68-7542

LEWANDOWSKI, Glen Andrew, 1940-
AN ANALYSIS OF PERCEIVED KNOWLEDGE AND KNOWLEDGE OF STUDY SKILLS BY EXPERIENCED INTERMEDIATE GRADE TEACHERS. [Pages 92-103, "Spitzer Study Skills Test" and pages 105-112, "Tyler-Kimber Study Skills Test" not microfilmed at request of author. Available for consultation at The University of Oklahoma Library].

The University of Oklahoma, Ph.D., 1968
Education, teacher training

University Microfilms, Inc., Ann Arbor, Michigan

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

AN ANALYSIS OF PERCEIVED KNOWLEDGE AND KNOWLEDGE OF STUDY SKILLS BY EXPERIENCED INTERMEDIATE GRADE TEACHERS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

BY

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Norman, Oklahoma

1968

AN ANALYSIS OF PERCEIVED KNOWLEDGE AND KNOWLEDGE OF STUDY SKILLS BY EXPERIENCED INTERMEDIATE GRADE TEACHERS

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This educational research is dedicated to my parents, Theodore and Elsie Day, in appreciation to the contribution they made to the education of their children.

ACKNOWLEDGEMENTS

The writer wishes to express his sincere appreciation and gratitude to those whose continued guidance and assistance proved invaluable to this research. Particular appreciation is extended to Dr. John F. Rambeau, initial major professor and committee chairman for the writer, for his encouragement and helpful advice. In addition, particular appreciation is expressed to Dr. Robert Curry who assumed the position vacated by Dr. Rambeau. Likewise, appreciation is expressed to Professors Henry R. Angelino, Glenn R. Snider and Franklin Parker for invaluable assistance and generous portions of their time rendered to the writer. Appreciation is also expressed to Drs. Charles M. Bridges and Ronnie L. Moss whose counsel was beneficial in the selection of statistics used.

To Dr. Earl F. Rankin, Jr., Mrs. Dorothy Bracken, and again to Dr. Robert Curry, appreciation is expressed for approval of the list of study skills selected.

To Dr. William C. McNeil, superintendent of public schools in Bowling Green, Kentucky; the principals and teachers of the public schools of Bowling Green, Kentucky; and the seniors in elementary education at Western

Kentucky University, without whose co-operation and understanding this research would not have been possible, appreciation is extended.

Finally, the writer wishes to express his appreciation to Harcourt, Brace and World, Inc., for allowing the Spitzer Study Skills Test to be included in this research.

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CHAPTER I

INTRODUCTION

The Background and Need for the Study

Reading is probably the most fundamental skill a student learns to use in his academic career. The importance of reading can be realized by Heilman's statement that in elementary school "the curriculum is based on reading."[1] Smith offers the opinion that reading is basic to education. She reported that shortly after the release of the first Russian satellite in 1957, a concern about the teaching of reading started to manifest itself. This concern resulted in an increased amount of attention given to the study skills.[2]

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[1]Arthur Heilman, Principles and Practices of Teaching Reading (Columbus, Ohio: Charles E. Merrill Books, Inc., 1961), p. 74.

[2]Nila B. Smith, American Reading Instruction, rev. ed. (Newark, Delaware: International Reading Association, 1965), pp. 308, 311, 360.

Generally, the student learns to read in the primary grades and reads to learn in the intermediate grades. Thus, he needs to develop a knowledge of study skills and their use early in his academic career. Instruction in the use of study skills ideally should start in the primary grades and be reinforced at every subsequent grade level commensurate to the student's ability. The first question one would ask is what study skills need to be taught? A brief review of the literature indicates no determined number of study skills that should be taught. Two studies, The Torchlighters and The First R, report agreement on the part of teachers that study skills should be taught, but that the teaching of study skills are, in fact, being left mostly to incidental learning on the part of the student.[3,4]

Since the student needs study skills to aid his learning, the common study skills should be identified. The intermediate grades are the levels at which study skills are first needed for practical application. Therefore, it becomes the responsibility of the intermediate grade level teacher to teach the common study skills to the students. Yet, no study has been made to identify the common study skills that should be introduced at the intermediate grade

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[3]Mary C. Austin, The Torchlighters: Tomorrow's Teachers of Reading (Cambridge, Massachusetts: Harvard University Press, 1961), pp. 14-15, 151.

[4]Mary C. Austin and Coleman Morrison, The First R: The Harvard Report on Reading in Elementary Schools (New York: The MacMillan Company, 1963), pp. 68-69.

level and to determine the competency of experienced intermediate grade level teachers to teach these study skills. A need, therefore, exists to identify the common study skills that should be taught in the intermediate grades in addition to the skills particular to a content area. Concurrent with the identification of the common study skills, there is a need to determine the ability of intermediate grade teachers to use these very basic study skills assuming that in order to teach the common study skills effectively the teachers must have some knowledge of these skills.

The findings of this study should enable educators to identify these study skills common to any school subject, and those study skills that need to be stressed in intermediate grade level teacher preparation, workshops, summer institutes, and in-service training.

Statement of the Problem

The problem of this study was to determine the self-perceived knowledge and the knowledge of selected common study skills by experienced intermediate grade level teachers using senior elementary education majors as a control.

In order to complete this research the investigator did three things: one, developed, validated, and administered an instrument to the experienced intermediate grade level teachers and the group of senior elementary education majors; two, administered the Spitzer Study Skills Test, and the Tyler-Kimber Study Skills Test--parts one, four, five

and seven--to the two groups; three, treated statistically the results of the instrument, the Spitzer Study Skills Test, and the Tyler-Kimber Study Skills Test--parts one, four, five and seven.

Hypotheses

As a result of reviewing the related literature, and in an effort to integrate the findings of this study into the field of educational research, the following hypotheses were presented:

1. In experienced intermediate grade teachers, there is no significant difference between self-perceived knowledge and a knowledge of selected common study skills as measured by the instrument developed, and the Spitzer Study Skills Test, and the Tyler-Kimber Study Skills Test, parts one, four, five and seven.

2. There is no significant difference between the self-perceived knowledge of selected common study skills of experienced intermediate grade teachers, and a control group of senior elementary education majors.

3. There is no significant difference between the knowledge of selected common study skills of experienced intermediate grade teachers and a control group of senior elementary education majors.

4. There is no significant point in time, pre-service or in-service, that experienced intermediate grade teachers learned the specific study skills.

The basic assumption underlying the four hypotheses was that in order to teach the use of study skills effectively, intermediate grade level teachers should be able to use the study skills themselves.

Delimitation of the Study

This study was limited to intermediate grade teachers who had taught one year or more, and to elementary education majors who expected to teach the intermediate grades when they graduated. The subjects were located in Bowling Green, Kentucky. The population of this study consisted of 200 subjects who met the criteria stated above.

Definition of Terms

Common Study Skills--The term "common study skills," as used in this study, included the use of parts of a book, an index, general reference books, knowledge of common abbreviations, library card catalogue, maps, charts, graphs, dictionary, current periodicals, organizing materials, note-taking, and the Survey Q3R study method.

Experienced Teachers--Teachers who had taught one year or more in their respective grades.

Intermediate Grade Level--Grades four, five, and six in elementary school.

Perceived Knowledge--In the opinion of the teacher, the degree of competency he had in teaching a particular skill, or, in the case of this study, the common study skills.

Spitzer Study Skills Test--A test designed to measure a student's ability to use the dictionary and index, to understand graphs, tables, and maps, to find sources of information, and to organize in notetaking.

Tyler-Kimber Study Skills Test--A test designed to measure a student's ability to locate information and use references and reference materials in eight areas of study. Four parts of this test were used in this study.

Self Perception Inventory--A listing of eleven selected common study skills in which experienced intermediate grade level teachers, and seniors in elementary education, indicated their opinion of their own teaching competency in each study skill, and indicated where the skill was learned.

Use of a Book--The ability to locate and use the preface, table of contents, index, and date of publication.

Use of Index--The ability to use the index of any book or other written material.

Use of General Reference Books--The use of such books as the atlases, encyclopedias, almanacs, Who's Who in America and the Reader's Guide.

Knowledge of Common Abbreviations--Knowledge of the meanings of abbreviations such as e.g., ibid., and op. cit.

Use of Library Card Catalogue--The ability to use the library card catalogue system effectively.

Use of Maps, Charts, Graphs--The interpretation of data when presented in the form of maps, charts, and graphs.

Use of Dictionary--The use of alphabetical order, guide words, and dictionary entries to determine word origins, pronunciation, and spelling.

Use of Current Periodicals--To make use of headlines, editorial pages, and the physical make-up of such literature as newspapers, and news magazines.

Organizing Materials--The ability to take material from various sources and arrange it into a meaningful statement.

Notetaking--The ability to recognize and record major and minor ideas in materials.

Survey Q3R Study Method--A method of study which involves a quick (three to four minutes) survey of the length and organization of an assignment in a book; the formation of a question from the divisional heading; reading to answer the question formed; oral or written recitation of an answer to the question; a repetition of forming a question, reading to answer a question and reciting the answer until the assignment is completed; and finally, a review of questions formed and answers obtained while completing the assignment.

Experts in the Field of Reading--Persons directing a reading clinic at the college or university level and/or teaching one or more courses in reading.

Procedures

Methodology

An instrument to elicit a response from the subjects concerned, along with their opinion of their own teaching competency in eleven selected common study skills, was designed.[5] This instrument also required a response as to where, in the teachers' opinion, they gained the knowledge of the particular skill. The two study skills tests used to test knowledge of the common study skills were the Spitzer Study Skills Test and the Tyler-Kimber Study Skills Test.

It was determined that a normative-survey method should be used. In order to develop the instrument, a survey of the professional literature was undertaken to identify the eleven common study skills. Then, two study skills tests were selected to measure knowledge in the eleven common study skills.

The instrument, the Spitzer Study Skills Test, and the Tyler-Kimber Study Skills Test were administered to 200 subjects following the establishment of the reliability and validation of the instrument. Of the 200 subjects, complete returns were obtained from 148.

Summary of the Spitzer Study Skills Test

The Spitzer Study Skills Test is for grades nine through twelve. It is designed to measure use of:

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[5]A copy of the instrument appears in Appendix B.

dictionary, index, graphs, tables and maps, sources of information, and outlining.

Summary of the Tyler-Kimber Study Skills Test

The Tyler-Kimber Study Skills Test was designed to measure certain skills and fundamental understandings needed in finding information in studying. It is for use in grades nine through thirteen. The skills measured are: locating information in a book, using an index, using general reference books, recognizing common abbreviations, using the library card catalogue, interpreting maps and graphs, and knowledge of current periodical literature.

Sources of Data

The data for this study were obtained from the responses to an instrument, the Spitzer Study Skills Test, and the Tyler-Kimber Study Skills Test, by the experienced intermediate grade teachers in Bowling Green, Kentucky, and elementary education majors enrolled at Western Kentucky University.

Organization of the Study

This study involves five chapters related to the thesis. In Chapter I, the problem, its purpose and definition are outlined. Chapter II contains a survey of related literature. The methodology, procedure and statistical treatment of data comprise Chapter III. Chapter IV pertains to the results of the instrument, the Spitzer Study Skills

Test, and the Tyler-Kimber Study Skills Test--parts one, four, five and seven--and the hypotheses. The conclusion and implications are presented in Chapter V.

