affect the student's achievement levels by making his tasks more challenging and giving him a more positive attitude toward his school work.

A number of questions presented themselves related to the kinds of reading and study skills needed by the students and best suited to their level of ability and rate of learning.

The intern felt that it was important to ascertain in a concrete and realistic way, what reading and study skills his students lacked and what he could do to enable each of them, beginning at his own level, to pursue a program that would enhance his reading ability and, at the same time, foster techniques that would assist him in dealing effectively with his school work.

Accordingly, the intern designed a project to improve the reading and study skills of two grade ten classes at his school. To measure real gains made by students immediately involved in the study, the intern set up a controlled situation involving two additional grade ten classes.

The project entailed four major tasks: (1) a survey of study habits and attitudes, (2) the administration of a reading test to determine the reading levels of the students involved in the study, (3) a

special training period for two of the classes involved in the study, and (4) the administration at the end of the program of the alternate form of the reading test given at the inception of the project.

One of the basic assumptions of the project was that reading was basic and fundamental to success in a changing world situation. Consequently, by emphasizing the skills that promote both reading and study, the teacher can help students acquire the necessary tools to meet the challenges of the school and of the world at large.

The survey of study habits and attitudes showed that the students involved in the study possessed negative attitudes towards their teachers and their school work. They also tended to procrastinate.

The pretest findings on the reading test showed that the students had generally low vocabulary levels. There were also wide ranges apparent in the comprehension and reading rate scores on the test.

The post-test findings showed that the students who had been involved in the reading and study skills program had, indeed, made real gains in vocabulary, comprehension, and reading rate.

Correlations between pretest and post-test scores on the reading test and between other variables measured in this study showed positive and near-significant relationships in most cases.

The project showed that given an organized but largely self-directed approach, students of various levels of educational ability, motivation, and interest could be brought together to work toward the improvement of their reading and study skills.

ACKNOWLEDGEMENTS

The author wishes to acknowledge the cooperation received from both individuals and institutions during the internship. In particular, the author wishes to express his appreciation for guidance and assistance by the members of his committee, Dr. Oswald K. Crocker, Professor Gordon Woodland, and Mr. Michael N. Best.

Acknowledgement is also made to Rev. Fr. C. Holland S. J., English Consultant with the Roman Catholic School Board, St. John's, and to the Principal, teachers, and students of Gonzaga High School for their kind cooperation during the internship.

The test materials which were used were borrowed from the Counselling Center of Memorial University and the College of Fisheries. Audiovisual materials were borrowed from the Center of Audiovisual Education of Memorial University, the National Film Board of Canada, the Department of Education Film Library, and the Resource Center at Gonzaga High School. Appreciation is also expressed for the opportunity to use these materials.

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Chapter 1

INTRODUCTION

An earlier analysis of classroom practice showed the intern that up to very recently, English departments in Newfoundland high schools placed little or no emphasis on the development of reading skills. English was taught as two separate subjects, namely, English literature and English language. The student of English literature was expected to study intensively two or three novels, some poetry, and other non-fictional writing stipulated by the provincial department of education in the annual program of studies. Students in grades nine to eleven were required to sit for a year-end public examination in all subjects. The public examination was, in fact, the sole determinant of success or failure from one grade to another and from graduation from school to university. Little attention, if any, was paid to the relevance of material to student needs, age, maturity levels, and interests. The assumption seemed to be that if a piece of writing was literary, then all other considerations could be set aside. The study of English language focused on the study and application of the rules of formal grammar, was prescriptive in character, and emphasized much formal writing.

While students of high mental ability and academic family background always seemed to manage, the bulk of the student population of average and below-average students found little to motivate them toward

greater achievement. Apart from meagre attempts to teach comprehension, little else was done to teach reading. If students did become proficient readers, it was largely by their own determined efforts rather than by any training given in school. The situation has since improved.

PURPOSE OF THE INTERNSHIP

Consequent upon the preceding analysis, the intern intended in this project to pursue a developmental program in reading which would also involve the training of students in the application of study skills.

The intern subsequently instituted an inquiry into what experts on the subject had to say about the kinds of skills needed by students to read effectively in English and in other subject areas of the high school curriculum. Spache listed the following skills:

> Understanding and interpreting the content and grasping its organization, developing special vocabularies, concepts and symbols, evaluating what is read, selecting materials, recalling and applying what is read, broadening interests, tastes and experiences.[1]

After studying some one thousand twenty-nine college freshmen, Carter and McGinnis listed eight reading skills recognized by the students as instrumental to academic success:[2]

1. Vocabulary Development
2. Word Study and Spelling
3. Chapter Reading
4. Concentrating upon Reading

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[1] George Spache, "Reading in Various Curriculum Fields," The Reading Teacher, 11 (February, 1958), pp. 158-164.

[2] Homer L. J. Carter and Dorothy J. McGinnis, "Some Suggestions Growing Out of an Evaluation of Reading Instruction by Secondary Teachers and Their Students," Teaching Reading in the High School, ed. Robert Karlin (Indianapolis: The Bobbs-Merrill Company Inc., 1969), p. 13.

5. Problem Solving
6. Critical Evaluation of Writer's Bias and Preconceived Ideas
7. Identification, Interpretation, and Evaluation of Ideas
8. Adjustment of Rate of Reading to Purpose and Difficulty of Material

A review of relevant literature showed that student failure resulted from poor motivation but even more so from low reading levels and poor study habits. The intern found that it was necessary to emphasize that "study" and "reading" are not synonymous terms. When a student studied he indeed read, but when he read he did not necessarily study.

The intern has always felt that while the English class had necessarily to aim at humanizing the student, it had also, for the present at least, to provide the tools of learning. If study skills were to be taught at all, there was no more 'natural' place than in the English class. If it was the aim of education to develop a sound mind within a sound body, and again, if it was man's ability to think that made him superior to other forms of life, then any realistic educational program had of necessity to lead the student to think, read, question, and react, and thus to emphasize and affirm new relationships. For many reasons, however, such activities did not adequately take place.

ANALYSIS OF THE SITUATION

An analysis of the situation revealed to the intern that there was a serious lack of student interest in reading. The causes of that inadequacy appeared to be lack of proper training in elementary, junior high, and senior high school, coupled with cultural and socio-economic conditions, individual differences, negative attitudes towards school and especially teachers, lack of motivation, and little encouragement

given by teachers.

Gonzaga Regional High School, serving the educational district of St. John's West, Newfoundland, is fed by six junior high schools both within and without the city. Students attend school from the parishes of St. Joseph's, St. Pius Tenth, and St. Teresa's within the city; and the parishes of St. Francis of Assissi - Flatrock, Holy Trinity - Torbay, and Roncalli, outside the city limits. Students from as far away as Pouch Cove are bused daily to and from Gonzaga High School. The variation in environments from which students are drawn suggests that the question of social adjustment to school may be significant in explaining differentials in performance.

In the viewpoint of the intern the students at Gonzaga represented the full gamut of the socio-economic ladder with all the divergent attitudes, interests, motivations, and hostilities that could be expected. Within the city, parental occupations ranged from unskilled to skilled, from laborer to craftsman, to businessman, lawyer, doctor, teacher, nurse, politician, and so on. Outside the urban areas, most parents plied their age-old jobs of farming the land, harvesting the deep, cutting wood, working in the pulp and paper mills, or the newer industries that have located outside the urban areas.

To the intern parental interest and education also appeared to determine to a fairly large extent the reading interest patterns of the students, or again, the lack of them.

One significant determinant of curricular as well as extra-curricular interest was the peer group. There seemed to be a tendency on the part of most peer groups to play down the academic interests and achievements of individual students. As a result, an academically

oriented student often found himself in a dilemma, for to excel in school would assuredly bring instant disapproval and rejection from the peer group.

In addition, the intern observed that the student's attitude to school and, in particular, towards his teachers, played an important part in determining his interest in any one subject. A student often developed a distaste for a subject taught by a teacher he had come to dislike. On the other hand, a teacher with the skill to motivate his students often had a great impact on them, particularly in areas of generating reading interest. Other determinants of reading interests were individual differences that spanned the student's own hierarchy of interests.

Examination results in English as well as in other subject areas also proved to be good indicators of poor reading ability. The student's lack of appropriate response arose from his failure to comprehend what he was required to do in a particular problem or question. His confusion effectively blocked his thought processes and thus prevented him from finding and applying appropriate solutions.

In the view of the intern, the foregoing analysis emphasized the need to provide the student with different types of learning skills. The wider the range of learning techniques the student was able to master, the better equipped would he be to continue learning even after the period of his formal training had terminated. The basic question underlying this internship project might be expressed thus: What techniques could be taught to high school students to enable them to develop their skill at reading and studying with comprehension, in such a way as to

enable them to analyze and synthesize data as well as interact with all their fellow students?

In this study the intern proposed the SQ3R approach as a secure and definite technique designed to help students acquire the prerequisite skills.

Chapter 2

REVIEW OF LITERATURE

The intern considered the concepts--reading, comprehension, study skill, and reading rate--fundamental to an understanding of the processes with which this project dealt. He, therefore, considered it of importance to present the viewpoints of specialists in the field as they relate to these concepts in particular, and as they relate in a more general way to the reading achievement of high school students.

VIEWPOINTS OF SPECIALISTS IN READING

According to Venezky, reading involves the interplay of four factors: the skills the student brings to the task; the learning abilities of the student; the teaching environment; and the relationship between writing and speech. The skills mentioned refer to three broad areas which deal with visual information, auditory information, and comprehension.[1]

For Rebecca C. Barr, reading is perceptual learning which becomes efficient once the child has become familiar with the characteristics of orthography and has identified cues relating printed symbols to lan-

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[1]Richard L. Venezky and Robin S. Chapman, "Is Learning to Read Dialect Bound?" Theoretical Models and Processes of Readings, eds. Harry Singer and Robert B. Ruddell (International Reading Association, 1970).

guage.[2]

Venezky defines reading as the translation from writing to a form of language from which the reader has already been able to derive meaning.[3]

For Kenneth S. Goodman reading involves the use of language interacting in such a way that it moves from code to message.[4]

Arthur S. Gates gives a comprehensive definition when he explains:

> Reading is not a simple mechanical skill, nor is it a narrow scholastic tool. Properly cultivated, it is essentially a thoughtful process. However, to say that reading is a thought-getting process is to give it too restricted a description. It should be developed as a complex organization of patterns of higher mental processes. It can and should embrace all types of thinking, evaluating, judging, imagining, reasoning and problem-solving.[5]

Again, for Russel G. Stauffer:

> Reading then, like thinking, is a process. It begins, goes on, and is in continual change as long as the person reads. At every step the reader has to take account of the content, its parts, its problems, its perplexities, and the portions that indicate solutions and point the way to the overcoming of intellectual obstacles. Reading and thinking always have reference to a context whether it be fiction or

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[2]Rebecca C. Barr, "Perceptual Development in the Reading Process," Language and Learning to Read: What Teachers Should Know about Language, Hodges and Rudorf (Houghton Mifflin Co., 1972), pp. 131-139.