Summary

The continuous claims of writers about the lack of study skills possessed by students in the intermediate grades, and the corresponding lack of competence by intermediate grade teachers to instruct students in these skills, stimulated the writer to analyze the extent to which these study skills were possessed by experienced intermediate grade teachers, and to analyze their perceived knowledge of their own ability to teach these skills. The following questions constituted the frame of reference of this study: Do experienced intermediate grade level teachers possess the knowledge to use the common study skills? What are the attitudes toward teaching competency in the common study skills held by experienced intermediate grade level teachers? What relationship exists between possession of the common study skills and the attitudes toward competency in teaching the common study skills as held by experienced intermediate grade level teachers? Where were these study skills learned? The purpose of this study was to answer these questions.

CHAPTER II

REVIEW OF RELATED LITERATURE

A survey of the literature indicated an extreme lack of research pertaining to intermediate grade teachers' abilities in the study skills area. There has, however, been a large amount of research concerned with the study skills and habits of students. The following articles either indicated a lack of ability by students, or a teaching problem area in the field of study skills. The studies mentioned indicated a need for intermediate grade teachers to identify and teach study skills.

Giles, in an investigation of the study skills and methods of students, found that approximately fifteen to twenty percent of the students apparently had no method of study.[6]

Germane, in two experiments with children in grades six, seven, and eight, found that when students read to answer questions in their assignments, their reading was much more efficient. In one of the studies, the group with

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[6]F.M. Giles, "Investigation of Study Habits of High School Students," School Review, XXII (September, 1914), pp. 478-484.

questions to be answered in reading exceeded the group with no questions to be answered by 30.5 percent on a test over the material; and in the second study, the group with questions to be answered on a follow-up test exceeded the group with no questions to be answered by 53.8 percent.[7]

Thiel studied the major problems of 205 teachers in 1928-29. He prepared a list of twenty-two items and had the teachers rank them. The first, eighth, and ninth ranked problems were respectively: inadequate pupil preparation, effective drill work to insure retention, and lack of knowledge of reference materials. Of the twenty-two items, six were related to study skills needed by the students.[8]

In a study by Hollingsworth, Lacey, and Shannon, of school subjects and the difficulty of teaching them, intermediate grade teachers listed in order of difficulty: social studies, language arts, science, and mathematics. In particular, they listed geography, history, civics, language and composition, and reading as the most difficult to teach. The causes listed for this difficulty were most frequently: methods courses unrelated to actual class, inadequate textbooks, no organized course of study, selecting and organizing units of work, and insufficient training in teaching

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[7]Charles Germane, "The Value of Controlled Mental Summary as a Method of Studying," School and Society, XII (December 11, 1920), pp. 591-593.

[8]Richard B. Thiel, "What Major Problems Confront the Classroom Teacher," Nation's Schools, VI (September, 1930), pp. 27-32.

methods.[9]

Payne reported on the teaching of a "how-to-study course" employed in a research study conducted with students. He divided the students into regular classes with supervised study, and into extra study groups under the supervision of specialists in teaching how to study. From this research he obtained the following results: one, many of the pupils had overcome difficulties in studying; two, many of the pupils made up deficient work; three, many of the pupils who made habitual failures had changed their attitude toward life; and four, the rate of failure in his school had been substantially lowered.[10]

A survey of the literature indicated many of the reading difficulties of secondary students and beginning college students arise from inadequate knowledge of, or training in, study skills. McCallister studied the reading difficulties of junior high pupils in American history, mathematics, and general science and found almost half of the difficulties could be classified in a category called habits of study or study skills, methods, and techniques.[11]

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[9]Mary R. Hollingsworth, Joy M. Lacey, J.R. Shannon, "School Subjects Which Elementary School Teachers Find Most Difficult and Those Which They Find Easiest to Teach," Educational Method, X (October, 1930), pp. 75-83.

[10]W.L. Payne, "Methods in Teaching How to Study," School Review, XXXVIII (October, 1930), pp. 598-604.

[11]James M. McCallister, "Reading Difficulties in Studying Content Subjects," Elementary School Journal, XXXI (November, 1930), pp. 191-201.

Blatz stated that a teacher's mission was "not to teach a child what to learn, but rather how to learn."[12] This was a statement that Blatz felt every teacher should know.

Kyte conducted a study of problem teachers in the elementary grades in 1932. He diagnosed sixty-nine teachers classed as problem teachers because they were placed in in-service training all the time. The teachers were studied in three general areas, the teacher, the teaching procedure, and the children they teach. In the area of specific skills, Kyte found that forty-nine percent of the teachers failed to make satisfactory use of instructional materials, and only about twelve percent used materials advantageously a small amount of the time spent in teaching.[13]

Austin reported the need to teach students, not subjects, and made six recommendations. The fourth item was:

> The teacher owes it to the child to teach him how to study--not how to study in general, but how to study the particular materials at hand depending upon the goal set for that particular class. Some goals are skills, some are appreciations, some are factual information. These goals require different methods of study and the child, if he has them at all, he has them only in part. If he has them completely, he should not be in school.[14]

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[12]William Blatz, "What Every Teacher Ought to Know," Progressive Education, IX (May, 1932), pp. 362-363.

[13]George C. Kyte, "The Problem Teacher in the Grades--A Composite Picture," Nation's Schools, IX (May, 1932), pp. 55-60.

[14]E.L. Austin, "Teaching Students Instead of Subjects," American School Board Journal, XXCV (September, 1932), pp. 21-22.

Dynes stated that investigations made of study habits of pupils indicate pupils waste time in school because they do not know how to study. Dynes further stated that pupils reveal a great ignorance in the knowledge of how to study. He found that children were little acquainted with proper methods of study and that they had little knowledge of the most economical way of studying. He also found teachers had little knowledge about the relative value of different study techniques. To test two techniques he used a read and reread technique, and a rapid reading, underlining, review, summary, and review technique. The students in his study used these two techniques in studying history. He found the rapid reading, underlining, review, summary, and review to be superior in total amount learned and retained.[15]

Johnson and Umstattd studied the classroom difficulties of beginning teachers. The study covered seven subject matter fields. The difficulties were divided into most difficult, intermediate, and least difficult. In the most difficult category, remedial instruction was listed first, and training in habits of study and supervised study ranked third in the twelve items listed.[16]

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[15]J.J. Dynes, "Comparison of Two Methods of Studying History," Journal Experimental Education, I (September, 1932), pp. 42-45.

[16]Palmer O. Johnson and J.G. Umstattd, "Classroom Difficulties of Beginning Teachers," School Review, XL (November, 1932), pp. 682-686.

Howell, in a survey, found young elementary school children benefit more from instruction in study skills than do adolescents. He also found knowledge of study skills does not increase appreciably from junior high school to junior college.[17]

Yoakam stated that the improvement of reading and study habits was a school problem, since few persons ever develop study habits unless they do so in school. The problem was very difficult in the middle grades because of the disparity between what authors of textbooks think children should learn and what the children were interested in. Yoakam stated that the children needed exercises and practices in these grades to develop their study skills. He also felt that teachers needed to realize that teaching study-reading is a necessary experience for children. Teachers must also understand the complexity of study, and regard themselves as directors of the study process. Yoakam indicated that teachers must teach the students these study-reading skills, or the children will miss a large part of their education.[18]

Cuff indicated, as did Howell, that study skills tend to reach a peak in the elementary grades and

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[17]W.J. Howell, "Work Study Skills of Adolescents in Grades VII-XIV," School Review, LXI (May, 1935), pp. 277-282.

[18]G.A. Yoakam, "Improvement of Reading and Study Habits," Elementary School Journal, XXXVI (November, 1935), pp. 175-184.

crystallize at this point. Cuff also stated that study skills are formed early as a result of trial and error.[19]

Dudley professed that in the elementary grades school children should have experiences to develop study skills. These include having objectives, exploring, organizing, learning to plan, having a purpose when doing a job, seeing relationships, and using books as sources of information. Dudley also felt that the type of reading skills developed in the early grades have a very important bearing on the study problems of later grades. Dudley claimed that the contribution of the early grades is one of experiences, experiences in which the student gains some definite study skills and places a value on certain ways of working.[20]

DiMichael reported results of the transfer effect of a how-to-study course and its effect in various academic subjects. He was concerned with the transfer of study skills knowledge into actual practice; the level of intelligence which derived the most benefit from a how to study course; and the amount of transfer in history, Latin, and algebra. DiMichael used 192 cases in a matched-group, control-type experiment. He used a superior group and an average group. The experimental group received twenty-seven class sessions

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[19]Noel B. Cuff, "Study Habits in Grades 4 to 12," Journal of Educational Psychology, XXVIII (April, 1937), pp. 295-301.

[20]D.R. Dudley, "Learning to Study in the Early Grades," Educational Methods, XVII (May, 1938), p. 381.

in how-to-study techniques. Such factors as teacher efficiency, class size, equipment, books, and assignments were controlled. DiMichael found the superior students performed significantly better in history after the how-to-study course. There was no significant difference in the other subjects between the groups, although there was a slight superiority in performance when groups were compared. DiMichael concluded: one, a how-to-study course has proved value for middle groups of mental ability; two, students of poor mental ability do not profit noticeably from such a course; three, the how-to-study course did not prove its value objectively for students of the highest mental ability; four, returns of a how-to-study course are in proportion to a student's mental ability, but will not compensate for lack of mental ability; five, the transfer effect of a how-to-study course should be judged with reference to a particular criteria, not total average grade of a student; six, transfer effects upon academic subjects were not the same in numerous studies because of the materials used; and seven, transfer effects must be determined with reference to mental ability.[21]

Dallman studied intermediate grade teachers of reading and found the problems most frequently mentioned were remedial work, development of fundamental skills, vocabulary and word recognition, and organization of the

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[21] Salvatore G. DiMichael, "The Transfer Effects of a How to Study Course Upon Different IQ Levels and Various Academic Subjects," Journal Educational Psychology, XXXIV (March, 1943), pp. 166-175.

reading program. Teachers were of the opinion that these aforementioned items should be covered in pre-service education courses.[22]

Traxler found in a survey that students, left to their own means, do not improve significantly in such skills after the early grades in elementary school.[23]

Dakin expressed the idea that "standards for achievement in the skills of study and learning are an important responsibility of the school."[24]

Hunnicutt stated that all of the study skills being taught students in the reading clinic at Syracuse University had roots down through the secondary school and into the elementary school. He indicated that children needed an earlier start in using study skills for increased success in school work from the first grade to college level. Among the important areas to be developed in the elementary level, and specifically during the intermediate grades, were use of general references, use of books, use of a dictionary, use of a library card catalogue, concentration while reading, and study type reading. Hunnicutt conveyed the opinion that

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[22]Martha Dallmann, "Is the Pre-Service Preparation in Reading of Intermediate Grade Teachers Adequate?" Elementary School Journal, XLIV (November, 1943), pp. 152-156.

[23]Arthur Traxler, "The Improvement of Study," School Review, LIII (May, 1945), pp. 286-293.

[24]W.S. Dakin, "Learning and Teaching in the Public Schools," Educational Administration and Supervision, XXXIII (May, 1947), p. 315.

if well-rounded skills are to be developed, each of the skills must be presented to the student at every age level in a context and level of complexity commensurate with the student's state of maturity. He stated that the skillful approach to learning should become habitual at an early age.[25]

Bond agreed with Cuff in that the development of the needed study skills is for most students accomplished by trial and error without help from teachers. Starting in the elementary school, and continuing until a student finishes his final grade in school, the use of the textbook is one of the most important skills the student uses in his learning. The student's ability to use the textbook will determine to a large degree the academic success he achieves. The ability to use a textbook becomes very important at the fourth grade level and continues through college, for it is at the fourth grade level that the student leaves "reading, writing and arithmetic," and begins to study history, geography, science, health, spelling, arithmetic and English. Each of these subjects is presented in its own text.[26] It is at this time that the use of study skills becomes very important. Note that Cuff and Bond have identified a similar item in study

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[25]C.W. Hunnicutt, "Study Skills Start Early," Education, LXVIII (June, 1948), pp. 620-624.

[26]G.W. Bond, "Developing Study Skills in the Intermediate Grades," Elementary English, XXIX (November, 1952), pp. 397-401.

skills development. The item being study skills development by trial and error. Yet, these two studies were conducted approximately twenty years apart.

By using the autobiographies of children in grade four, Howell used a matched group technique to determine the meaningfulness of study skills concepts. One group was given instruction in study skills, the other group was given no instruction. The instruction covered twenty-three units of work. One result of this intensive work in study skills was that the items became a part of the child's thinking. Using Chi Square, he found the difference between the groups to be significant at the one percent level and this was attributed to the work in study skills. He also reported concept formation of study skills was higher in the group receiving no instruction. When tested on study skills, all of the children receiving instruction exceeded the norm in all areas of study skills except map reading.[27]

MacCurdy, Murphy, Adams, and Vacca investigated the failing marks received of some of the students in a secondary school. The results indicated that the students had never been taught to study effectively. After instructing the students in how to study, the marks before and after the instruction were compared. There was a gain of .49 grade

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[27]Wallace J. Howell, "Concept Formation of Work Study Skills By Use of Autobiographies in Grade Four," Journal Educational Psychology, XLIV (May, 1953), pp. 257-265.

points for the group receiving how-to-study instruction.[28]

Barnes, in a study of intermediate grade teachers, found that teachers placed major emphasis upon the mechanical aspects of reading, and failed to provide stimulation and opportunity both for work-study skills, and for critical evaluation of materials. He suggested that teachers were not prepared to understand the developmental nature of the reading program, and that in-service education was needed to remedy the situation.[29]

Sartain, in study skills research, found outlining, summarizing, recitation after reading, repetition, and meaningfulness to be among the skills useful in study. He reported that instruction in study skills aided immediate and delayed recall of material studied; listed several principles that are involved in a successful study; and also stated that students should be given a thorough grounding in the science of study.[30]

McLane studied the answers of students in a psychology class and classified their answers to a question

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[28]Robert D. MacCurdy, Virginia M. Murphy, Alfred S. Adams, and Carla Vacca, "Can We Teach Them How to Study," School Review, XLII (September, 1954), pp. 357-360.

[29]Elenor Agnes Barnes, "A Survey of Reported Practices Currently Used by Intermediate Grade Teachers in New York State in Reading Instruction" (unpublished Doctor's Dissertation, Syracuse University, 1956).

[30]H.W. Sartain, "How Children and Youth Learn To Study," Educational Leadership, XVI (December, 1958), pp. 155-160.

concerning the most useful study techniques they had been presented with in the class. The students listed: one, use correct study habits; two, develop a desire to learn; three, pay attention in class; four, realize the importance of home work, and five, prepare for tests. From these results she stated that a systematic attempt to develop better study habits can be both interesting and practical.[31]

Smith's belief that, "perhaps because our recognition of this category is recent, we are not yet sure exactly what skills belong under this heading. This fact may explain why some elementary school teachers have not yet fully sensed the significance of their role in developing study skills in primary and intermediate grades."[32] She continued by saying that,

> certain skill is, however, common to all study situations, skills we use only when we are studying reading content. These skills are needed in reading in all content fields. Whether a child is working with text in science, geography, history, health or arithmetic, he needs to: select and evaluate, or pick out important parts of the text; organize, or put together ideas that belong together; recall what he has read, or fix it so he can bring it back when he wants it; locate information in textbooks, reference books, and periodicals; follow directions. These are basic study skills. Reading proficiency could be improved immeasurably if more attention were given to the development of study skills in the intermediate grades. Perhaps this is one way of reducing reading casualties

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[31]Mary McLane, "Improving Study Habits," Social Education, XXIII (November, 1959), p. 336.

[32]Nila B. Smith, "Teaching Study Skills in Reading," Elementary School Journal, LX (December, 1959), p. 158.

> in high school and college, where knowing how to study is the most important category of all reading skills.[33]

Hoyt and Blackmore, in a study of grades one through seven, found that students, in general, read above expected achievement until the fourth grade and then, although there was a slight gain for the year, the achievement fell below the expected level in the fifth grade and did not return to the expected level again. They also found that for the first three or four grades the reading achievement and capacity was parallel, but at the fourth or fifth grades a minus deviation between achievement and capacity began to occur, and continued throughout the grades up to the seventh, with about eighty-five percent of the cases not returning to their expected achievement level. Hoyt and Blackmore stated that some causative factors must have been operating in grades four, five, and six, for it was at these levels that the children did not work up to their capacity in the reading program. Study skills was one area of reading skills covered in this study, and the authors stated that the kind of instruction offered the children in the intermediate grades was the most decisive factor in the minus deviation. The authors also stated that the intermediate grade teachers should become aware of the necessity for teaching reading skills throughout the day, in all learning situations, in all content material, and in all periods designated as

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[33] Ibid., pp. 159, 162.

reading periods.[34]

Horn found that educators ready themselves for pedagogical battle behind such terms as "creative" and "systematic". He stated that the powers of reason are sometimes clouded by emotion. However, Horn believed teachers are still facing the problem of just how to teach effective work-study skills. Whether teachers use the basal readers and content books, or common methods of instruction in a unit, teachers voice the common question, "How can I help children to develop effective work-study skills?" Some of the skills Horn found that needed to be taught were: one, purposeful reading, two, location of information, three, dictionary usage, four, relationships of words and appropriate meanings for words for the context. Horn indicated consistent emphasis needed to be placed upon purposeful use of study skills, and upon functional systematic practice of these skills.[35]

Sister Philomene suggested that a prerequisite of efficient study was mastery of the skills to be used in the learning situation. Among the skills needed were the following: one, the use of the index, two, selection of proper

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[34]Jeanne S. Hoyt and Dorothy S. Blackmore, "Fifty Seventh Graders: A Comparison of Their Reading Achievement and Expected Achievement in Grades One Through Seven," Journal Educational Research, LIII (January, 1960), pp. 163-171.

[35]Thomas Horn, "Work Study Skills: Some Neglected Areas," Education, XXCI (May, 1961), pp. 521-523.

reference books, three, use of the dictionary, four, location of information, five, evaluation of material, and six, organization of material obtained. She indicated that the effective use of these skills determines to a great extent the achievement of the student in the area of social studies.[36]

Miller studied academic failure at the college level by collecting the students' and counselors' opinions as to why students failed. The results of the study indicated that both the students and the counselors identified poor study habits and insufficient study as the major reasons for academic failure. Both frequency of mention and weighted rank value placed these two items at the top of the trouble list.[37]

Austin and Morrison investigated the teaching practices of elementary teachers and, in the area of study skills, they found, aside from the development of technical vocabulary, there was only limited evidence that study skills had been taught. They found that one of the more interesting and significant reasons advanced concerned the lack of information on the topic. Very few curriculum guides gave

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[36]Sister Philomene, S.C., "What Should Be Done To Prepare Students for High School With Respect to Study Skills," National Catholic Educational Association Bulletin, LIX (August, 1962), pp. 272-273.

[37]Adele M. Miller, "Reasons for Academic Failure," Journal Experimental Education, XXXI (December, 1962), pp. 206-209.

material on teaching study skills.[38] In an earlier study concerned with the training of teachers of reading, Austin found study skills received only moderate attention in their preparation. In connection with this, college instructors listed intermediate grade study skills second as a topic which should receive more emphasis in teacher training.[39] Thus a survey of the literature indicated study skills is a problem not only for the students, but for the teachers as well.

Spache indicated that training in the study skills should be an essential part of the reading program in elementary and secondary schools, for the basal reading program does not prepare the child for reading in the content fields; and that study skills training will allow the student to deal effectively with reading other than the type encountered in the basal series. Spache also observed deficiencies in study skills among junior and senior high school students which indicated the need for a program in study skills to start in the elementary grades and continue to high school.[40]

Smith stated that there are certain common study skills needed when studying any content subject. Her view

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[38]Austin and Morrison, op. cit., pp. 50-51.

[39]Austin, op. cit., pp. 45, 110.

[40]George Spache, Toward Better Reading (Champaign, Illinois: Garrard Publishing Company, 1963), pp. 334-335.

was that in the intermediate grades students are ready to take the steps necessary to learn these common study skills, and that during the intermediate grades teachers should actually establish those skills that will serve the student through his high school and college days. Also during the intermediate grades, Smith stated, students should develop the permanent habit of using those common study skills.[41]

Adams sent a questionnaire to teachers in Florida elementary schools. She surveyed the literature and for the questionnaire constructed six categories in teaching reading. The questionnaire was designed to test the teachers' judgments of their own needs for learning about the various aspects of reading instruction. In this study, Adams identified twenty-eight aspects of teaching reading that the 268 responding teachers felt they needed a better understanding of in order to teach them. In the category of teaching the reading skills, two of the five items listed refer to the importance of study skills. The first was the teaching of critical reading and comprehension at all grade levels, and, second, the importance of teaching the study skills required for reading in the content fields, and the practices involved.[42]

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[41]Nila Banton Smith, Reading Instruction for Today's Children (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963), pp. 313-328.

[42]Mary L. Adams, "Teachers' Instructional Needs in Teaching Reading," Reading Teacher, XVII (January, 1964), pp. 260-24.

Henke, investigating poor grades in his school district, found the major problem was study habits. The students had not learned how to use proper study skills. He started a project in the schools in grades six, seven and eight to teach study skills to students who were having grade problems. When the next report card period arrived, the students who were under-achievers showed tremendous improvement. Those of less native ability showed gains, although less noticeable. The project was so successful that Henke planned to expand it to the other grades.[43]

Shankman conveyed the idea that study skills must be developed from the primary level to the secondary level. She expressed a belief that study skills allow students to locate, select, evaluate, organize, retain, and communicate knowledge. Throughout life, Shankman indicated the individual must be able to apply these skills independently. She stated that these skills should be introduced in the primary grades and reinforced by practice with more difficult materials as the student progresses through school. Shankman also indicated that the application of these skills is essential to meeting the many demands of our increasingly complex society.[44]

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[43]Richard Henke, "Improving Study Habits," Wisconsin Journal Education, XCVII (April, 1965), p. 7.