[3]Venezky and Chapman, op. cit.

[4]Kenneth S. Goodman, "The Reading Process: Theory and Practice," Language and Learning to Read: What Teachers Should Know about Language, Hodges and Rudorf (Houghton Mifflin Co., 1972), p. 144.

[5]Arthur I. Gates, "Character and Purposes of the Yearbook," Reading in Elementary School, 48th Yearbook of the National Society for the Study of Education, Part II (Chicago: University of Chicago Press, 1949).

non-fiction and the art of reflective reading follows the same form, regardless of the context. Therefore, early habits of thoughtfulness, carefulness, and thoroughness should be established so that they become deep seated and persistent.[6]

Gray and Rogers describe comprehension as:

> Ability to translate words into meaning, to secure a clear grasp and understanding of the ideas presented, and to sense clearly the moods and feelings intended, ability to perceive strength and weaknesses in what is read, to detect bias and propaganda, and to think critically concerning the validity and values of the ideas presented and the adequacy and thoroughness of the author's presentation, views, and conclusion. This involves an emotional apprehension either failable or unfailable as well as a penetrating intellectual grasp of what is read. The tendency to fuse the new ideas acquired by reading with previous experience does require new or clearer understanding, broadened interest, rational attitudes and proved patterns of thinking and behaving and richer and more stable personality.[7]

According to Lennon reading ability has the following components: a general verbal factor, comprehension of explicitly stated materials, comprehension of implicit or latent meanings, and an element termed appreciation. By 'verbal factor' he means the breadth, depth, and scope of vocabulary. The comprehension of explicitly stated materials includes skills such as the location of specifically stated information, comprehension of literal meaning, and the ability to follow specific instructions.

Comprehension of implicit meanings embraces all those outcomes that are labelled as reasoning in reading. These outcomes include the

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[6] Russel G. Stauffer, "What is Adequate Comprehension and When is Comprehension Adequate?" Teaching Reading in the High School: Selected Articles, ed. Robert Karlin (Indianapolis: The Bobbs-Merrill Co., Inc., 1969), p. 148.

[7] Ibid., p. 146.

ability to draw inferences from what is read, to predict outcomes, to derive meanings from words in context, to perceive the structure of what is read, to grasp the main ideas of a central thought, and to interpret what is read as manifested either by applying the information to the solution of a problem or deriving some generalizations or principle from it.

The fourth component is appreciation. Lennon has in mind such attributes as sensing the author's intent, testing the mood, and perceiving the literary devices by means of which the author accomplishes his purpose.[8]

As far as study skills are concerned, Jane H. Catterson maintains that,

> As every field of knowledge broadens and deepens with tremendous speed, it becomes obvious that pupils require not more "subject matter" teaching but a kind of teaching which helps them develop a better approach to learning. The authors of these papers have made it obvious that they think of study skills not as something to teach, but as a way to teach--a way of teaching which advances not only the student's knowledge of subject matter but his ability to learn other subject matter independently and at will.[9]

Carter and McGinnis have drawn up a list of reading skills as a result of a study dealing with some 1,029 college freshmen who recognized the following skills as the ones most essential to their success:

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[8]Russel G. Stauffer, "What is Adequate Comprehension and When is Comprehension Adequate?" Teaching Reading in High School: Selected Articles, ed. Robert Karlin (Indianapolis: The Bobbs-Merrill Co., Inc., 1969), pp. 147-148, citing Roger Lennon, "What Can be Measured?" The Science and Philosophy of Reading and the Role of Tests in Reading, Vols. VIII and IX, Proceedings of the Annual Education Conferences on Reading, March, 1959 and 1960, University of Delaware, Newark, Delaware.

[9]Jane H. Catterson, "Successful Study Skills Programs," Teaching Reading in the High School: Selected Articles, ed. Robert Karlin (Indianapolis: The Bobbs-Merrill Co., Inc., 1969), p. 202.

1. Vocabulary Development
2. Word Study and Spelling
3. Chapter Reading
4. Concentrating upon Reading
5. Problem Solving
6. Critical Evaluation of Writer's Bias and Preconceived Ideas
7. Identification, Interpretation, and Evaluation of Ideas
8. Adjustment of Rate to Purpose and Difficulty of Material[10]

To turn to the concept 'Rate of Reading,' the intern saw it as the number of words per minute of reading in an experimental or test setting. The concept raised questions as to what was adequate comprehension and when was comprehension adequate.

According to Tinker, standardized tests are of relatively little use to the teacher in appraising speed of comprehension in reading. He also maintains that such tests are inappropriate for discovering the speed at which material is read in basic texts, supplementary books, or in the content areas.[11]

Smith and Dechant affirm that:

> No one actually reads faster than he comprehends, but many read much more slowly than their comprehension would permit. Generally the limiting factor to rate improvement is the mind rather than the vision.[12]

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[10]Homer L. J. Carter and Dorothy J. McGinnis, "Some Suggestions Growing Out of an Evaluation of Reading Instruction by Secondary Teachers and Their Students," Teaching Reading in the High School: Selected Articles, ed. Robert Karlin (Indianapolis: The Bobbs-Merrill Co., Inc., 1969), p. 13.

[11]Miles A. Tinker, "Recent Studies of Eye Movements in Reading," Psychological Bulletin, LV (July, 1958), pp. 215-231.

[12]Henry P. Smith and Emerald Dechant, Psychology in Teaching Reading (Englewood Cliffs, N. J.: Prentice-Hall Inc., 1961), p. 222.

Stauffer maintains that words-per-minute represent the most inadequate yardstick by which to gauge an efficient reading performance. It has little, if any, value in the total scheme of flexibility of adjustment of rate to purpose, the nature and difficulty of the material, and the reader's experience and knowledge.[13]

The intern looked upon rate of reading not as an end to be attained but as a means of increasing the student's skill at making fewer fixations as he read. It was for this reason that the intern decided to select a program which emphasized comprehension even when the student was working to improve his rate.

In addition to presenting the viewpoints of specialists concerning the concepts fundamental to this project, the intern also reviewed many studies and surveys which purported to identify the factors influencing student achievement. Some of the findings were significant, and are, as a consequence, presented here.

RESEARCH FINDINGS RELEVANT TO READING ACHIEVEMENT

One finding showed that success in school was tied directly to reading achievement. In this connection Call and Wiggins compared the results of instruction in understanding word meanings with tying them to mathematical symbols without comparable help in solving word problems. They found that the students who received the instruction (from an English teacher!) achieved better results than did the students who did not receive the instruction from their mathematics teacher. The influ-

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[13]Russel G. Stauffer, "Rate of Comprehension," Teaching Reading in the High School: Selected Articles, ed. Robert Karlin (Indianapolis: The Bobbs-Merrill Co., Inc., 1969), p. 259.

ence of reading ability even on such subjects as mathematics was thus recognized.[14] Again, Fay studied the relationship of reading ability to different achievement areas. He reported that students of superior reading ability achieved significantly better in social studies than students who did not read as well.[15]

Another major finding showed that teachers did not teach students how to read in their respective subject areas. A recent survey by Squire covered 168 high schools in the United States. In the tenth grade less than five percent of the instructional time was devoted to the teaching of reading. In view of this fact, he considers it necessary to help students overcome their weaknesses and achieve to the extent to which each is capable.[16]

A third major finding indicated that a number of skills were required to read literature and other content. According to Spache, skills involving understanding and interpreting the content and grasping its organization, developing special vocabularies, concepts, and symbols, evaluating what is read, selecting materials, recalling and applying what is read, and broadening interests, tastes, and experience--all contribute to greater achievement.[17]

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[14] R. Call and N. Wiggins, "Reading and Mathematics," Mathematics Teacher, 59 (February, 1966), pp. 149-157.

[15] Leo Fay, "The Relationship Between Reading Skills and Selected Areas of Sixth Grade Achievement," Journal of Educational Research, 43 (March, 1950), pp. 541-547.

[16] James Squire, "Reading in the American High School Today," Reading and Inquiry, Proceedings of the Annual Convention, International Reading Association (Newark, Delaware: The Association, 1965), pp. 468-472.

[17] Spache, op. cit.

A fourth major finding supported direct instruction in specific reading skills and for reading in the content areas. MacDonald, in summarizing the research on reading flexibility, concluded that there was need for systematic instruction in developing ability to read for different purposes.[18] From their research, Husbands and Shores concluded that reading consisted of different abilities that were needed for specific purposes in various content areas.[19]

A fifth major finding showed that personal factors--intelligence, sex, interests, attitudes, and language development--accounted for differences in achievement levels. As far as the relationship between intelligence and reading ability is concerned, Jan-Tausch reported that advanced readers were better able to do abstract thinking than his poorer readers.[20] Harootunian and Tate obtained positive correlations between reading test scores and seven intellectual abilities described by Guildford.[21]

Despite these findings, some reviewers found that some intelligence tests failed to distinguish between slow learners and poor readers.

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[18] Arthur MacDonald, "Flexibility in Reading Approaches: Measurement and Development," Combining Research and Good Practice, Conference Proceedings of the Annual Convention, Vol. II, Part II (Newark, Delaware: The Association, 1966); pp, 67-71.

[19] K. Husbands and J. Shores, "Measurement of Reading for Problem Solving," Journal of Educational Research, 43 (February, 1950), pp. 453-465.

[20] James Jan-Tausch, "Concrete Thinking as a Factor in Reading and Comprehension," Challenge and Experiment in Reading, Conference Proceedings of the International Reading Association (Newark, Delaware: The Association, 1962), pp. 161-164.

[21] B. Harootunian and M. Tate, "The Relationship of Certain Selected Variables to Problem Solving Ability," Journal of Educational Psychology, 51 (December, 1960), pp. 326-333.

As a result students of average and superior ability were classified as inferior learners on the basis of the results of inadequate tests. Hence, it would seem incorrect to assume that slow learners are unable to profit from reading instruction.

A sixth major finding showed that adolescent interests and attitudes had a profound influence upon their reading behaviors. Such personal factors had their origins in the home and other environmental settings. Both past and ongoing experiences accounted for variations in motivation to learn and in actual performance. Hughes and Willis found that parents of students who read widely, read more and had more interests than parents of another group of students matched for sex and intelligence.[22] Watson found that poor reading dropouts came from less stable and lower socio-economic homes than did successful high school graduates.[23] Keshian concluded that successful readers had parents who had shown great interest in reading and books and in school work and who built solid family units.[24] MacDonald reported that parents of unsuccessful male readers who attended public schools possessed significantly more negative attitudes than did parents of successful students.[25]

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[22] M. Hughes and P. Willis, "Personal Reading: A Study of a Seventh Grade," On Becoming a Reader, Proceedings of the Claremont Reading Conference, 29 (1965), pp. 90-101.

[23] R. L. Watson, "Early Identification of High School Dropouts," Reading and Inquiry, Proceedings of the Annual Convention, International Reading Association (Newark, Delaware: The Association, 1965), pp. 265-267.