[44]Florence V. Shankman, "Introducing the Study Skills," Education, XXCVI (December, 1965), pp. 230-234.

Summary

A survey of the literature indicated students at all grade levels have difficulty with study skills. Studies cited to reinforce this statement include Giles,[45] McCallister,[46] Cuff,[47] Traxler,[48] Bond[49] and Miller.[50] These researchers found that students learn study skills by trial and error or not at all. As many as twenty percent of the students had no method of study. Students do not improve appreciably in study skills after the elementary grades, and even college students perceive their poor marks as a result of poor preparation in study skills.

The literature also indicates researchers are of the opinion that students need some type of instruction in the common study skills. Dynes[51] expressed the belief that students wasting time in school due to poor study habits indicates a need for some type of instruction. Some researchers profess that students need instruction in study skills, among them are Dudley,[52] Hunnicutt,[53] Sartain,[54]

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[45]Giles, loc. cit.
[46]McCallister, loc. cit.
[47]Cuff, loc. cit.
[48]Traxler, loc. cit.
[49]Bond, loc. cit.
[50]Miller, loc. cit.
[51]Dynes, loc. cit.
[52]Dudley, loc. cit.
[53]Hunnicutt, loc. cit.
[54]Sartain, loc. cit.

McLane,[55] Philomene,[56] Smith[57] and Shankman.[58] Spache[59] declared that there is a need for study skills instruction starting in the elementary grades and continuing through high school.

Certain studies concerned with students resulted in data that indicated improved performance in study skills after a how-to-study course was conducted. Among investigations supporting this statement were studies by Germane,[60] Payne,[61] Howell,[62] DiMichael,[63] Henke[64] and MacCurdy, Murphy Adams and Vacca.[65] A comparison between students who had taken a study skills course, and students who had not taken such a course, showed that the students who had received instruction in study skills displayed superior grades in their school subjects. The amount of improvement in grades, and in study habits of various school subjects, was not consistent. The more mentally able the student, the greater the amount of improvement in performance. However, most of the students tended to improve in performance in study skills. This the researchers explained as a result of study skills instruction.

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[55]McLane, loc. cit. [56]Philomene, loc. cit.

[57]Smith, loc. cit. [58]Shankman, loc. cit.

[59]Spache, loc. cit. [60]Germane, loc. cit.

[61]Payne, loc. cit. [62]Howell, loc. cit.

[63]DiMichael, loc. cit. [64]Henke, loc. cit.

[65]MacCurdy, Murphy, Adams and Vacca, loc. cit.

In one study cited, the authors were of the opinion that many failures in reading in the intermediate grades were a result of a lack of study skills instruction given by teachers. Hoyt and Blackmore[66] indicated that study skills instruction is very important in the intermediate grades because the use of study skills is valuable in studying the content fields presented at this time.

The literature also indicated that one researcher, Smith,[67] declared that part of the study skills problem is deciding which skills are to be taught. She raised this question because there seemed little agreement as to which study skills are common to any content area.

Thus, the literature indicated five problem areas in study skills that have been questioned and/or investigated correlated to students. These areas were: student difficulties, need for instruction, results of how-to-study courses, the reason for failure in reading in the intermediate grades, and identifying common study skills.

Research with respect to the teacher in the realm of study skills covered several areas. One of these was teaching problems. Thiel,[68] Kyte,[69] Johnson and Umstattd,[70]

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[66]Hoyt and Blackmore, loc. cit.

[67]Smith, loc. cit.

[68]Thiel, loc. cit.

[69]Kyte, loc. cit.

[70]Johnson and Umstattd, loc. cit.

Dallman,[71] Adams,[72] Hollingsworth,[73] Lacey[74] and Shannon[75] are researchers who discovered that teachers listed study skills as a problem area in their teaching. The teachers in numerous ways identified a deficiency in their teaching ability in the common study skills. In conjunction with the aforementioned problem, certain investigators found teachers ill prepared in study skills. Austin and Morrison,[76] and M.L. Austin[77] indicated teachers were not sufficiently prepared in the teaching of study skills. Austin,[78] Yoakam[79] and Dakin[80] all indicated that teachers need to teach study skills in the school. Barnes[81] and Horn[82] were of the opinion that teachers fail to develop in their students the necessary study skills needed for the students to successfully meet the demands of the various subjects the pupils encounter.

Research concerned with teachers and study skills appeared to reveal problems associated with teaching the study skills, teacher preparation in study skills, and that

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[71]Dallman, loc. cit. [72]Adams, loc. cit.

[73]Hollingsworth, loc. cit. [74]Lacey, loc. cit.

[75]Shannon, loc. cit.

[76]Austin and Morrison, loc. cit.

[77]M.L. Austin, loc. cit. [78]Austin, loc. cit.

[79]Yoakam, loc. cit. [80]Dakin, loc. cit.

[81]Barnes, loc. cit. [82]Horn, loc. cit.

study skills were not being taught. Summing up research concerned with students and teachers in the sphere of study skills, this investigator found study skills to be a problem area with students and teachers. There also appeared little research to identify common study skills, and teachers' perceived knowledge, and knowledge of common study skills. The purpose of this study was an attempt to fill this apparent vacuum in educational research.

CHAPTER III

ANALYSIS OF THE DATA

The normative-survey method was used in this study. Good, Barr and Scates stated that the normative-survey "is concerned with ascertaining the conditions which prevail in a group of cases chosen for study, and is essentially a method of quantitative description of the general characteristics of the group."[83] They also wrote that the data "tend to be practical because they grow out of practical situations; and they generally answer the questions of the man in the field because they are likely to be cast in the terms in which he thinks."[84] Good, Barr and Scates wrote that survey testing is used primarily to "indicate the prevailing conditions throughout the group,"[85] and questionnaires are designed to "secure information about conditions or practices of which the recipient is presumed to have knowledge . . . to afford insights into the attitudes of

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[83]Carter V. Good, Arvin S. Barr, and Douglas E. Scates, The Methodology of Educational Research (New York: Appleton-Century-Crofts, Inc., 1941), p. 286.

[84]Ibid., p. 291.

[85]Ibid., p. 298.

the group."[86]

The completion of this study involved five major steps: one, the development and validation of the instrument; two, the administration of the instrument; three, the administration of the Spitzer Study Skills Test; four, the administration of the Tyler-Kimber Study Skills Test parts one, four, five and seven; and five, the statistical treatment of the data concerning self-perceived knowledge of common study skills by experienced intermediate grade level teachers and the control group, and their ability to use these skills. These steps were accomplished by the matched group technique.

Development of the Instrument

The development of the instrument involved the identification of the common study skills. Buffone, in an unpublished work, identified the reading textbooks most often used in state universities and colleges. These books in order of use were Reading Difficulties: Their Diagnosis and Correction, by Bond and Tinker; How To Increase Reading Ability, by Harris; Teaching Reading, by Heilman; Teaching Elementary Reading, by Tinker and McCullough; Problems in the Improvement of Reading, by Strang, McCullough, and Traxler; Children Learn to Read, by Russell; Reading Instruction in the Secondary School, by Bamman, Hogan and

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[86] Ibid., p. 324.

Greene; Teaching Reading, by DeBoer and Dallman; Reading Instruction for Today's Children, by Smith; and Teacher's Guide to Remedial Reading, by Kottmeyer.[87]

The investigator reviewed the chapters and sections concerned with study skills in these textbooks. A listing and tabulation of the study skills mentioned in these books was made. The skills identified were: use of parts of a book, an index, general reference books, knowledge of common abbreviations, library card catalogue, maps, graphs, charts, dictionary, current periodicals, organizing material,

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[87]N.J. Buffone, "A Survey of College and University Reading Programs and An Analysis of the Reading Program at the University of Oklahoma" (unpublished Doctor's Dissertation, University of Oklahoma, 1965).

notetaking, and survey Q3R study method.[88,89,90,91,92,93,94,95,96,97] The list was sent to a panel of experts for the purpose of validation and was administered to thirty-eight experienced intermediate grade teachers to determine its adequacy. This list constituted the common study skills identified for this study and the instrument to be used to test attitudes toward competency

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[88]Guy L. Bond and Miles A. Tinker, Reading Difficulties: Their Diagnosis and Correction (New York: Appleton-Century-Crofts, Inc., 1957), pp. 337-341.

[89]Albert J. Harris, How To Increase Reading Ability, 4th ed. rev. (New York: David McKay Company, Inc., 1961), pp. 446-453.

[90]Arthur Heilman, Principles and Practices of Teaching Reading (Columbus, Ohio: Charles H. Merrill Books, Inc., 1961), pp. 286-295.

[91]Miles A. Tinker and Constance M. McCullough, Teaching Elementary Reading, 3rd ed. (New York: Appleton-Century-Crofts, Inc., 1962), pp. 185-201.

[92]Ruth Strang, Constance McCullough and Arthur E. Traxler, The Improvement of Reading, 3rd ed. (New York: McGraw, Hill Book Company, Inc., 1961), pp. 387-390.

[93]David Russell, Children Learn to Read, 2nd ed. (New York: Ginn and Company, 1961), pp. 323-360.

[94]Henry A. Bamman, Ursula Hogan, and Charles E. Green, Reading Instruction in the Secondary Schools (New York: David McKay Company, Inc., 1961), pp. 106-110, 112-117, 122-133.

[95]John J. DeBoer and Martha Dallman, The Teaching of Reading, rev. ed. (New York: Holt, Rinehart and Winston, Inc., 1964), pp. 130-145.

[96]Smith, op. cit., pp. 313-341.

[97]William Kottmeyer, Teacher's Guide for Remedial Reading (St. Louis, Missouri: Webster Publishing Company, 1959), pp. 204-227.

in teaching these skills.

Gathering the Data

The instrument, the Spitzer Study Skills Test, and the Tyler-Kimber Study Skills Test parts one, four, five and seven, were administered to the experienced intermediate grade teachers and to the control group of senior elementary education majors who expected to teach grades four, five, and six, to determine their opinions of their own teaching competency in the study skills, and to test their ability to use these skills. In addition, an analysis was made of the relationship between the two groups. The instrument was designed to elicit a response from both groups as to their opinion of their own competency in teaching the study skills. The Spitzer Study Skills Test and the Tyler-Kimber Study Skills Test were designed to measure the ability to use selected common study skills.

The items on the instrument were to be answered with a "yes" or a "no" and by a check mark in an appropriate column. Below is a sample item from the instrument.

Name: _____ Years Teaching Experience _____

Instructions: Listed below are eleven common study skills. If, in your opinion, you are competent in your teaching ability to teach the study skill--check the "yes" column--if, in your opinion you are not competent to teach the study skill--check the "no" column. In addition, if you learned the teaching of the study skill in pre-service training check the "P" column, if you learned the teaching of the study skill in in-service training check the "I" column. If you received no training in the teaching of the study skill DO NOT check column "P" or "I".