[24] J. Keshian, "The Characteristics of Children Who Learn to Read Successfully," Elementary English, 40 (October, 1963), pp. 615-616.

[25] D. MacDonald, "An Investigation of the Attitudes of Parents of Unsuccessful and Successful Readers," Journal of Educational Research, 56 (April, 1963), pp. 437-438.

A seventh major finding showed that reading had to fulfill basic needs. If reading was to have a place among favored activities in which adolescents engaged, basic human needs had to be met through it. Perhaps the one need which was met most directly by reading was the need to know. Research into the reading preferences of high school students tend to support the preceding statements. Shores attempted to determine what boys and girls sought in books. He concluded that information about national and international problems rather than personal and social matters dominated their interest.[26] Whitman polled large numbers of superior students and found that they selected books which helped shape attitudes and which provided information.[27]

Other studies showed that the reading interests of boys and girls varied and that those preferences did not seem to be greatly influenced by reading ability or intelligence. As a group, boys preferred books which contained elements of excitement, suspense, adventure, action, and humor. Girls generally looked for books which dealt with love, sadness, the home, and mystery.

An eighth major finding showed that differences in language ability accounted for some of the variability in reading achievement. Strickland recorded the spoken language of children and after analyzing structural patterns concluded among other things that those who made more

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[26] J. Harlan Shores, "Reading Interests and Informational Needs of High School Students," The Reading Teacher, 17 (April, 1964), pp. 536-544.

[27] Robert Whitman, "Significant Reading Experiences of Superior English Students," Illinois English Bulletin, 51 (February, 1964), pp. 1-24.

use of them ranked higher in reading both oral and silent.[28]

Vocabulary development and reading achievement have been the subjects of a number of investigations. The conclusions that vocabulary and reading comprehension were closely related and that word knowledge was one of the significant contributors to meaning have been confirmed. Holmes and Singer reported that vocabulary played a very important role in accounting for the high school student's power in reading. Knowledge of vocabulary both in and out of context helped to differentiate between good and poor readers.[29]

The last major finding indicates that gifted students do not achieve in reading to the extent to which they are capable. Coombs among others showed that there were underachievers among gifted students.[30] Krippner and Herald conducted an investigation to determine whether the causes of poor reading among gifted students differed from those of average students. Similar explanations for the reading difficulties of gifted and average students were found to exist.[31] Data from these and other studies showed that instruction to overcome defects would be beneficial to gifted students as to other groups.

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[28] Ruth Strickland, "Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and to the Quality of Reading of Selected Children," Bulletin of the School of Education Indiana University, 7, No. 4 (July, 1962).

[29] Jack A. Holmes and Harry Singer, "Theoretical Models and Trends Towards More Basic Research in Reading," Review of Educational Research, 34 (April, 1964), pp. 131-133.

[30] Charles Coombs, "Perception of Self and Scholastic Achievement in the Academically Capable," Personnel and Guidance Journal, 43 (September, 1964), pp. 47-51.

[31] S. Krippner and C. Herald, "Reading Disabilities Among the Academically Talented," The Gifted Child Quarterly, 8 (Spring, 1964), pp. 12-20.

Chapter 3

METHODOLOGY

The purpose of this chapter is to delineate in an orderly manner the component parts of this project. This chapter will, therefore, deal with the Population, Instruments and Materials, Definition of Terms, and Procedures. The procedures will broadly outline the steps followed by the intern in prosecuting this study. Since the training period in reading and study skills for two of the four academic grade ten classes involved in the project was pivotal to the entire project, the intern will more precisely set out in behavioural terms the objectives of the reading and study skills program, pose the questions for investigation and research, and the schedule of the program.

POPULATION

The study was carried out with the help and co-operation of four sections of students in the Grade Ten Academic High School Program at Gonzaga High School making up a total of 144 students. The average age and educational ability levels of those students were sixteen years and 101 respectively. The students were arranged into two groups, the Control Group and the Experimental Group. Each group was made up of an average and above average class of students.

INSTRUMENTS AND MATERIALS

A Survey of Study Habits and Attitudes by Brown and Holtzman[1]

The Survey was in actuality a diagnostic test set up by Brown and Holtzman with the specific objectives of measuring study methods, motivation for studying, and certain attitudes toward scholastic activities which were considered important in the classroom.

The intern used the Survey of Study Habits and Attitudes in this project for three basic reasons: a) to aid the intern in identifying students whose study habits and attitudes made them poor achievers; b) to aid the intern in the application of counselling techniques to students with academic problems; and c) to aid the students to clarify and improve their study attitudes and thus, more fully realize their potential.

The intern used the High School edition of the Survey of Study Habits and Attitudes. The survey contained 100 items and permitted the students to score on four basic sub-scales--Delay Avoidance, Work Methods, Teacher Approval, and Education Acceptance. Each of two subsets of scales was again combined to provide scores for Study Habits, Study Attitudes, and Study Orientation.

The following summary identifies each of the seven scores on the Survey:

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[1]William F. Brown and Wayne H. Holtzman, Survey of Study Habits and Attitudes, Manual (New York: The Psychological Corporation, 1966).

Scale	Code	Maximum Raw Score
Delay Avoidance	DA	50
Work Methods	WM	50
Study Habits	SH or (DA+WM)	100
Teacher Approval	TA	50
Education Acceptance	EA	50
Study Attitude	SA or (TA+EA)	100
Study Orientation	SO or (SH+SA)	

Enough research has been done on the Survey of Study Habits and Attitudes to establish its reliability and validity.[2] Because of its low correlation with measures of scholastic aptitude and its appreciable relationship to academic success, the Survey of Study Habits and Attitudes is suitable for inclusion with other scales in research investigations of the educational or counselling process.

Form H of the Survey of Study Habits and Attitudes, which was used in this project, has been validated in a large number of junior and senior high schools throughout the United States of America. The one semester grade point average based on scores in English, Science, Social Studies, Language, and Mathematics was the criterion used in these studies.[3]

To establish the reliability of Form H of the high school version of the Survey of Study Habits and Attitudes, two hundred thirty-seven ninth graders in San Marcos High School were given the test twice with a

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[2] Ibid., pp. 16-24.

[3] Ibid., p. 19.

lapse of four weeks between sessions. The Test-Retest reliability coefficients were found to be .95, .93, .93, and .94 respectively for Delay Avoidance, Work Methods, Teacher Approval, and Education Acceptance, and .95 for Study Orientation which represented the total survey score. The means and standard deviations for the total survey changed little during the four-week interval.[4]

The Nelson-Denny Reading Test (Forms A and B)[5]

The intern opted to use the revised edition of the Nelson-Denny Reading Test because it provided a useful measure of reading ability in terms of vocabulary and comprehension. The inclusion of a measure of reading rate to complement and supplement the information obtained from vocabulary and comprehension scores made this test all the more significant for the intern's proposed study.

For screening and predicting academic success, the total reading score was most useful. Subtest scores in vocabulary and comprehension and reading rate were useful in diagnosing individual problems, strengths, and weaknesses.

Each of the alternate forms A and B of the Nelson-Denny Reading Test contained 100 items to measure vocabulary and 36 items to measure comprehension in reading. Each vocabulary item carried a single weight, whereas the comprehension items carried each a double weight. The total

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[4] Ibid., p. 24.

[5] M. J. Nelson, Ph.D. and E. C. Denny, Ph.D., The Nelson-Denny Reading Test, Revised by James I. Brown, Ph.D. Professor of Rhetoric, University of Minnesota, St. Paul, Minnesota (Boston: Houghton Mifflin Company, 1960), Examiner's Manual, pp. 22-29.

vocabulary and comprehension score together constituted a single index of reading ability.

As described in the manual, the test was designed for use in grades nine through sixteen during the span of a single class period. The normal working time for the test was set at thirty minutes in addition to the time taken to distribute and collect materials. The first ten minutes of the test was scheduled for the vocabulary unit of the test, and the remaining twenty minutes was spent on the comprehension unit. Reading Rate was measured over a one-minute period, the first minute of the twenty-minute working period allocated to the comprehension test.

Three types of scores helped the intern to interpret the test results, namely, raw scores, percentile ranks, and grade equivalents. The raw scores were interpreted with the help of other derived scores to be most meaningful. The percentile rank placed each student somewhere between 1 and 99 to let him know where he stood in the test in respect to the norm group. The grade equivalent of a given raw score let the student know where he stood in terms of grade level.

The SRA Reading Laboratories[6]

The SRA Reading Laboratories IIIa and IVa which were used in this project are developmental, multilevel learning materials designed to enable the student to start from his present level of reading and to progress as far as his learning rate and capacity will allow. Laboratory IIIa is designed for junior high or early high school (Grades 7-9);

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[6]Don H. Parker, SRA Reading Laboratory IVa (Chicago: Science Research Associates, 1959), Instructor's Handbook.

Laboratory IVa is designed for high school (Grades 9-13).

The Laboratories are built up around a number of fundamental assumptions:[7]

a) In any learning situation, individual differences exist in both learning rate and capacity.

b) Growth and development in reading can be regulated. Individuals do not progress at the same rate.

c) Learning takes place when the learner finds success and reward in the learning activity itself.

d) Total reading skill lies in the step by step attainment of a certain number of basic skills.

e) Every student has the ability to improve his reading performance in both rate and comprehension.

Accordingly, the SRA program was designed to meet a number of specific conditions. They are as follows:[8]

a) The student starts at his own level and is allowed to master the skills at his own rate.

b) The student is provided with materials that are sequenced in gradually increasing degrees of difficulty, so that he is helped to attain progressively higher reading levels.

c) The student is helped to compete with himself rather than with other students.

d) Procedures have to be largely self-administrative to give

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[7] Ibid., p. 3.

[8] Ibid., pp. 3-4.

the student the feeling of responsibility for his own progress.

e) To aid and improve the reading-thinking process, the student has to be encouraged to correct his mistakes as soon as possible.

f) Materials of varied content are necessary for encouraging growth in flexibility of reading rate, and in comprehension and vocabulary.

Each of the two SRA laboratories consists of a number of Power Builders with accompanying keys, Rate Builders with accompanying keys, Listening Skill Builders with accompanying keys. Laboratory IVa in addition has a Listening-Notetaking Skill Builder with its own set of keys. Each student has a Record Booklet in which to do his work and record his progress. An Instructor's Handbook serves as a guide for the teacher to enable him to administer the program effectively.

The Power Builders are four page cards which include practice reading exercises. In each laboratory the power builders span seven reading grade levels with sixteen to twenty cards in each level.

The Rate Builders consist of cards containing short reading passages and questions which are to be read and answered within a specified time. There are sixteen to twenty cards in each of seven reading levels.

The Listening Skill Builders introduce a Better Listening Formula labelled TQLR. This listening formula closely parallels the SQ3R reading formula, since many of the same organizational problems are involved in both these intake skills. The student is required to tune-in, in other words, to think about what he already knows about the subject; to question what the speaker is trying to tell him or get him to believe and what the speaker's background and interest in the subject are; to listen to

the speaker's words and to anticipate what he will say next; and to review what has been said by way of summarization and evaluation.

The Listening-Notetaking Skill Builders require the student to listen and to take notes, with the emphasis on notetaking. Notetaking as discussed in the text of the laboratory manual, focuses on four aspects: a) what kind of paper and notebook to use, b) what to write down, c) how to take notes, and d) how to use the notes that have been taken.

Audiovisual Materials

The project entailed the use of both Hardware and Software.

The intern considered using the following equipment: tape-recorders, cassette recorders, slide and filmstrip projectors, viewers, headphones and junction-boxes, and a stop-watch.

The intern selected material from a wide variety of relevant audiovisual materials available at the film library in the Center of Audiovisual Education at Memorial University and also at the Department of Education film library at Pleasantville. The following selections were made:

Software:

Slides

Help Yourself Read - 35 frames	700-24-J

Filmstrips

An Aid to Writing and Reading	700-20-W
Making Better Outlines	700-16-D
How to Discover the Purpose of a Speaker	700-6-A
How to Tell the Difference Between Essentials and Details	700-5-A

Filmstrips (continued)

How to Tell the Difference Between Fact and Opinion	700-7-A

Audiotapes

Listening and Reading Series

Using Signs and Signals in Reading	101-F-9
Spotting Topics and Paragraphs	101-F-10
Underlining with a Purpose	101-G-2
Outlining: Finding the Skeleton	101-G-4
Shifting Gears in Reading	101-G-7
Skimming and Scanning	101-G-8
The Reading Habit	101-G-9
Reading Between the Lines	101-G-10

Films - 16mm

How to Read a Book	500-1-R
Building an Outline	500-1-O
How Well do You Read	500-1-S
Reading to Remember	500-3-O
Learning to Study	IN 1016
Better Reading	LA 1034A
Know Your Library	IN 3
Why Jimmy Can't Read	ED 1031
Reading Improvement:	
Defining the Good Reader	EN 25
Comprehension Skills	EN 24
Effective Skills	EN 26
Vocabulary Skills	EN 27

DEFINITION OF TERMS

Since the project dealt with the interpreting and correlating of actual scores, the intern considered it essential to define operationally all the variables on the Survey of Study Habits and Attitudes, the Nelson-Denny Reading Test, and others with which this study dealt.

Terms Used in the Survey of Study Habits and Attitudes

Delay Avoidance (DA) is the measure of the student's promptness in completing academic assignments, his lack of procrastination, and freedom from wasteful delay and distraction. For the purpose of this study, it refers to the raw score (out of a maximum possible raw score of 50) obtained by the student on this subscale.

Work Methods (WM) is the measure of the student's effective use of study procedures, his efficiency in doing academic assignments, and the application of "how-to-study" skills. For the purpose of this project, it refers to the raw score (out of a maximum possible raw score of 50) obtained by the student on this subscale.

Study Habits (SH) is the measure of the student's academic behavior. In this study, it refers to the raw score (out of a maximum possible raw score of 100) obtained by summing the scores obtained by the student on the Delay Avoidance and Work Methods scales of this survey.

Teacher Approval (TA) is the measure of the student's opinions of his teachers and their classroom behavior and methods. In this study, it refers to the raw score (out of a maximum possible raw score of 50) obtained by the student on this subscale.

Education Acceptance (EA) is the measure of the student's approval of educational objectives, practices, and requirements. For the purpose of this project, it refers to the raw score (out of a maximum possible raw score of 50) obtained by the student on this subscale.

Study Attitude (SA) is the measure of the student's scholastic beliefs. For the purpose of this study, it refers to the raw score (out of a maximum possible raw score of 100) obtained by summing the scores achieved by the student on the Teacher Approval and Education Acceptance subscales of this survey.

Study Orientation (SO) is the measure of the student's study habits and attitudes. It is a combination of scores (out of a maximum possible raw score of 200) obtained by summing the scores achieved by the student on the Study Habits and Study Attitude scales of this survey.

Terms Used in the Nelson-Denny Reading Test

Vocabulary (V) refers to the raw score obtained in the Nelson-Denny Reading Test, Part I (Forms A and B).

Comprehension (C) refers to the score obtained in the Nelson-Denny Reading Test, Part II (Forms A and B).

Reading Ability (T) refers to the total raw score obtained by summing each vocabulary and comprehension score on the Nelson-Denny Reading Test (Forms A and B).

Reading Rate (RR) refers to the raw score (measured in words per minute) obtained during the first minute of reading Part II of the Nelson-Denny Reading Test (Forms A and B).

Miscellaneous Terms Used in This Project

IQ is defined as the score on Educational Ability obtained on the SRA High School Placement Test. The scores were further delineated as: Above Average, if the student obtained a score higher than 110; Average, if the student scored between 90 and 110; and Below Average, if the student scored below 90.

Grade Point Average (GPA) is the score obtained by averaging out the scores each student obtained in English, Social Studies, Mathematics, and Science in the final examination in June, 1974.

Study Skills are the cluster of subskills represented by the formulas SQ3R and TQLR. For the purpose of this project the term 'study skill' relates to all activities involving the use of Power Builders, Rate Builders, Listening Skill Builders, and Listening-Notetaking Skill Builders in SRA Laboratories IIIa and IVa.

Control Group is the name given to the group of students who did not receive any particular training in reading and study skills during this project. They were merely given the same tests as the other group. Being approximately of the same age and educational ability as the other group, their scores formed the basis for measuring the 'real' gains of the other group.

Experimental Group is the name given to the group of students who received training in reading and study skills in the course of the project. They were given the same tests as the control group and were of the same average age and educational ability as the control group.

Crude Gains are the scores obtained by subtracting each pretest score from its corresponding post-test score. In this study crude gains were calculated for each group.

Real Gains are the scores obtained for the Experimental Group by subtracting the post-test scores of the Criterion (Control) Group from the post-test scores of the Experimental Group.

PROCEDURES

The project was conducted during the course of the third semester at Gonzaga High School. The Project was divided into Three major phases.

Phase I: a) This involved the administration and scoring of the Survey of Study Habits and Attitudes together with the recording of findings. During the course of subsequent classes, the students had their strengths and weaknesses pointed out to them. b) This involved the administration and scoring of the Nelson-Denny Reading Test Form A to each of the four classes of students, and the recording of findings.

Phase II: During this phase, the Experimental group was subjected to intensive training in reading and study skills with the help of SRA Laboratories IIIa and IVa over a nine-week period. There were a number of objectives related to the questions the intern wished to investigate. With the aid of the Instructor's Handbook for SRA Laboratory IVa, the intern drew up a tentative schedule for the entire training period.

Objectives of the Training Program

Since SQ3R is an activity oriented program, the intern considered it appropriate that the objectives of this program be set down in behavioral terms.

The student should be able to:

1. Recognize the significance of a title relative to the content of the selection.

2. State the author's intent as indicated in the introductory paragraph.
3. Recognize the main headings and subheadings of a passage.
4. List the key words of a passage.
5. In his own words, re-state the author's point of view.
6. Make up questions on the topic being discussed, on the basis of information contained in the headings and subheadings.
7. Express in his own words what he has read in the passage.
8. Discuss questions formulated earlier under each heading and subheading in the light of what he has read.
9. Reread the passage to see what he has left out or missed, if he was unable to answer any question,
10. Recall the title of the passage.
11. Recall the headings and subheadings of the passage.
12. Make up an outline of the chapter or passage.
13. Restate the author's intent.
14. Compare the information in the passage to that which he already possesses on the subject.
15. Discuss the general questions at the end of the chapter or passage, or those he and his group have formulated.

To find out the extent to which these objectives were realized by this project, the intern posed the following questions:

1. Would students trained in SQ3R obtain better overall scores in the post-test than students who had received no such training?
2. Would students trained in SQ3R and other related skills obtain higher comprehension and vocabulary scores on the

post-test than students who had not been exposed to such training?

3. Would training in SQ3R and other related skills enhance the reading rate of students beyond that which was achieved by students who had received no such training?
4. Did any relationships appear to exist between other variables in the study?
5. Did the students make other gains as a result of this project?

Schedule

The following was the tentative schedule the intern set up:

First Week:

Day 1 Goal setting and the administration of the Starting Level Guide.

Day 2 Discussion of Individual Differences, introduction of the Student Record Book, presentation of SQ3R and Power Builder Starter Selection.

Day 3 Rereading of Power Builder Starter Selection. Do the "How well did you read?" section.

Day 4 Completion of Power Builder Starter Selection. Do the "Vocabulary Building" section.

Day 5 Use of Scoring Keys and Progress Charts. Evaluation of work on Power Builder Starter Selection.

Day 6 AV resource materials:

- Why Johnny Can't Read	ED 1031
- How Well Do You Read?	500-1-J
- Help Yourself Read	700-24-J
- An Aid to Reading and Writing	700-20-W

Second Week:

Day 1 Beginning Multilevel work with Power Builders (complete one)

Day 2 Power Builder (1)

Day 3 Introduction of Rate Builders (1)

Day 4 Beginning of use of multilevel Rate Builders (complete either two or three). Introduction of use of both rate and power score.

Day 5 Power Builder (1)

Day 6 AV resource materials:

- Comprehension Skills EN 24
- Defining a Good Reader EN 25
- Effective Skills EN 26
- Vocabulary Skills EN 27

Third Week:

Day 1 Building more SQ3R power; also Power Builder (1)

Day 2 Power Builder (1)

Day 3 Rate Builders (4 or 5)

Day 4 More SQ3R in your daily study; also Rate Builders (2)

Day 5 Power Builder (1)

Day 6 AV resource materials:

- Learning to Study IN 1016
- Using Signs and Signals in Reading 101-F-9
- Spotting Topics and Paragraphs 101-F-10
- Underlining with a Purpose 101-G-2

Fourth Week:

Day 1 Rate Builders (2). Introduction of Listening Skill Builders.

Day 2 Rate Builders (2). Listening Skill Builder No. 2.

Day 3 Power Builder (1)

Day 4 Rate Builders (2 or 3). Listening Skill Builder No. 3.

Day 5 Power Builder (1)

Day 6 AV resource materials:

- Shifting Gears in Reading 101-G-8
- Skimming and Scanning 101-G-9

Fifth Week:

Day 1 Introduction of Listening-Notetaking Skill Builders

Day 2 Listening-Notetaking Skill Builders 2A and 2B

Day 3 LNT Skill Builder 3

Day 4 LNT Skill Builder 4

Day 5 LNT Skill Builder 5

Day 6 AV resource materials:

- Making Better Outlines 700-16-D
- Building an Outline 500-1-0
- Outlining: Finding the Skeleton 101-G-4

Sixth Week:

Day 1 Power Builder (1)

Day 2 LNT Skill Builder (6)

Day 3 Power Builder (1)

Day 4 Evaluation

Day 5 Power Builder (1)

Day 6 AV resource materials:

- How to Read a Book 500-1-R
- Reading to Remember 500-3-0

Seventh Week:

Day 1 LNT Skill Builder (7)

Day 2 Rate Builder (4 or 5)

Day 3 Power Builder (1)

Day 4 Rate Builders (2 or 3). Listening Skill Builder 4.