	Yes	No	P	I
1. The use of a book . . . . . (Such as the preface, table of contents, index.)	_	_	_	_

The following instructions were given for the instrument:

"Fill in your name and the number of years teaching experience you have. Read the instructions. Are there any questions? Answer the questions."

The study skills tests required a choice to be made of several possibilities. The following directions were given for the Spitzer Study Skills Test:

"Fill in your name and on the line for grade the number of years teaching experience you have. This is a test designed to measure your knowledge in the following areas (1) using a dictionary; (2) using an index; (3) locating sources of information; (4) understanding graphs, tables, and maps; (5) organization of facts in notetaking. Are there any questions? Begin part I. (After 15 minutes) Begin part II. (After 15 minutes) Begin part III. (After 35 minutes) Begin IV. (After 10 minutes) Begin part V. (After 30 minutes) Stop. If you used the SQ3R study method on part V write 'yes' on the upper right hand corner of your answer sheet."

For the Tyler-Kimber Study Skills Test the following instructions were given:

"Fill in your name, and on the line for grade the number of years teaching experience you have. This test is designed to measure your knowledge in (1) using a book; (2) recognizing common abbreviations; (3) use of a library card catalogue; and (4) knowing current periodical literature. Do parts one, four, five and seven. Are there any questions? Begin."

A tally sheet was used to record the number of "yes" and "no" responses obtained from the instrument. A tally sheet was also used to record the number of experienced

intermediate grade teachers and the number of elementary education majors scoring in the lower two quartiles of the two study skills tests. These experienced intermediate grade teachers and elementary education majors scoring in the lower two quartiles on the test were assumed to have insufficient knowledge in using the study skill, and therefore lacked sufficient understanding to teach the study skill.

Those experienced intermediate grade teachers and members of the control group checking "yes" on the instrument were assumed to have, in their opinion, competence in teaching the study skill checked. Those checking "no" were assumed, in their opinion, to be incompetent in their ability to teach the study skill so checked.

The experienced intermediate grade teachers and members of the control group who scored in the following ranges on the Spitzer Study Skills Test were in the lower two quartiles of the test, and were assumed to have inadequate knowledge of the study skill to use it effectively. The subtests and ranges were: test one, 0-16; test two, 0-13; test three, 0-27; test four, 0-9; test five, 0-28. The ranges of the lower two quartiles on the tests used in the Tyler-Kimber Study Skills Test were: test one, 0-10; test four, 0-14; test five, 0-15; test seven, 0-18. These scores also were assumed to indicate an inadequate knowledge of the study skill to use it effectively. Those experienced intermediate grade teachers and members of the control group

who scored in the upper two quartiles on the tests were assumed to have adequate knowledge of the study skill to use it effectively. The ranges for the upper two quartiles on the Spitzer Study Skills Test were: test one, 17-23; test two, 14-20; test three, 28-36; test four, 10-14; test five, 29-41. In the Tyler-Kimber Study Skills Test, the upper two quartiles were indicated by the following ranges: test one, 11-12; test four, 15-20; test five, 16-20; test seven, 19-30.

The Chi Square for test of independence in contingency tables with two classes for each variable was used to analyze the relationship between the results on the instrument, the results of the two study skills tests, and finally the relationship between the instrument and the two study skills tests. The formula for this Chi Square is the following:

$$X^2 = \frac{(ad-bc)^2N}{(a+b)(c+d)(a+c)(b+d)}$$

where a, b, c, and d are the frequencies, a+b, c+d, a+c and b+d the marginal frequencies, and N = a+b+c+d.[98]

When the number of cases in one of the cells was five or less in computing the Chi Square, the Fisher exact formula was suggested for use. The formula for this computation is the following:

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[98]Helen M. Walker and Joseph Lev, Statistical Inference (New York: Holt, Rinehart and Winston, 1953), pp. 95-101.

$$P = \frac{(a+b)!\ (c+d)!\ (a+c)!\ (b+d)!}{a!b!c!d!N!}$$

Where a, b, c, and d are the frequencies, a+b, c+d, a+e and b+d the marginal frequencies, and N = a+b+c+d.

However, the Yates' correction formula which is:

$$x^2y = \frac{([ad-bc]-N/2)^2N}{(a+b)(a+c)(b+d)(c+d)}$$

was used as it gave a negligible effect to Chi Square and did not involve the lengthy computations of the Fisher exact formula.[99]

Summary

The nature of the problem indicated the use of the normative-survey method as the means of investigation. The investigation involved five steps: one, the development of the instrument, two, the administration of the instrument, three, the administration of the Spitzer Study Skills Test, four, the administration of the Tyler-Kimber Study Skills Test parts one, four, five, and seven, and five, the statistical treatment of the data.

The chapters concerned with study skills in the most used textbooks of reading were used to establish the selected common study skills. The selected common study skills were then sent to a panel of experts for the purpose of validation, and administered to thirty-eight subjects for the purpose of establishing reliability.

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[99] Ibid., pp. 103-107.

Gathering the data involved the administration of the instrument and two study skills tests to experienced intermediate grade teachers, and students who were seniors in elementary education who expected to teach in the intermediate grades. The teachers and students were located in Bowling Green, Kentucky, and Western Kentucky University respectively.

The instrument was designed to elicit a response from the subjects concerned with their opinion of their own teaching competency in the selected common study skills. Further, the instrument was constructed not to indicate degrees of competency but either competency or incompetency. Subjects scoring in the lower two quartiles on any particular study skill subtest of the two study skills tests were assumed to lack sufficient knowledge of the study skill to effectively teach it.

The Chi Square Test of independence in contingency tables with two classes for each variable was used to determine whether or not there was a significant difference in the results of the subjects. In instances where the number of cases in a particular cell was five or less, the Yates' correction formula was used to determine Chi Square.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE DATA

Results of the Instrument, The Tyler-Kimber Study Skills Test, and The Spitzer Study Skills Test

The instrument, the Tyler-Kimber Study Skills Test, and The Spitzer Study Skills Test were administered to a total of 200 subjects. The subjects were divided in the following manner: 148 senior elementary education majors and fifty-two experienced intermediate grade teachers. Out of a possible 148 senior elementary education majors, 103 returned completed results for a return percentage of 69.6. Of a possible fifty-two returns from experienced intermediate grade teachers, forty-five returned completed results for a percentage of 86.5. Of the 200 possible subjects, returns were received from 148. This gave a return percentage on the total population used of 74.0.

Reliability and Validation of the Instrument

Prior to the use of the instrument in this study, it was given to experienced intermediate grade teachers at the University of Oklahoma during the 1966 summer session. The teachers were asked to check "yes" or "no" indicating in

their opinion their own competence to teach the study skills listed, and also to check whether they learned the skill in pre-service, in-service, or had no training at all. See Table 1 for the results of this preliminary administration.

TABLE 1

RESULTS OF SELF-PERCEPTION INVENTORY GIVEN TO 38 TEACHERS DURING 1966 SUMMER SESSION

	Competent to Teach		Where Learned		
Study Skill	Yes	No	Pre-Service	In-Service	No Training
Use of a Book	38	0	20	13	5
Use of an Index	38	0	20	13	5
Use of General Reference Books	34	4	19	13	6
Use of Common Abbreviations	19	19	8	12	8
Use of Library Card Catalogue	31	7	21	8	9
Use of Maps, Charts, Graphs	34	4	19	12	7
Use of Dictionary	36	2	17	14	7
Use of Current Periodicals	27	11	14	9	15
How to Organize Material	34	4	17	16	5
How to Take Notes	31	7	17	12	9
Use of SQ3R	15	23	6	11	21

There was unanimous affirmative agreement on the use of a book and the use of an index. The teachers also indicated competency to teach: the use of a dictionary, the use of general reference books, the use of maps, graphs and charts, how to organize materials, how to take notes, use of a library card catalogue, and use of current periodicals. Teaching competency concerned with common abbreviations was fifty percent "no". The SQ3R study method was the only study skill to have a greater negative vote.

With the exception of common abbreviations and the SQ3R, the teachers indicated the study skills were learned in pre-service training. A larger number of teachers learned common abbreviations during in-service training, and a larger number of teachers had no training in the SQ3R than in pre-service or in-service. The years of teaching experience of the thirty-eight teachers are recorded in Table 2.

TABLE 2

YEARS TEACHING EXPERIENCE OF 38 TEACHERS

Years	Number of Teachers
1-5	16
6-10	10
11-15	5
16-20	4
21-25	1
26-30	1
31-35	1

The range was from one year to thirty-one years. The mode was five years. The median was six years. The mean was 9.1 years. To determine the reliability of the instrument a Split-Half Method was used. The odd and even method was used to divide the instrument into two parts. In this way, each subject had two scores, a score on the even numbered items, and a score on the odd numbered items. The number of "yes" and "no" responses on the even numbered items, and the number of "yes" and "no" responses on the odd numbered items, were tabulated.[100]

The formula used after tabulation was

$$r_{oe} = \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}}$$

where r_{oe} = coefficient of correlation between the two halves.

$\sum xy$ = sum of multiplying the difference between the means of the odd and even items and the subjects' total score on those respective items.

$\sum x^2$ = sum of the squares of the difference between the mean of the odd items and the subject's score on those items.

$\sum y^2$ = sum of the squares of the difference between the mean of the even items and the subject's score on those items.

This is the general procedure for determining the Pearson product-moment r. However, the coefficient is based on one half of the test. To find the reliability of the

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[100]See Appendix E.

entire test, the Spearman-Brown prophecy formula was used. This formula is

$$r_t = \frac{2r_{oe}}{1 + r_{oe}}$$

where r_t = reliability coefficient of the entire test

r_{oe} = coefficient of correlation between the two halves.[101]

By this method the reliability was found to be .61.

The validation of the instrument involved the identification of the common study skills from the most used textbooks and sending the topics to a panel of experts to determine their validity. This procedure constitutes content validity as it is concerned with the representativeness or sampling adequacy of the content. Content validity consists essentially in judgment.[102] The list of selected common study skills was sent to a panel of experts with instructions to imply "yes" or "no"; the list was an adequate sample. The panel of experts were unanimous in their approval of the study skills list sent them. Therefore, the instrument was assumed to have content validity.

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[101]Albert E. Bartz, Elementary Statistical Methods for Educational Measurement, 3rd ed. (Minneapolis, Minnesota: Burgess Publishing Company, 1966), pp. 53-56.

[102]Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1965), pp. 445-447.

Results of the Instrument Given to Senior Elementary Education Majors

The instrument was administered to a total of 103 senior elementary education majors. These subjects were used as the control group. Examine Table 3 for the raw data of this administration.