Day 5 Power Builder (1)

Day 6 AV resource materials:

- How to Tell the Difference Between Essentials and Details 701-5-A
- How to Discover the Purpose of a Speaker 701-6-A
- How to Tell the Difference Between Fact and Opinion 701-7-A

Eighth Week:

Day 1 Power Builder (1)

Day 2 Listening Skill Builder 5

Day 3 Rate Builders (2 or 3). Listening Skill Builder 6.

Day 4 Power Builder (1)

Day 5 Power Builder (1)

Day 6 AV resource materials:

- Better Reading LA 1034
- Know Your Library IN 3

Ninth Week:

Day 1 Rate Builders (2 or 3). Listening Skill Builder 7.

Day 2 Power Builder (1)

Day 3 Power Builder (1)

Day 4 Rate Builders (4 or 5)

Day 5 AV resource materials:

- The Reading Habit 101-G-9
- Reading Between the Lines 101-G-10

Day 6 Final Evaluation

Phase III: This phase involved the administration, scoring, and recording of the Nelson-Denny Reading Test Form B. The results of this test were checked against the findings of the Pretest and gains (or losses) were recorded.

Chapter 4

IMPLEMENTATION OF THE READING AND STUDY SKILLS PROGRAM

The Reading and Study Skills Program began immediately after the Easter recess and terminated on May 29, 1974. A week before the Easter holidays, the intern administered and scored both the Survey of Study Habits and Attitudes and the Nelson-Denny Reading Test, Form A.

In this part of the project two academic grade ten classes were involved; one was an average group, while the other was above average. Each of the two classes came to the intern's classroom at separate times during the normal schedule of a regular school day.

The classroom was rearranged and set up to allow each student to have an unobstructed view of the classroom clock, since much of their work required them to keep an accurate record of their reading and comprehension times.

Prior to the start of the project, the intern ordered and received some 200 paperback books to supplement those already on the shelves of the classroom casual library.

Moreover, the intern also obtained permission to borrow audiovisual materials from the Center of Audiovisual Instruction Education at Memorial University. Other audiovisual materials were available upon request from the Department of Education Film Library at Pleasantville, and also from the National Film Board of Canada. All the necessary

audiovisual hardware was available at the resource center in the school.

A week before school closed for the Easter holiday, the intern arranged for each of the four classes involved in the project to present themselves on two separate occasions. On the first occasion, the intern administered the Survey of Study Habits and Attitudes. Later in the week, Form A of the Nelson-Denny Reading Test was also administered.

The intern subsequently scored the tests and established sets of tables for each class showing raw scores, percentile ranks, and grade equivalents set up in accordance with the norms given in the test manuals. In the ensuing weeks the intern held private conferences with the students and then commenced the actual training program.

TEACHER-STUDENT CONFERENCES

During the first week of the training period immediately following the Easter recess, the intern privately discussed the scores, grade equivalents, and percentile ranks that had been attained by each student with the individual concerned.

The students fared poorly on the Survey of Study Habits and Attitudes. Not a single student scored above the fiftieth percentile. The intern presented each student with a diagnostic profile of his personal study habits and attitudes.

The overall results of this survey showed that for each subscale that was measured the students obtained an overall low rating. Table I (p. 50) provides a breakdown of the results of that survey. Table II (p. 54) presents a diagnostic profile of the study habits and attitudes of all the four classes involved in the project.

Since the intern was also the English teacher of the two classes

making up the experimental group, and had come to know his students over the two earlier semesters of the school year, he did not have any reason to hold the findings of the survey suspect. Many of the students in the 'average' class had very poor study habits, did not bother to study, or simply did not know what to do. The students in the 'above-average' class got by, in many cases even did well, on their mental ability, even though they had poor study habits. The counselling key proved to be a great help to the intern both in analyzing and discussing scores with individual students.

In discussing the results of the survey with individual students, the intern was confronted with a number of reactions from them. Some students exhibited a complete lack of interest, others were mildly interested and evinced some enthusiasm for the intern's explanations. Other students, particularly those eager to get ahead, appeared worried, while some of the above-average students who all along did reasonably well in school, seemed incredulous, and in a few cases, hostile at their low scores. The intern in effect felt obliged to explain that the low ratings were in no way indicative of the degree of ability they possessed but rather pointed out the need of cultivating worthwhile skills that would enhance their achievement levels and make their study time more productive.

The intern followed much the same procedures in his personal interviews with students after the Nelson-Denny Reading Test, Form A had been scored and tables were set up on a comparative basis. The intern observed that students who were in fact good readers were somewhat piqued by their performance. Some other students of above-average ability who achieved high comprehension scores, could not bring themselves to accept

the test results indicating that they had a comparatively low reading rate. The intern generally advised the students to avail themselves of the training period to improve their skills.

In a number of cases the scores on the reading test were so low that the intern felt that students would become discouraged and give up working during the training period. In his conferences with such students, he usually made it a point to tell them that the tests showed that there was much room for improvement and that they had a good nine weeks to show what they really could do.

THE TRAINING PROGRAM

The actual training period began on April 6, 1975. The first session was set aside for goal setting. The intern showed the students how important reading was in their lives as students and as young people growing up in a complex and organized society where progress was determined both by the quality of knowledge and the amount of "know-how" a person possessed.

The intern observed that while the better reading students tended to listen more intently as well as those interested in getting ahead, a large number of average and below-average students, generally the less motivated ones, evinced little interest. There seemed to be no way to get the attention of the students who disliked school.

It became obvious to the intern that such a strategy was out of place with the kind of students he had to deal with in the 'average' class. But it was occasions like these all through the training period which made the intern sensitive to the needs of different kinds of students and cognizant of using strategies more in keeping with the

individual and group characteristics of each class.

The next step in the training period was to determine the Starting Level at which each student should begin the program set out in the SRA Reading Laboratories IIIa and IVa. The Starting Level Guide was a two-part test roughly standardized in that it was administered to several hundred students. The purpose of the starting level guide was to provide a measure of the student's ability to read the kinds of materials found in the SRA laboratories used in the project. An accompanying table in the Instructor's Handbook indicated the color level at which to place each student. Since exact timing was imperative, the intern used a stop-watch to give the groups exactly three minutes to work on each of the two selections in the Starting Level Guide.

The majority of students in the above-average class were placed at the orange level in Laboratory IVa, while two students were placed in the next highest olive level. Ten students did very poorly on the Starting Level Guide. The intern, therefore, decided that those students would commence their training by using Laboratory IIIa and work at the blue color level. The intern would watch their progress and at the appropriate time move them into Laboratory IVa with the rest of the students.

The third session in the training procedure involved a discussion of individual differences. The purpose of that session was to bring home to the students the necessity for each one to progress at his own level of ability. Since each one's abilities and capabilities were different, it was essential that each one progress at his own pace and without competing with one another. It was quite natural that some students would proceed more rapidly than others. It was made clear to them that

they were to be competing only with themselves. During the time that remained they were introduced to the laboratory kit, were shown the power-builders and rate-builders, and handed their own Record Booklets. The students were then asked to spend a few minutes familiarizing themselves with their record booklets.

The fourth step in the process of initiating the students into the program required them to apply the SQ3R study formula in getting to know their record booklets. The procedure was as follows:

a) A record booklet was handed to each student.

b) The intern indicated that they could thumb through their booklets.

c) They were asked to put down their books and questioned about what they had seen. A brief discussion followed.

d) The students were then told to print their names and section number on their booklets.

e) They were then asked to open to page three of their record booklets and to read about the four skill builders they would be using during the training period and what benefits those skill builders would gain for them.

f) The final part of this session was spent in showing the students how to use the Record Blank pages, the various keys, and the progress charts.

The intern noted that in both classes comprising the experimental group the students were anxious to get started. After repeating some of the more important explanations, the intern decided that students would learn more quickly through trial and error.

The fifth session in the initiation process involved the appli-

cation of the SQ3R formula to the Power-Builder Starter Selection. The student had a set procedure to follow whenever he did a power builder:

a) He opened his record booklet to the appropriate record blank and set down the date, color level and number of the power builder he was about to use.

b) He took note of his starting time from the wall clock and made an entry of it in his record booklet.

c) He then 'surveyed' the passage. This activity required him to look at the picture on the card and to read the title, the first sentence, and last paragraph of the passage.

d) As the student surveyed the passage, he made an effort to question what he saw and read. That could often be consciously done by turning titles and subtitles into questions.

e) The student then read the selection at his normal speed and noted down his finishing time. He subtracted his starting from his finishing time to derive his total reading time.

f) Before completing the questions in the two sections marked "How Well Did You Read" and "Vocabulary Building," the student skimmed through the selection again to find what he was looking for. Thus, he completed all the questions, not hesitating to look back whenever he felt it was necessary.

g) He recorded his "finishing" time. To obtain his total comprehension time, he subtracted his starting time from his finishing time.

h) The student then corrected his work. To do that he had to consult the key which corresponded to the power builder he was doing at the time. He corrected his mistakes by circling

his mistakes and placing the correct answers above them. He then tabulated the number of right answers against the number of possible rights for both the "How Well Did You Read" and "Vocabulary Building" sections of the power builder.

i) The student turned to the last page of his record booklet where he was shown how to change his scores into percentages.

j) Finally, the student was required to transfer his newly derived percentages to the progress chart, and was instructed how to record his percentages and keep track of his progress.

Once the students had familiarized themselves with the procedures, they began to settle down to the work at hand. The seriousness of both groups began to be evidenced by fewer irrelevant questions and longer periods of purposeful silence.

Three days after the commencement of multilevel work with the power builders, the intern introduced the students to the Rate Builders. Work with the rate builders necessitated the following activities:

a) The student noted down the date, number and color level on the appropriate record blank.

b) At a given signal the student removed the rate builder from his booklet and began reading it at his best speed.

c) After reading it entirely he proceeded to answer all the questions, noting down his answers in the proper column provided in the rate builder section of his record booklet.

d) After the lapse of three minutes, the intern signalled the students to stop. If a student had not completed all the comprehension checks, he drew a heavy line on his record page under the last answer he had completed before the signal,

and continued working until he had done all of them.

e) Each student then opened the rate builder key booklet he had been provided with to the appropriate key corresponding to the number and color level of the rate builder he had attempted. When correcting his answers the student circled all errors and placed the correct answer outside each circle.

f) In scoring, the student first calculated his rate score on the comprehension checks he had completed before the signal to stop was given. That was his rate score. He then went on to compute his power score by figuring out his accuracy on the total number of comprehension checks he had completed both before and after the signal to stop was given.

The majority of students in both average and above-average groups enjoyed working with the rate builders. Since three or four rate builders could be completed during any one session, the intern wondered whether interest resulted from the students' being able more quickly to track their progress on the charts, or from the brevity of the rate builders which, as a consequence, did not overtax the attention spans of the students.

The intern introduced the Listening Skill Builders in the fourth week of the training period. The first two Listening Skill Builders in that series of seven were actually mini-lectures on how to listen. Points emphasized were that listening involved thinking and organizing the speaker's content; that anticipation was active thinking; that listening was not a waiting process but an activity. The students were also presented with a Better Listening Formula- TQLR, Tuning-in, Questioning, Listening, and Reviewing. In order to 'tune-in' the

students had to think about what they already knew about the subject. They then needed to question what the speaker was trying to say or persuade them to believe, what the speaker's background was, and what the speaker's interest in the subject was. Next, the students had to listen to the speaker's words and at the same time anticipate what he was going to say. Finally, the students had to summarize and evaluate what the speaker had said.

Upon listening to a mini-lecture, the students were required to do the corresponding comprehension checks and to circle the letter corresponding to the phrase that best completed each statement. Then the intern called out the correct answers, after which each student marked down his total of correct answers against the possible number of right answers. He next derived his percentage of accuracy and recorded it in the appropriate progress chart in his record booklet. The students did a total of seven Listening Skill Builders during the course of the project.

The intern observed that students of above-average ability and reading skill were the ones with longer attention spans and ability to concentrate. Students in the average class generally did not listen very readily and were at times either indifferent or disruptive. When the intern called out the answers by way of getting the students to correct their responses the students usually displayed a sense of accomplishment when they discovered that they had many correct answers.

The intern introduced the Listening-Notetaking Skill Builders in the fifth week of the project. That skill-builder series emphasized the notetaking technique and provided the students with basic information relating to the kind of paper and notebook to use; what to write down;

how to write down what was noteworthy; and how to use the notes once they had been taken.

The first three Listening-Notetaking Skill Builders dealt with know-how relating to the four specific points mentioned in the preceding paragraph. Other topics were "Science and Scientists," the "Harnessing of Atomic Energy for Peaceful Purposes," the "Nature of an Educated Person," "Air Pollution," and "Weather Changes." The intern recorded each mini-lecture on tape. While recording the lectures he made it a point of recording them at a deliberate speed, so as to give the students the best opportunity of listening attentively to the ten-minute lectures. The students were expected to pay particular attention to noting down main ideas, and key words and phrases which preceded the introduction of important ideas and details. After note taking, the student was expected to write a summary of the lecture using the notes he had taken. The following format was recommended:

Date..... Subject.....

Title _____

Main Point _____

Detail _____

Detail _____

Main Point _____

Detail _____

Detail _____

Main Point _____

Detail _____

Detail _____

Summary _____

While the above average group proved to be more amenable to that particular type of skill building technique, the generality of students found it difficult to pursue. The intern adduced two reasons for their difficulty; firstly, it was an unfamiliar experience to them; and secondly, it taxed their attention spans. What appeared praiseworthy about these two groups of students was that they worked at the skill builders and did not easily give up, an indication that the work was indeed challenging. A third reason appeared to be that most of the articles or mini-lectures were geared to a class beyond the present level of difficulty with which the students were able to cope. A fourth possible reason could have been that the lectures tended to communicate information rather than stir up interest. The intern felt that if the lectures were more relevant to the maturity levels of the students in the program, they would have sparked greater interest and cooperation.

At the end of the sixth week of the training period, the intern set aside a day for evaluating what the students had so far gained, and to hear some of their comments, problems and difficulties, and to offer helpful advice wherever it was possible. The students were permitted to make comments about the program and to exchange ideas and insights with their classmates.

One important observation was made by the intern during the mid-semester evaluation. It became obvious to him that the students were beginning to get tired of the rigid schedule which they had willingly submitted to so far. The intern, therefore, decided that the students

would be given two 'free' periods per week during which they could elect to do other homework, study, work with power builders, read books from the casual library or pursue other worthwhile tasks which did not disturb other students.

The intern observed that almost invariably the majority of student elected to sign out a book from the class library and silently read throughout the entire period. The intern also discovered that the two free periods given to the students had broken down much of the resistance which had been building up towards the training program.

Once a week during the entire course of the program, a day was set aside for the use of Audiovisual Materials. The purpose for using audiovisual materials was strictly to provide the students with supplementary information and "know-how" related to the reading and study skills they were endeavouring to develop. As such these materials were not considered to be an intrinsic part of the program. During a class when audiovisual materials were used, the intern usually made it a point to spend a few minutes before and after a showing in discussing the information being communicated.

During the weeks that followed the mid-term evaluation the students continued to work co-operatively and followed the schedule that had been set up.

Chapter 5

AN ANALYSIS OF DATA

On the last day of the project the intern administered the Post-test, Form B of the Nelson-Denny Reading Test. After scoring the test and deriving the raw scores, percentile ranks, and grade equivalents, he set to work analyzing the data he had collected on the Reading Test, the Survey of Study Habits and Attitudes, the Grade Point Average of students obtained in the subsequent June final examination, and a 'Motivation Assessment' of the students in the experimental group done with the help of the subject teachers of the students involved in the training program.

It may be useful to remember that in the overall project four grade ten classes had been involved. The two classes comprising the Control Group merely did the Survey of Study Habits and Attitudes and the Nelson-Denny Reading Test - pretest and post-test. The other two classes, the Experimental Group, did all the tests and surveys, and moreover, were involved in the training program. The reason for this arrangement was to set up a suitable standard for measuring the real gains made by the students in the experimental group.

Table 1 of the Survey of Study Habits and Attitudes shows the raw scores obtained by four academic grade ten classes.. A quick reference to the definitions given in the section entitled "Methodology" will show what each abbreviated variable in the table really measures. The range of scores for each variable shows great variability and the medians

Table 1

Findings of the Survey of Study Habits and Attitudes

Variables	DA	WM	SH	TA	EA	SA	SO
Number of Students	136	136	136	136	136	136	136
Maximum Possible Raw Score	50	50	100	50	50	100	200
Range	0-34	2-46	8-80	2-38	4-40	5-77	12-156
Median	16.54	22.55	40.68	21.64	21.65	43.64	83.5
Percent Scoring Below the Median	61%	59%	59%	54%	64%	52%	50%
Range of the Highest Scores	30-34	40-46	60-80	29-38	30-40	65-77	100-156
Percent of High Scores	10%	1%	7%	2%	24%	9%	25%

are low. The percentage of students scoring below the median were in most cases well above fifty percent.

Figure 1 presents a diagnostic profile of study skills and attitudes of 136 students involved in this internship project. The table shows the percentiles of these students in respect to the norm group. Except for the Work Methods subscale, most of the remaining variables are well below the fiftieth percentile. The subscales, Teacher Approval and Education Acceptance, are significantly low at the twenty-fifth percentiles in each case. These low percentiles demonstrate little acceptance of teacher methods and behavior and educational objectives and practices.

The intern scrutinized the scores of the two classes who formed the experimental group and whom he had taught during the previous semesters in relation to their IQ and 'Motivation Assessment,' and made the following observations on the basis of his knowledge of, and familiarity with, the students:

a) Students generally scored low in the Study Attitude subscale of the Survey of Study Habits and Attitudes.

b) Generally speaking, students who scored well on the Survey were not necessarily the students with the highest IQs.

c) Motivation seemed to be an important factor in determining success academically.

d) The best results were obtained from students who were motivated and at the same time had high IQs.

e) Students whose motivation was adjudged to be average or below average and had an IQ of less than 100 usually fared poorly in the survey.

Percentiles	Delay Avoidance DA	Work Methods WM	Study Habits SH	Teacher Approval TA	Education Acceptance EA	Study Attitudes SA	Stucy Orientation SO
	17	23	40	22	22	44	84
	40	50	45	25	25	25	35
99	99	99	99	99	99	99	99
95	95	95	95	95	95	95	95
90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80
75	75	75	75	75	75	75	75
70	70	70	70	70	70	70	70
60	60	60	60	60	60	60	60
50	50	50	50	50	50	50	50
40	40	40	40	40	40	40	40
30	30	30	30	30	30	30	30
25	25	25	25	25	25	25	25
20	20	20	20	20	20	20	20
10	10	10	10	10	10	10	10
5	5	5	5	5	5	5	5
1	1	1	1	1	1	1	1

Figure 1. A diagnostic profile of study habits and attitudes of 136 grade 10 students at Gonzaga High School

f) Students who scored above or near 50 out of a maximum possible score of 100 for Study Habits, usually had a motivation that was rated as above average.

g) Students of high IQ but average or below average motivation had average success on the survey.

h) Students whose motivation was rated as excellent or near excellent usually scored well in the Study Attitude subscale of the survey.

i) Some students of high IQ whose motivation rating was also high, still did poorly in the survey, an indication perhaps, of negativism as seen from their low scores on the Study Attitude subscale.

j) Students of average ability who did well on the survey were generally considered to be of above average motivation.

k) Class characteristics, that is, the composition of the group in respect to motivation, reading level, IQ together with the sum total of attitudes the students brought with them to class also made a difference and affected both their total group and individual scores on the survey.

Table 2 shows the Group Means and Standard Deviations for pretest and post-test scores of both Control and Experimental Groups. Except for mean scores and standard deviations on Reading Rate subscale, comparisons between scores of both the groups for pretest and post-test do not exhibit wide ranges of variability. The purpose of using a control group in the project was to enable the intern to set up a criterion for measuring the real gains made by the experimental group. The fact that the differences for Vocabulary, Comprehension, and Total Reading Ability

Table 2

Group Means and Standard Deviations for Pretest and Post-test of Control and Experimental Groups

		Control Group		Experimental Group	
		M	SD	M	SD
Pretest	V	22.63	11.27	23.80	9.83
	C	33.24	11.43	33.46	10.94
	T	55.87	21.46	57.23	19.03
	RR	304.25	126.07	241.62	82.87
Post-test	V	30.26	13.13	31.59	10.4
	C	33.77	11.65	36.49	12.73
	T	64.03	22.88	68.08	21.65
	RR	274.49	100.63	290.11	89.52

Key: V = Vocabulary; C = Comprehension; T = Total Reading Score; RR = Reading Rate; M = Group Mean; SD = Standard Deviation

between the Control and Experimental Group were small satisfied the intern that his criterion was acceptable.

Table 3 shows the Crude Gains of both Control and Experimental groups and the Real Gains of the Experimental Group. The gains are shown as Raw Scores, Percentile Ranks, and Grade Equivalents according to the norms set out in the accompanying manual.

The crude gains were obtained by subtracting the pretest scores from the post-test scores in each individual case.

Following the norms set out in the manual and using grade equivalents to interpret the meaning of the scores for both groups, the intern found that the control group made gains of one year and one month for vocabulary, three months for comprehension, and eight months for total reading ability. The control group registered no gains for reading rate.

On the other hand, the experimental group showed gains of one year and one month in vocabulary, the same as the control group, nine months in comprehension, one year and two months for total reading ability, and an overall gain of two years and eight months for reading rate.