TABLE 3

SUMMARY OF RESPONSES OF 103 STUDENTS TO THE SELF-PERCEPTION INVENTORY

	Competent to Teach		Where Learned		
Study Skill	Yes	No	Pre-Service	No Training	High School
Use of Book	98	5	41	27	35
Use of an Index	96	7	38	26	39
Use of General Reference Books	82	21	40	37	26
Use of Common Abbreviations	41	62	26	65	12
Use of Library Card Catalogue	87	16	46	28	29
Use of Maps, Graphs, Charts	58	45	44	33	26
Use of Dictionary	79	24	31	42	30
Use of Current Periodicals	65	38	38	48	17
How to Organize Material	60	43	38	56	9
How to Take Notes	64	39	38	53	12
Use of SQ3R	28	75	21	78	4

The results indicated that students were very competent to teach: the use of a book, use of an index, use of general reference books, use of library card catalogue, and use of a dictionary. They were of the opinion, but to a lesser degree, that they can teach: the use of maps, graphs, charts, use of current periodicals, how to organize material, and how to take notes. The students, as a group, did not indicate competency to teach use of common abbreviations or use of the SQ3R.

A Chi Square test of significance at the .01 level was made on the "yes" and "no" responses of the students. Refer to Table 4 for the results of this analysis.

TABLE 4

CHI SQUARES OF STUDENTS' "YES" AND "NO" RESPONSES

Study Skill	Chi Square
Use of Book	83.8*
Use of Index	76.8*
Use of General Reference Books	36.0*
Use of Common Abbreviations	4.2
Use of Library Card Catalogue	48.8*
Use of Maps, Charts, Graphs	1.6
Use of Dictionary	29.2*
Use of Current Periodicals	7.0*
How to Organize Material	2.8
How to Take Notes	6.0
Use of SQ3R	21.4*

*Significant at .01.

In all cases where Chi Square was significant, the students were of the opinion that they had the necessary competency to teach the particular study skill, with the exception of the use of the SQ3R. The students indicated they could not teach competently the use of the SQ3R.

A Chi Square analysis was made as to where the students learned the study skills. This treatment indicated a significant difference in six of the study skills. See Tables 5 and 6 for the Chi Squares of this analysis.

TABLE 5

CHI SQUARES OF WHERE STUDENTS LEARNED THE STUDY SKILLS

Study Skill	Chi Square
Use of Book	2.8
Use of Index	2.9
Use of General Reference Books	3.6
Use of Common Abbreviations	43.8*
Use of Library Card Catalogue	5.8
Use of Maps, Charts, Graphs	4.74
Use of Dictionary	2.5
Use of Current Periodicals	14.4*
How to Organize Materials	32.6*
How to Take Notes	24.8*
Use of SQ3R	87.4*

*Significant at .01.

There was a significant difference in the students' opinion as to where they learned the following common study skills: use of common abbreviations, use of maps, charts, and graphs, use of current periodicals, how to organize materials, how to take notes, and the SQ3R.

When comparing pre-service training with no training, a significantly greater number of students received no training in the SQ3R study method.

A significantly greater number of students received no training or pre-service training other than training in high school.

In the use of common abbreviations, a significantly greater number of students received no training when compared with high school training. A significantly greater number received pre-service rather than high school training. There was no significant difference between pre-service and no training.

A significantly greater number of students received pre-service training when compared with high school training; likewise, a significantly greater number received no training when compared with high school training in the use of maps, graphs, and charts. No significant difference existed between pre-service and no training.

The use of current periodicals indicated a significantly greater number of students with pre-service training when comparing pre-service and high school, and

also a significantly greater number of students with no training when comparing no training and high school training. There was no significant difference among students when pre-service and no training were compared.

TABLE 6

CHI SQUARES OF WHERE STUDENTS LEARNED THE STUDY SKILLS, EITHER IN PRE-SERVICE, HIGH SCHOOL, OR NO TRAINING

	Where Learned		
Study Skill	Pre-Service/No	Pre-Service/High School	No/High School
Use of Book		--**	
Use of Index		--**	
Use of General Reference Books		--**	
Use of Common Abbreviations	5.0	16.6*	36.4*
Use of Library Card Catalogue		--**	
Use of Maps, Graphs, Charts	1.4	14.4*	11.3*
Use of Dictionary		--**	
Use of Current Periodicals	1.0	8.0*	14.6*
How to Organize Material	3.4	17.8*	33.8*
How to Take Notes	2.4	13.4*	25.8*
Use of SQ3R	32.8*	11.4*	66.6*

*Significant at .01.

**No significant difference.

There was a significantly greater number of students with pre-service training when a comparison was made of pre-service and high school training in how to organize material. Also, a significantly greater number of students had received no training other than in high school.

The results of a comparison of pre-service with high school training and no training with high school training produced a significantly greater number of students receiving pre-service and no training respectively in how to take notes. There was no significant difference between pre-service and no training.

There was no significant difference between the times the students learned the skills in the following areas: use of a book, use of an index, use of general reference books, use of the library card catalogue, and use of a dictionary.

Results of the Perceived Knowledge and Knowledge of the Students in the Study Skills Tested

The students were also given the two study skills tests and a comparison of the students' perceived knowledge and knowledge of the study skills was made. See Table 7 for the results.

A Chi Square was made on the results in Table 7 and tested at .01 level of significance. The resultant information is in Table 8.

TABLE 7

RESULTS OF THE SELF-PERCEPTION INVENTORY AND THE TWO STUDY SKILLS TESTS ADMINISTERED TO 103 STUDENTS

	Inventory		Study Skills Tests	
Study Skill	Yes	No	Yes	No
Use of Book	98	5	87	16
Use of Index	96	7	86	17
Use of General Reference Books	82	21	97	6
Use of Common Abbreviations	41	62	74	29
Use of Library Card Catalogue	87	16	49	54
Use of Maps, Graphs, Charts	58	45	44	59
Use of Dictionary	79	24	77	26
Use of Current Periodicals	65	38	36	67
How to Organize Material	60	43	40	63
How to Take Notes	64	39	40	63
Use of SQ3R	28	75	29	74

The students did significantly better in performance than they perceived they would in the use of general reference books and use of common abbreviations. Their actual knowledge was significantly less than they perceived in the following study skills: use of library card catalogue, use of current periodicals, how to organize materials, and how to take notes.

TABLE 8

CHI SQUARES OF STUDENTS' PERCEIVED VERSUS ACTUAL KNOWLEDGE OF STUDY SKILLS

Study Skill	Chi Square
Use of Book	5.3
Use of Index	4.7
Use of General Reference Books	9.5*
Use of Common Abbreviations	21.4*
Use of Library Card Catalogue	31.2*
Use of Maps, Charts, Graphs	1.5
Use of Dictionary	.1
Use of Current Periodicals	16.3*
How to Organize Materials	7.7*
How to Take Notes	11.1*
Use of SQ3R	.02

*Significant at .01.

Results of the Self-Perception Inventory When Given to Experienced Intermediate Grade Teachers

Of the fifty-two teachers tested, forty-five gave complete results on the instrument. See Table 9 for this information. The results indicated that the teachers expressed competency to teach all the study skills listed except the use of the SQ3R study method.

TABLE 9

RESULTS OF TEACHERS' RESPONSES TO THE SELF-PERCEPTION INVENTORY (N=45)

Study Skill	Competent to Teach		Where Learned		
	Yes	No	Pre-Service	In Service	No Training
Use of a Book	45	0	33	11	1
Use of an Index	45	0	35	8	2
Use of General Reference Books	40	5	27	11	7
Use of Common Abbreviations	36	9	30	8	7
Use of Library Card Catalogue	38	7	28	10	7
Use of Maps, Graphs, Charts	44	1	28	13	4
Use of Dictionary	44	1	26	12	7
Use of Current Periodicals	41	4	28	12	5
How to Organize Material	37	8	29	9	7
How to Take Notes	40	5	30	12	3
Use of SQ3R	13	32	5	8	32

A summary of the years of experience of the teachers used in this study was also made. The information is in Table 10. The range of experience was from one year to forty-one years. The mode was fourteen years and the median was fourteen years. The mean years of experience was 13.66.

TABLE 10

YEARS OF TEACHING EXPERIENCE OF INTERMEDIATE GRADE TEACHERS (N=45)

Years	Number of Teachers
1-5	14
6-10	5
11-15	10
16-20	5
21-25	3
26-30	5
31-35	0
36-40	2
41-45	1

A Chi Square test of significance was made on the "yes" and "no" responses of the teachers to the self perception inventory. See Table 11 for the information.

There was a significant difference in the teachers' perceived knowledge in all of the study skills; that is, they were of the opinion they could teach all of them with the exception of the SQ3R study method.

A Chi Square test was made on the time at which the teachers inferred they learned the particular study skills. The information is in Table 12. The Chi Square indicated that there was a significant difference at the .01 level of confidence for every study skill concerning when the skill was learned. Where the skill learned was divided into the

TABLE 11

CHI SQUARES OF TEACHERS' PERCEIVED KNOWLEDGE OF STUDY SKILLS

Study Skill	Chi Squares
Use of a Book	45.0*
Use of an Index	45.0*
Use of General Reference Books	27.2*
Use of Common Abbreviations	16.2*
Use of Library Card Catalogue	21.2*
Use of Maps, Graphs, Charts	41.0*
Use of Dictionary	41.0*
Use of Current Periodicals	30.4*
How to Organize Material	18.6*
How to Take Notes	27.2*
Use of SQ3R	8.0*

*Significant at .01 level.

following areas and the results compared: pre-service versus in-service, pre-service versus no training, and in-service versus no training. The Chi Square for these categories can be seen in Table 13.

The information in Table 13 indicated that a significantly larger number of teachers learned the study skills in pre-service training over in-service training in the following areas: the use of a book, use of an index, use of general reference books, use of common abbreviations, use of library card catalogue, how to organize material, and

how to take notes. There was no significant difference between pre-service and in-service training in the following areas: use of maps, graphs, charts, use of a dictionary, use of current periodicals, and use of SQ3R.

TABLE 12

CHI SQUARES OF WHERE TEACHERS LEARNED THE STUDY SKILL

Study Skill	Chi Square
Use of a Book	35.6*
Use of an Index	41.0*
Use of General Reference Books	14.8*
Use of Common Abbreviations	22.4*
Use of Library Card Catalogue	17.0*
Use of Maps, Graphs, Charts	19.4*
Use of Dictionary	12.8*
Use of Current Periodicals	18.4*
How to Organize Material	19.6*
How to Take Notes	25.2*
Use of SQ3R	29.0*

*Significant at .01 level.

A significantly larger number of teachers had pre-service training rather than no training in the following study skills: use of a book, use of an index, use of general reference materials, use of common abbreviations, use of library card catalogue, use of maps, graphs and charts, use of dictionary, use of current periodicals, how

to organize materials, how to take notes. A significantly larger number of teachers had no training when no training and pre-service training were compared in the use of the SQ3R.

TABLE 13

CHI SQUARES OF WHERE TEACHERS LEARNED THE STUDY SKILL, EITHER PRE-SERVICE, IN-SERVICE, OR NO TRAINING

	Where Learned		
Study Skill	Pre-Service/ In-Service	Pre-Service/No	In-Service/No
Use of a Book	11.0*	32.0*	8.2*
Use of an Index	16.8*	29.4*	3.6
Use of General Reference Books	6.7*	11.6*	0.8
Use of Common Abbreviations	12.6*	14.2*	.06
Use of Library Card Catalogue	8.4*	12.6*	.52
Use of Maps, Graphs, Charts	5.4	18.0*	4.6
Use of Dictionary	5.0	10.8*	1.3
Use of Current Periodicals	6.4	16.0*	2.8
How to Organize Material	10.4*	13.4*	.1
How to Take Notes	7.6*	22.0*	5.4
Use of SQ3R	.68	19.6*	14.4*

*Significant at .01 level.