The real gains for the experimental group were obtained by subtracting the post-test scores of the experimental group from the post-test scores of the control group. Again, using grade equivalents to interpret the meaning of the scores, the intern was able to show that the experimental group gained three months for vocabulary, six months for comprehension, and five months for total reading ability. No real gains were made for reading rate.

The following three tables show the crude and real gains of the students based on Educational Ability (IQ).

Table 3

Real and Crude Gains for Control and Experimental Groups

Groups		Control IQ-104				Experimental IQ-106			
Variables		V	C	T	RR	C	T		RR
Pretest	RS	22.63	33.24	55.87	304.25	23.8	33.46	57.23	241.6
	%-tile	62	64	63	79	65	66	65	57
	GE	11	11.1	11	14	11.3	11.1	11.1	11.2
Post-test	RS	30.26	33.77	64.03	274.49	31.59	36.49	68.08	209.11
	%-tile	76	67	74	80	81	74	79	84
	GE	12.1	11.4	11.8	14.0	12.4	12	12.3	14
Crude Gains	RS	7.63	.53	8.16	-29.76	7.79	3.03	10.85	48.49
	%-tile	14	3	11	1	16	8	14	27
	GE	1.1	.3	.8	0	1.1	.9	1.2	2.8
Real Gains	RS					1.33	2.72	4.05	15.62
	%-tile					5	7	5	4
	GE					.3	.6	.5	-

Key: V = Vocabulary; C = Comprehension; T = Total Reading Ability; RR = Reading Rate; RS = Raw Score; %-tile = Percentile Rank; GE = Grade Equivalent

Table 4 posts the crude gains of students of above-average ability in both control and experimental groups. Also shown are the real gains made by the above-average students in the experimental group.

Using grade equivalents to interpret gains, the intern was able to show that above-average students in the control group with an average IQ of 122 made crude gains of eight months for vocabulary, two months for comprehension, and five months for total reading ability. No gains were made for reading rate.

The crude gains made by the experimental group for the same tests but with the addition of the training program, amounted to one to three months for vocabulary, five months for comprehension, and nine months for total reading ability.

The real gains made by the above-average students (IQ 125) in the experimental group were obtained by subtracting the post-test scores of the control group from the post-test scores of the experimental group. The results showed that the above-average made no real gains in vocabulary. There were, however, gains of five and three months respectively for comprehension and total reading ability. No real gains were made for reading rate.

Table 5 shows the crude gains of students of average educational ability in the control and experimental groups. Also shown are the real gains of students in the experimental group. All gains are shown as raw scores, percentile ranks, and grade equivalents.

The crude gains of students of average ability (IQ 94) in the control group interpreted as grade equivalents were seven months each for vocabulary and comprehension, eight months for total reading ability and one month for reading rate.

Table 4

Real and Crude Gains of Students of Above Average Educational Ability in Control and Experimental Groups

Groups		Control IQ-122				Experimental IQ-125			
Variables		V	C	T	RR	V	C	T	RR
	RS	33.24	42.26	75.5	369.34	32.81	41.95	74.13	287.82
Pretest	%-tile	87	85	89	90	86	85	87	74
	GE	12.9	13.1	13.1	14.0	12.4	13.3	13.0	14.0
	RS	40.96	42.97	83.92	342.51	40.93	47.96	88.89	329.37
Post-test	%-tile	95	86	91	93	95	94	95	91
	GE	13.7	13.3	13.6	14.0	13.7	13.8	13.9	14.0
	RS	7.72	.71	8.4	26.83	8.65	6.01	14.76	41.55
Crude Gains	%-tile	8	1	2	3	9	9	8	17
	GE	.8	.2	.5	-	1.3	.5	.9	-
	RS					.03	4.99	4.97	13.14
Real Gains	%-tile					0	8	4	-2
	GE					0	.5	.3	-

Key: V = Vocabulary; C = Comprehension; T = Total Reading Ability; RR = Reading Rate; RS = Raw Score; %-tile = Percentile Rank; GE = Grade Equivalent

Table 5

Real and Crude Gains in Students of Average Educational Ability in Control and Experimental Groups

Groups		Control IQ-94				Experimental IQ-95			
Variables		V	C	T	RR	V	C	T	RR
	RS	14.18	23.44	37.65	223.65	18.39	27.8	46.19	204.93
Pretest	%-tile	24	29	27	50	42	46	44	40
	GE	8.8	8.9	8.8	10.3	9.9	9.8	9.5	9.3
	RS	20.21	25.35	45.56	204.03	24.97	28.26	53.23	244.74
Post-test	%-tile	41	38	44	53	60	49	55	72
	GE	9.5	9.6	9.6	10.4	10.8	10.0	10.5	14.0
	RS	6.03	1.91	7.91	-19.62	6.58	.46	7.04	39.81
Crude Gains	%-tile	17	9	17	3	18	3	11	32
	GE	.7	.7	.8	.1	.9	.2	1.0	4.7
	RS					4.76	2.91	7.67	40.71
Real Gains	%-tile					19	11	11	19
	GE					1.3	.4	.9	4.4

Key: V = Vocabulary; C = Comprehension; T = Total Reading Ability; RR = Reading Rate; RS = Raw Score; %-tile = Percentile Rank; GE = Grade Equivalent

The crude gains of students of average ability in the experimental group (IQ 95) were nine months for vocabulary, two months for comprehension, and one year for total reading ability. Gains for reading rate were four years and seven months. The intern felt that although the gains for reading rate appear to be somewhat exaggerated, they did indicate a major gain for the group.

The real gains of students of average ability in the experimental group (IQ 95) were obtained by subtracting the post-test scores of the control group from the post-test scores of the experimental group. Gains represented as grade equivalents were shown to be one year and three months for vocabulary, four months for comprehension, nine months for total reading ability, and four years and four months for reading rate. Again, the gains for reading rate struck the intern as being somewhat exaggerated.

The intern observed that it was the average students in the experimental group who made the most sizeable gains.

Table 6 shows the crude gains of students of below average ability in the control and experimental groups. Also shown are the real gains of students in the experimental group. The gains are shown as raw scores, percentile ranks, and grade equivalents.

The crude gains of students of below average ability in the control group (IQ 86) represented as grade equivalents were nine months for vocabulary, and a total reading gain of three months. No gains were made in comprehension and reading rate. In fact this group of students did more poorly in the post-test than in the pretest. For this reason the table shows a loss of about seven months in comprehension for this group of students.

Table 6

Real and Crude Gains of Students of Below Average Educational Ability in Control and Experimental Groups

Groups		Control IQ-86				Experimental IQ-86			
Variables		V	C	T	RR	V	C	T	RR
Pretest	RS	14	32	46	407	17.75	22	39.75	201.75
	%-tile	24	60	44	94	42	25	31	40
	GE	8.8	10.7	9.7	14.0	9.0	8.6	8.8	9.3
Post-test	RS	21	28	49	309	21.75	28	49.75	266.25
	%-tile	44	49	49	87	48	49	51	67
	GE	9.7	10.0	10.0	14.0	10.0	10.0	10.2	14.0
Crude Gains	RS	7	-4	3	-98	4	6	10	64.5
	%-tile	20	-11	5	-7	6	24	20	27
	GE	.9	-.7	.3	0	1.0	1.4	1.4	4.7
Real Gains	RS					.75	0	.75	42.75
	%-tile					4	0	2	-20
	GE					.3	0	.2	-

Key: V = Vocabulary; C = Comprehension; T = Total Reading Ability; RR = Reading Rate; RS = Raw Score; %-tile = Percentile Rank; GE = Grade Equivalent

The crude gains of students of below average ability in the experimental group (IQ 86) interpreted as grade equivalents were: one year for vocabulary, a year and four months each for comprehension and total reading ability, and a gain of four years and seven months for reading rate, a somewhat exaggerated gain.

The real gains of students of below average ability in the experimental group was also computed in terms of grade equivalents and shown to be three months for vocabulary, and two months for total reading ability. No real gains were made either in comprehension or in reading rate for this group.

A scrutiny of all the tables shows that the group subjected to training in reading and study skills did better than the other group who did not undertake any intensive training. It was also established that the average students, who participated in the training program, made the most gains.

As a result of the foregoing analysis, it seems clear to the intern that the major questions of his investigation were answered, and that:

a) Students trained in SQ3R had in fact obtained better overall scores in the post-test than the students who had not received any training.

b) Training in SQ3R had enhanced the reading rate of students in the experimental group well beyond what was achieved by students who had received no such training.

c) Students of above average and average educational ability in the experimental group achieved higher comprehension scores on the post-test than did students who had not been exposed

to such a program.

CORRELATIONS OF VARIABLES

One of the other tasks the intern set himself in his analysis of scores was to examine what relationships existed between the variables under study.

The two major areas which were tested were Reading and Study Habits and Attitudes. In addition the intern assessed the motivation of the students engaged in the training program with the help of their respective subject teachers. He also averaged out the marks each student had obtained during the final June examination for 1974, and thus, derived the Grade Point Average of each student.

The intern did a number of correlations between certain variables which appeared to be related. The results of a Pretest/Post-test Correlation on the Nelson-Denny Reading Test were significant. These correlations are shown on Table 7. The other correlations appear in Table 8. Six of ten remaining correlations that were done show a close positive relationship between:

(a) Motivation and Reading Ability

(b) IQ and Reading Ability

(c) Study Attitude and Motivation

(d) Grade Point Average and Reading Ability

(e) Study Habits and Reading Ability

(f) Reading and Study Orientation

The intern considers the latter two correlations satisfactory even though they appear to be low. The scores of the Survey of Study Habits and Attitudes tended to be low in all areas tested by this study.

Table 7

Pretest/Post-test Correlation Coefficients

	Vocabulary r	Comprehension r	Total r	Reading Rate r
Control Group	.83	.79	.87	.70
Experimental Group	.83	.74	.87	.67

Moreover, other studies discussed in the Survey Manual showed similar correlations which the authors tended to consider as satisfactory.

The high correlation between IQ and Reading Ability (.71) and, in comparison, the low correlation between IQ and Reading Rate (.14), and IQ and Vocabulary (.20), seem to emphasize the essential part played by comprehension in reading, since in the Nelson-Denny Test, Reading Ability is represented as the total vocabulary and comprehension scores of the test.

The correlation between Grade Point Average and Reading Ability (.499) shows perhaps, that reading ability contributes to success in other subject areas.

The correlations between Reading Ability and Study Habits, and again, between Reading Ability and Study Orientation, perhaps, underscore the importance of skill in reading in relation to most learning tasks.

OTHER TEACHER-OBSERVED GAINS

Apart from the gains that were computed, interpreted, and correlated, the intern noticed other gains that could not be measured by the instruments that were being used at the time.