The comparison between in-service training and no training indicated a significantly greater number of teachers receiving in-service training in the use of a book. A significantly greater number had no training in the SQ3R when in-service and no training were compared. There was no significant difference between the number of teachers receiving in-service and no training in the other study skills listed.

Results of the Perceived Knowledge and Knowledge of the Teachers in the Study Skills Tested

The teachers were given the two study skills tests and a comparison of the results of the inventory and the tests was made. Results of the comparison are in Table 14.

The raw data of Table 14 indicated the teachers viewed themselves competent to teach all the study skills listed with the exception of the SQ3R, and their performance seemed to coincide with their opinions in all the study skills listed. A Chi Square test was made on the perceived knowledge and knowledge of the teachers in the study skills listed. This information is in Table 15. There is a significant difference between the teachers' perceived knowledge and knowledge of the study skills in: use of maps, charts and graphs, and the use of current periodicals. In both cases the teachers inferred they could teach the mentioned study skill, but when tested, the teachers could not score on a test within the range required by this study to

TABLE 14

RESULTS OF THE SELF-PERCEPTION INVENTORY AND THE TWO STUDY SKILLS TESTS ADMINISTERED TO 45 TEACHERS

	Inventory		Study Skills Tests	
Study Skill	Yes	No	Yes	No
Use of a Book	45	0	42	3
Use of an Index	45	0	33	12
Use of General Reference Books	40	5	33	12
Use of Common Abbreviations	36	9	41	4
Use of Library Card Catalogue	38	7	28	17
Use of Maps, Graphs, Charts	44	1	30	15
Use of Dictionary	44	1	40	5
Use of Current Periodicals	41	4	26	19
How to Organize Material	37	8	29	16
How to Take Notes	40	5	29	16
Use of SQ3R	13	32	11	34

indicate proficiency in the study skill. The only study skill the teachers had the conviction they could not teach, and, when tested, their actual knowledge of the study skill agreed with their opinion, was the use of the SQ3R study method.

TABLE 15

CHI SQUARES OF TEACHERS' PERCEIVED VERSUS ACTUAL KNOWLEDGE OF STUDY SKILLS

Study Skill	Chi Square
Use of a Book	1.3
Use of an Index	1.1
Use of General Reference Books	2.6
Knowledge of Common Abbreviations	3.2
Use of Library Card Catalogue	5.6
Use of Maps, Charts, Graphs	12.8*
Use of Dictionary	1.6
Use of Current Periodicals	11.4*
How to Organize Material	3.6
How to Take Notes	6.2
Use of SQ3R	.22

*Significant at .01 level.

Results of Student and Teacher Comparison of Perceived Knowledge of Study Skills

A comparison of the students and teachers in the area of perceived knowledge was made. See Table 16 for this information. A Chi Square test was made on the information in Table 16. For this information refer to Table 17. In every case where there was a significant difference the teachers had a higher perceived knowledge of the study skill. This higher perceived knowledge included such study skills as: use of common abbreviations, use of maps, graphs, charts, use of dictionary, use of current

periodicals, how to organize material, and how to take notes. Both the teachers and students indicated incompetence in teaching the SQ3R.

TABLE 16

STUDENT AND TEACHER PERCEIVED KNOWLEDGE OF COMMON STUDY SKILLS

	Competent to Teach			
	Students (N=103)		Teachers (N=45)	
Study Skill	Yes	No	Yes	No
Use of Book	98	5	45	0
Use of an Index	96	7	45	0
Use of General Reference Material	82	21	40	5
Use of Common Abbreviations	41	62	36	9
Use of Library Card Catalogue	87	16	38	7
Use of Maps, Graphs, Charts	58	45	44	1
Use of Dictionary	79	24	44	1
Use of Current Periodicals	65	38	41	4
How to Organize Material	60	43	37	8
How to Take Notes	64	39	40	5
Use of SQ3R	28	75	13	32

TABLE 17

CHI SQUARES OF STUDENTS' AND TEACHERS' PERCEIVED KNOWLEDGE OF STUDY SKILLS

Study Skill	Chi Squares
Use of a Book	.3
Use of an Index	1.8
Use of General Reference Material	2.5
Use of Common Abbreviations	20.2*
Use of Library Card Catalogue	.00001
Use of Maps, Graphs, Charts	27.1*
Use of Dictionary	11.4*
Use of Current Periodicals	13.5*
How to Organize Materials	7.9*
How to Take Notes	12.0*
Use of SQ3R	.04

*Significant at .01 level.

The results of the students' and teachers' knowledge in the study skills was compared. A Chi Square test was made on the information. See Tables 18 and 19.

TABLE 18

RESULTS OF STUDENTS' AND TEACHERS' ACTUAL KNOWLEDGE OF STUDY SKILLS

	Know How to Use			
	Students (N=103)		Teachers (N=45)	
Study Skill	Yes	No	Yes	No
Use of a Book	87	16	42	3
Use of an Index	86	17	33	12
Use of General Reference Books	97	6	33	12
Use of Common Abbreviations	74	29	31	4
Use of Library Card Catalogue	49	54	28	17
Use of Maps, Graphs, Charts	44	59	30	15
Use of Dictionary	77	26	40	5
Use of Current Periodicals	36	67	26	19
How to Organize Material	40	63	29	16
How to Take Notes	40	63	29	16
Use of SQ3R	29	74	11	34

TABLE 19

CHI SQUARES OF STUDENT VERSUS TEACHER KNOWLEDGE OF STUDY SKILLS

Study Skill	Chi Square
Use of a Book	3.0
Use of an Index	2.0
Use of General Reference Books	12.7*
Use of Common Abbreviations	7.8*
Use of Library Card Catalogue	2.6
Use of Maps, Graphs, and Charts	7.1*
Use of Dictionary	4.6
Use of Current Periodicals	6.7*
How to Organize Material	8.2*
How to Take Notes	8.2*
Use of SQ3R	.2

*Significant at .01 level.

The teachers had a significantly better actual knowledge than the students in such study skills as: use of common abbreviations, use of maps, graphs and charts, use of current periodicals, how to organize material, and how to take notes. The students were significantly superior to the teachers in the use of general reference books. There was no significant difference in their knowledge of: use of a book, use of an index, use of library card catalogue, use of dictionary, and use of SQ3R. However, both the teachers and the students had negative scores on the use of SQ3R. The

negative score inferred they did not have a knowledge of the SQ3R study method.

Validity of the Hypotheses

The results of this study indicated that hypothesis number one--there is no significant difference between self-perceived knowledge and a knowledge of selected common study skills of experienced intermediate grade teachers as measured by the instrument developed, and Spitzer Study Skills Test, and the Tyler-Kimber Study Skills Test parts one, four, five and seven--was valid for the study skills: use of a book, use of an index, use of general reference books, use of common abbreviations, use of library card catalogue, use of a dictionary, how to organize material, how to take notes, and use of the SQ3R study method. The hypothesis was not valid for use of maps, graphs and charts, and use of current periodicals. In these two study skills the teachers' perceived knowledge was greater than their knowledge.

Hypothesis number two--there is no significant difference between self-perceived knowledge of selected common study skills of experienced intermediate grade teachers, and a control group of senior elementary education majors--was valid for the study skills: use of a book, use of an index, use of general reference books, use of library card catalogue, and the use of the SQ3R study method. The hypothesis was not valid for the study skills: use of common abbreviations, use of maps, graphs, charts, use of dictionary, use

of current periodicals, organizing materials, and how to take notes. In the instances where the hypothesis was not valid, the teachers were significantly better than the students in their perception.

The third hypothesis, which was: there is no significant difference in the knowledge of selected common study skills of experienced intermediate grade teachers and a control group of senior elementary education majors, proved valid in the study skills: use of a book, use of an index, use of library card catalogue, use of a dictionary, and use of the SQ3R study method. The hypothesis was not valid in the study skills: use of general reference books, use of common abbreviations, use of maps, graphs, charts, use of current periodicals, how to organize material, and how to take notes. With the exception of use of general reference books, the teachers' knowledge of the study skills was significantly greater than the students' in cases in which there was a significant difference in the knowledge.

Hypothesis four--there is no significant point in time, pre-service or in-service, that experienced intermediate grade teachers learned the specific study skills--proved valid in these study skills: use of maps, graphs, charts, use of a dictionary, use of current periodicals, and use of SQ3R. The hypothesis was not valid for the following study skills: use of a book, use of an index, use of general reference books, use of common abbreviations, use of

library card catalogue, how to organize material, and how to take notes. A significantly greater number of teachers learned these skills in pre-service training, when pre-service and in-service training were compared.

A negative result was gained in three hypotheses in use of the SQ3R study method. A greater number of subjects in this study were of the opinion they could not teach it, had no knowledge of it, and had received no training in the SQ3R.

A skill tested in this study but not part of the main design, was concerned with the ability to follow directions. It was not listed as a study skill, but was involved as a by-product of this study. Of the teachers who took the tests, nineteen made mistakes in directions. This was not significant among the teachers themselves. Among the students, six made mistakes in directions. A Chi Square test indicated a significant number of students made no mistakes in taking the tests. When comparing the students and the teachers, the students made significantly fewer mistakes in taking the tests.

CHAPTER V

SUMMARY, FINDINGS, RECOMMENDATIONS

Summary of the Study

The purpose of this study was to analyze the perceived and actual knowledge of selected common study skills by experienced intermediate grade teachers and seniors in elementary education. For this research a total of 200 subjects was used, 148 of whom returned complete results. Of this group, 103 were seniors in elementary education, and forty-five were experienced intermediate grade teachers.

This research was concerned with the results from the development and administration of an instrument, and the administering of two study skills tests, the Spitzer Study Skills Test, and the Tyler-Kimber Study Skills Test.

Four hypotheses were developed and tested by the information received from this investigation. The results are stated in the following paragraphs.

Experienced intermediate teachers had a very accurate perception of their ability to teach the common study skills selected for this study. In only two study skills, use of maps, graphs and charts, and use of current

periodicals, were the teachers' perception of their teaching ability significantly greater than their actual knowledge. In the case of the teachers, this result seemed to imply a need for in-service training in the use of maps, graphs, charts, and use of current periodicals. A negative result was obtained in the perceived ability to teach the SQ3R study method. Because of the negative results obtained in the use of the SQ3R study method, this too seemed to be needed in an in-service program for teachers.

The comparison of experienced intermediate grade teachers and senior elementary education majors indicated a need for a stronger program of pre-service training for prospective teachers in reading to instill in them confidence and competence in the teaching of such common study skills as: use of common abbreviations, use of maps, graphs, charts, use of a dictionary, use of current periodicals, organizing materials, how to take notes, and use of the SQ3R study method.

This study also indicated a need to develop the knowledge of teachers in the use of general reference books. Also, to develop the actual knowledge of the students in: use of common abbreviations, use of maps, charts, graphs, use of current periodicals, organizing material, how to take notes, and to give both teachers and students actual knowledge of the use of the SQ3R study method.