Table 8

Other Correlations Between Variables in the Nelson-Denny Reading Test, the Survey of Study Habits and Attitudes, a Teacher Evaluation of Student Motivation, and the Grade Point Average of Students Involved in This Study

r	IQ	Vocabulary	Comprehension	Reading Ability	Reading Rate	Work Methods	Study Habits	Study Attitudes	Study Orientation	Motivation	Grade Point Ave.
IQ		.20		.71	.14						
Vocabulary	.20										
Comprehension						.14					
Reading Ability	.71						.33		.39	.73	.499
Reading Rate	.14										
Work Methods			.14								
Study Habits				.33							
Study Attitudes										.46	
Study Orientation				.39							.21
Motivation				.73				.46			
Grade Point Ave.				.499					.21		

The intern noticed the following:

(a) an increase in reading interest on the part of many average and below-average students;

(b) increased use of the casual library facilities which had been installed in the classroom;

(c) an increase in silent reading particularly in the average class;

(d) that students who generally tended to remain silent in class became more communicative with the teacher and with other students; and

(e) that at about the sixth week of the training period, a good number of students got tired (in the sense of fatigue) rather than bored, which was evidenced by their continued cooperation during the project as well as from their increasing interest in silent reading.

FACTORS UNDERLYING SUCCESS IN READING

On the basis of his findings, and also as a result of his observations during the project, the intern underscores the following factors as essential to success in reading:

(a) a positive attitude towards self and school

(b) motivation to upgrade oneself

(c) the desire to know

(d) challenging reading material

(e) interesting reading material

(f) appropriate reading material

(g) guidance and direction

Chapter 6

EVALUATION

The success of the internship was evaluated by using the following methods:

1. a conference with the Head of the English Department
2. a questionnaire followed by informal student-teacher conferences
3. a follow-up of the questionnaire nine months later
4. an evaluation by the intern

Each aspect of the evaluation focused on the following ideas:

1. increased student ability and confidence in dealing with specific reading and study tasks
2. increased student awareness of the specific habits he must bring to his daily reading and study tasks
3. increased student awareness of the importance of motivation in the pursuance of learning
4. increased teacher awareness of the reading and study needs of students, together with "know-how" and experience to assist students.

CONFERENCE WITH THE DEPARTMENT HEAD

The Head of the English Department stated that the internship had focused upon a definite area of need within the school. English

impinged on every facet of the school curriculum and much of the student's social and intellectual life. It was important, therefore, that the student be shown how to apply the skills learnt in the English class, to other academic areas of the school curriculum.

The internship project provided useful information on how the English teacher could assist the student to work in an organized manner in other subject areas of the school curriculum. He felt that the Survey of Study Habits, together with the Reading Tests and Programs, provided a useful system for extending the student's achievement level. Furthermore, he hoped that in the future, English teachers in the school would work closely together in developing a further refined, more viable system of reading and study skills at Gonzaga High School.

A QUESTIONNAIRE FOLLOWED BY INFORMAL STUDENT-TEACHER CONFERENCES

A final evaluation was held at the end of the training period for the experimental group. This evaluation required the students to answer six questions relating to the work they had done with the aid of the SRA laboratories. The questions posed in the questionnaire related to whether the student liked the program; whether the student felt that he had gained from the program; whether the work done on the training program helped him in other subject areas; and whether he liked or disliked certain aspects of the program.

Table 9 shows the responses of sixty-two students to three questions in the questionnaire.

From the informal student-teacher conferences it became apparent that most students felt that they had definitely improved their reading

Table 9

Response Frequencies to Questionnaire

	Yes	Undecided	No
1. Did you like the program?	44	8	10
2. Have you gained from this work?	53	3	6
3. Has this work helped you in other subject areas?	37	3	22

speed, comprehension, and vocabulary, and stated that they had begun to find reading in Social Studies easier to handle. Students doing Physics, Chemistry, and Biology indicated that there was little in the way of reading skills which they could apply to those subjects. A few students, however, doing those same subjects mentioned that they were applying the SQ3R study technique to those subjects and were finding it useful.

The majority of students showed that they liked the Rate Builders best, since they were building both speed and comprehension. The Power Builders ranked second in student preferences. For even though they proved to be challenging and interesting, the Power Builders tended to be long and required much work to be done during the space of a class period.

As far as the Listening Skill Builders and the Listening-Notetaking Skill Builders were concerned, the comments of the students showed that they were the least liked parts of the program. The taped lectures tended to be long and boring and taxed the concentration of even the brightest students. Most of the students felt that it would have been better to

omit them from the course.

Asked to make recommendations for improving the program, the students had many worthwhile suggestions, which they mentioned in the student-teacher conferences and in the follow-up to the previous questionnaire which they did on February 18, 1976. The students indicated that with a little better organization and refining, it could possibly become an important part of the school curriculum. The program should have been spread out over a longer period rather than be cramped into a single term. Notetaking should be related to the student's own texts. Listening Skills should be adapted to the student's level and interests. Reading materials needed to be updated or removed from the program. The films shown were generally out of date even though they conveyed useful information. A few of the slower students said that they would have liked more time for each of the power builders.

A FOLLOW-UP QUESTIONNAIRE

Nine months after the internship project was completed, the intern did a follow-up survey with the students involved in the training program to assess their opinions and feelings towards the project. The intern's assumption was that with the lapse of nine months, students would be in a better position to judge the program more objectively. If students felt negatively toward the program they would feel freer to fill out the questionnaire accordingly, without any misgivings or fears that the intern would be prejudiced towards them.

The questionnaire contained four questions. Question One inquired whether the students liked the Reading-Study Skills Program they had undertaken last year. Question Two asked whether students had gained

from the program. Question Three inquired whether the program had helped the students, and Question Four inquired whether the students felt that this program with refinements could become part of the school program. Fifty-seven copies of the questionnaire were handed out and fifty-three were collected.

Table 10 posts the responses of fifty-three students.

Table 10

Response Frequencies to Follow-up Questionnaire

Questions	Yes	Undecided	No
1. Did you like the Reading-Study Skills Program?	41	3	9
2. Do you feel that you have gained from the program?	35	15	3
3. Has the program helped you?	34	15	4
4. Do you feel that with improvements this program can become part of the school program?	38	10	5

THE INTERN'S EVALUATION

By way of evaluation the intern felt that the project had been of benefit to the students. However, one facet of the Nelson-Denny Reading Test proved worrisome to the intern due to the exaggerated high scores obtained on the Reading Rate subscale, particularly for one group of below-average students.

The manner in which reading rate was assessed on the Nelson-Denny

Reading Test left much to be desired. This section of the test required the student to record the number of words he read during the first minute of reading the comprehension unit. The intern felt that no emphasis had been put on comprehension and that all the emphasis had been placed on reading speed, thus raising the question regarding what was adequate comprehension and when comprehension was adequate.

While this deficiency seemed to present a problem to a satisfactory analysis of data, it must be remembered that reading rate was just one of very many variables in the project that was interpreted, and as such does not merit all the attention. Furthermore, the tendency on the part of students to exaggerate their scores must not also be discounted. During the training program students were encouraged to try to read faster so as to enable them to learn to make fewer fixations per line of print and thus facilitate the transference from reading words to reading meaning.

But this deficiency was more than compensated for in the Reading-Study Skills Program by the SRA Rate Builders. While the Rate Builders emphasized the need for speed in reading, understanding and comprehension were not sacrificed. In working on a rate builder, the student was required to read a passage and then to attempt to answer the questions that followed within a definite time period. The number of correct responses given within the time period gave the student his 'rate' score. In addition, students were encouraged to take a little more time after the time signal to stop was called so that they could complete all the questions and thus obtain their 'power' or comprehension scores.

The post-test results, which appear in the preceding chapter, showed 'real' gains made by the students in reading comprehension, vocab-

ulary, and speed. But not all the students indicated that they were able to apply the skills gained through the project to other areas of the school curriculum.

Several reasons can be adduced for this apparent lack. The main thrust of the project had been to develop speed, comprehension, and vocabulary skills. The program of developing study skills was centered entirely on the SRA laboratory being used at the time, without sufficient carry-over into the other subject areas. The project schedule did not allow much time and opportunity for the students to apply the SQ3R study technique to other subject areas. The intern considers this to be a deficiency in the project and feels that if he had the opportunity to do this project over again, he would perhaps, substitute the Listening-Notetaking Skill Builders for the application of study-skill techniques to other subject areas of the curriculum. Of course, it must also be realized that it was not the purpose of the project to achieve all the objectives set out in the project. It was, perhaps, sufficient that a strong foundation be laid upon which to build study skills. Many students commented that the program would have been more profitable to them if it spanned a longer period of time. The intern fully concurs with this observation.

SUMMARY AND RECOMMENDATIONS

The purpose of this internship project was to initiate a program of improving Reading and Study Skills at Gonzaga High School.

The program was geared to investigating the study habits and attitudes and reading skills of grade ten students, and then to embarking on a program to improving their reading and study skills.

First of all, the project entailed the administration of a battery of tests to ascertain the study habits and attitudes of the students and their reading ability. Secondly, it involved the induction of the students into a rigid schedule of training in reading and study skills. Thirdly, it involved the administration of a post-test in reading to determine what gains the students had made.

The project focused on whether students involved in the training program would obtain better scores on the post-test than students who had received no training, and whether or not they could be expected to read faster and with greater comprehension than students who had received no such training. The investigation was also meant to examine the relationships which existed between the number of variables in the study. The investigation also set out to discover what other teacher-observed gains existed which did not become immediately apparent through the analysis of data.

After the preliminary tests had been administered, to the control and experimental groups, a nine-week training program in reading and study-skill improvement was implemented in which students of the experimental group were involved.

The Reading-Study skills program focused on building reading power and rate together with listening and listening-notetaking skills together with their ancillaries. Audiovisual materials were used to supplement the students' knowledge of the various program skills. At the close of the program, the post-test was administered and the tests were scored and analyzed.

The results of the analysis showed that students involved in the reading and study-skills program had in fact made good progress in

reading comprehension, vocabulary and reading rate. A pretest/post-test correlation of student scores on the reading test proved to be significant. Other close positive correlations were shown to exist between: motivation and reading ability; IQ and reading ability; study attitude and motivation; grade point average and reading ability; study habits and reading ability; and reading ability and study orientation.

As a result of the analysis of scores on the Survey of Study Habits and Attitudes and the Nelson-Denny Reading Test and, in addition, the intern's own observations, the following factors were found to be essential to success in reading and achievement: a positive attitude towards self and school; motivation to up-grade oneself; desire to know; challenging reading material; interesting reading material; appropriate reading material.

In the light of the findings of this project and the experience obtained in the Reading-Study skills program, the intern would like to make the following recommendations:

1. Training in Reading and Study skills should be extended over the span of an entire year at least. A program spread over a period of two or more years would, obviously, be most beneficial.

2. In using material like the SRA Reading Laboratories, it is essential to ensure that the reading material is relevant to the age, maturity, and cultural aspirations of the students.

3. Listening and listening-notetaking programs should be geared to the resource materials currently being used by the students.

4. A longer period of time should be spent in training the students to apply SQ3R techniques to their textbooks in other subject areas.

5. Above all, it is essential to keep aware of the motivational level of the student and the need for flexibility in adapting the program whenever it is necessary to help students overcome their frustrations.

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