The point in time where the study skills were

learned followed this order for the teachers: pre-service first, in-service second, and no training third for all the study skills listed except the SQ3R study method which had the following order: no training, in-service and pre-service. There was a significant difference for the teachers in where all the study skills were or were not learned. With the exception of: use of a book, use of an index, use of general reference books, use of library card catalogue, use of maps, graphs, and charts, and use of dictionary, there was a significant difference in where the study skills were or were not learned by the students.

Findings of Study

The first hypothesis of this study was concerned with the perceived knowledge and knowledge of the experienced intermediate grade teachers in the selected study skills for this research. The hypothesis was that there is no significant difference between perceived knowledge and knowledge of the eleven study skills for the experienced teachers. The findings indicated the experienced teachers' self perception of their ability to teach the study skills and their knowledge was different only for use of maps, graphs charts and current periodicals. The teacher's perceived knowledge was greater than their knowledge. A study skill the teachers indicated they could not teach effectively was the SQ3R study method. This opinion was significant at the .01 level of confidence.

The second hypothesis suggested there is no significant difference in the perceived knowledge of the experienced teachers, and that of seniors in elementary education used in this study, in the eleven study skills selected for this investigation. After a statistical analysis of the data, the researcher found significant differences occurring in the study skills: use of common abbreviations, use of maps, graphs and charts, use of dictionary, use of current periodicals, how to organize material, and taking notes. The teachers had a greater perceived knowledge in these aforementioned study skills. However, there was no significant difference in perceived knowledge between teachers and students in: use of a book, use of an index, use of general reference materials, use of library card catalogue, and the use of the SQ3R study method. There was a negative result in the perceived knowledge in the use of the SQ3R study method for both groups. In the use of the SQ3R study method, both students and teachers were of the opinion they could not effectively teach it, and what difference there was in their respective opinions was very small.

In the third hypothesis, the researcher stated there is no significant difference in the knowledge of the eleven common study skills between the teachers and the students. Here again, the statistical analysis resulted in some significant difference differences between the two groups of subjects. There was a significant difference in the

knowledge of these study skills: use of general reference books, use of common abbreviations, use of maps, graphs and charts, use of current periodicals, organizing material, and taking notes. There were no significant differences in the other study skills.

Of the study skills listed, the teachers were significantly better in their knowledge than the students in use of common abbreviations, use of maps, graphs, and charts, use of current periodicals, organizing material, taking notes. The students were significantly better in knowledge of use of general reference books when compared with the teachers.

The fourth hypothesis was concerned with where the teachers learned the particular study skills. The points in time were pre-service training and in-service training. The researcher found a third time "no training" in the particular study skills had to be added in the course of the study. A preliminary statistical analysis indicated a significant difference as to where the teachers learned the study skills with respect to every study skill. Further analysis was made of the relationships among the three previously mentioned points of time. First, a comparison was made between pre-service and in-service training. A significantly larger number of teachers learned the study skills in pre-service training in the use of a book, use of an index, use of general reference books, use of common

abbreviations, use of library card catalogue, organizing material, and taking notes. There was no significant difference in the other study skills between pre-service and in-service training. The second point in time compared, pre-service and no training, resulted in a significantly greater number of teachers with pre-service training in all of the study skills except the use of the SQ3R study method. A significantly larger number of teachers had received no training in the use of the SQ3R study method.

The last points in time where the study skills were learned to be compared were in-service training and no training. In only two study skills were there significant differences. The two study skills were use of a book and use of the SQ3R study method. A significantly greater number of teachers had received no training in the use of the SQ3R study method and a significantly greater number had received in-service training in use of a book. There were no significant differences in the other nine study skills in this last comparison.

Consequently, these findings can be stated from this research:

1. The experienced intermediate grade teachers used in this study had a very accurate perception of their teaching ability in the selected common study skills of this study.
2. The experienced intermediate grade teachers in

this study indicated as a group they could not teach the SQ3R study method.

3. The experienced intermediate grade teachers were weak in their knowledge of the use of general reference books and the SQ3R study method.
4. The experienced intermediate grade teachers learned the use of all the selected study skills with the exception of the SQ3R study method in this order in points of time: pre-service training, in-service training, and no training. For the SQ3R study method, the order in point of time was no training, in-service training, and pre-service training.
5. Senior elementary education majors indicated a weakness in their ability to teach common abbreviations, use of maps, graphs, and charts, use of a dictionary, use of current periodicals, organizing materials, taking notes and the use of the SQ3R study method.
6. There was no significant difference between experienced intermediate teachers and senior elementary education majors in perceived knowledge in five study skills: use of a book, use of an index, use of general reference material, use of a library card catalogue, and use of the SQ3R study method.

7. The experienced intermediate teachers had a significantly greater knowledge than the students in the use of common abbreviations, use of maps, graphs and charts, use of current periodicals, organizing material, and taking notes.
8. The senior elementary education majors had a greater knowledge of how to use general reference materials than the experienced intermediate grade teachers.

Recommendations

In view of the findings of this research, the following recommendations seem warranted:

1. Experienced intermediate grade teachers need in-service training to develop confidence and teaching competency in the SQ3R study method.
2. Students in elementary teacher education should develop teaching competency in: use of common abbreviations, use of maps, graphs, and charts, use of current periodicals, organizing material, taking notes, and use of the SQ3R study method as well as the other common study skills.
3. Senior elementary education majors need more detailed training in: knowledge of common abbreviations, use of maps, graphs, and charts, use of current periodicals, organizing material, taking notes, and how to use the SQ3R study method.

4. Experienced intermediate grade teachers are in need of in-service training in knowledge of use of general reference books, and the use of the SQ3R study method.
5. In regard to in-service training for experienced intermediate grade teachers, a need exists for experienced intermediate grade teachers to develop further their use of all common study skills.
6. The common study skills identified in this research should be presented and reinforced to students in elementary teacher education courses.

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APPENDIX A

LETTER SENT TO PANEL OF EXPERTS

LETTER SENT TO PANEL OF EXPERTS

I am currently working on my doctoral dissertation. My study is concerned in part with some common study skills. Listed below are the study skills I have identified for the purpose of this study. I would appreciate your reading the list and initialing this letter if you feel the list is adequate. If you feel the list inadequate please make any insertions or deletions you feel necessary. Please return the initialed letter to me in the enclosed envelope. Thank you very much for your time and opinion.

USE OF A BOOK

USE OF INDEX

USE OF GENERAL REFERENCE BOOKS

KNOWLEDGE OF COMMON ABBREVIATIONS

USE OF LIBRARY CARD CATALOGUE

USE OF MAPS, CHARTS, GRAPHS

USE OF DICTIONARY

USE OF CURRENT PERIODICALS

ORGANIZING MATERIAL

NOTETAKING

THE SURVEY Q3R STUDY METHOD

Again, thank you very much for your time.

Sincerely,

Glen A. Lewandowski

APPENDIX B

SELF-PERCEPTION INVENTORY

SELF-PERCEPTION INVENTORY

Name:_____ Years Teaching Experience _____

Instructions: Listed below are eleven common study skills. If in your opinion you are competent in your teaching ability to teach the study skill--check the "yes" column, if in your opinion you are not competent to teach the study skill--check the "no" column. In addition, if you learned the teaching of the study skill in pre-service training, check the "P" column, if you learned the teaching of the study skill in in-service training check the "I" column. If you received no training in the teaching of the study skill do not check column "P" or "I".

	Study Skill	Yes	No	P	I
1.	The use of a book . . . . . (Such as the preface, table of contents, index.)	_	_	_	_
2.	The use of an Index	_	_	_	_
3.	Use of general reference books . . . . . (Such as the Atlas, Encyclopedia, Almanac, Who's Who in America, Reader's Guide.)	_	_	_	_
4.	Knowledge of common abbreviations . . . . (Such as e.g., ibid., op. cit.)	_	_	_	_
5.	Use of library card catalogue	_	_	_	_
6.	Use of maps, charts and graphs.	_	_	_	_
7.	Use of the dictionary . . . . . (Such as pronunciation, guide words)	_	_	_	_
8.	Use of current periodicals.	_	_	_	_
9.	How to organize material.	_	_	_	_
10.	How to take notes	_	_	_	_
11.	The survey Q3R study method . . . . . (Or a Modification of this method)	_	_	_	_

APPENDIX C

THE SPITZER STUDY SKILLS TEST

PLEASE NOTE:

Pages 92-103, "Spitzer Study Skills Test", © 1954 by World Book Co. and pages 105-112, "Tyler-Kimber Study Skills Test", © 1937 by Board of Trustees of the Leland Stanford Junior University not microfilmed at request of author. Available for consultation at University of Oklahoma Library.

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APPENDIX D

TYLER-KIMBER STUDY SKILLS TEST

APPENDIX E

RELIABILITY OF INSTRUMENT

IN	x(o)	y(e)	x	y	x^2	y^2	xy
1	5	5	0	1	0	1	0
2	4	4	-1	0	1	0	0
3	5	3	0	-1	0	1	0
4	5	4	0	0	0	0	0
5	5	5	0	1	0	1	0
6	6	3	1	-1	1	1	1
7	3	3	-2	-1	4	1	4
8	5	3	0	-1	0	1	0
9	6	3	1	-1	1	1	1
10	5	3	0	-1	0	1	0
11	5	4	0	0	0	0	0
12	6	5	1	1	1	1	1
13	6	5	1	1	1	1	1
14	5	5	0	1	0	1	0
15	6	5	1	1	1	1	1
16	5	5	0	1	0	1	0
17	4	2	-1	-2	1	4	4
18	4	4	-1	0	1	0	0
19	5	5	0	1	0	1	0
20	3	3	-2	-1	4	1	4
21	5	4	0	0	0	0	0
22	4	2	-1	-2	1	4	4
23	6	4	1	0	1	0	0
24	6	3	1	-1	1	1	1
25	5	4	0	0	0	0	0
26	5	5	0	1	0	1	0
27	5	5	0	1	0	1	0
28	4	3	-1	-1	1	1	1
29	5	2	0	-2	0	4	0
30	5	4	0	0	0	0	0
31	6	5	1	1	1	1	1
32	4	4	-1	0	1	0	0
33	6	4	1	0	1	0	0
34	6	4	1	0	1	0	0
35	4	3	-1	-1	1	1	1
36	4	4	-1	0	1	0	0
37	5	5	0	1	0	1	0
38	5	4	0	0	0	0	0
Total	188	142			26	34	13

$X_x = 5$

$X_y = 4$

$\Sigma x^2 = 26$

$\Sigma y^2 = 34$

$$r_{oe} = \frac{\Sigma xy}{\sqrt{(\Sigma x^2)(\Sigma y^2)}}$$

$$= \frac{13}{\sqrt{(26)(34)}}$$

$$= \frac{13}{\sqrt{884}}$$

$$= \frac{13}{29}$$

$$= .44$$

$$r_t = \frac{2r_{oe}}{1+r_{oe}}$$

$$= \frac{2(.44)}{1+.44}$$

$$= \frac{.88}{1.44}$$

$$= .61$$