An investigation of the effectiveness of a secondary reading inservice program on teachers' knowledge, attitudes, and teaching behavior.

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AN INVESTIGATION OF THE EFFECTIVENESS OF A SECONDARY READING INSERVICE PROGRAM ON TEACHERS' KNOWLEDGE, ATTITUDES, AND TEACHING BEHAVIOR

A Dissertation Presented
By
MARGARET ANN BACON

Submitted to the Graduate School of the University of Massachusetts in partial fulfillment of the requirements for the degree of

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Education
AN INVESTIGATION OF THE EFFECTIVENESS OF A SECONDARY READING INSERVICE PROGRAM ON TEACHERS' KNOWLEDGE, ATTITUDES, AND TEACHING BEHAVIOR

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By

MARGARET ANN BACON

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This work is dedicated to my family
who have consistently and warmly
supported all my endeavors
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ABSTRACT

An Investigation of the Effectiveness of A Secondary Reading Inservice Program on Teachers' Knowledge, Attitudes, and Teaching Behavior

(May 1978)

Margaret Ann Bacon, B.A., Michigan State University, M.Ed., University of Massachusetts, Ed.D., University of Massachusetts

Directed by: Professor Rudine Sims

The existence of a national reading problem confronts not only the reading professional but also the most casual reader of the daily newspaper. However, secondary teachers have not been trained to meet their students' reading needs, either in their preservice or their inservice education. At least a part of the problem has been secondary teachers' traditional reluctance to view reading as a process underlying many of their subjects, rather than a skill to be taught by a reading specialist.

The problem, then, involves convincing these teachers of a need for reading instruction and, once persuaded, giving them some strategies for including such instruction in their classes. Toward that end, the author, a reading specialist in the Amherst system, designed, implemented, and evaluated an inservice program for 15 junior and senior high school
teachers from a variety of content areas. Data were collected regarding participants' attitudes toward incorporating reading into their classes, their knowledge about reading, and their teaching behavior in regard to reading tasks. Instruments used to measure these variables included (1) "A Scale to Measure Attitudes Toward Teaching Reading in Content Classrooms," an attitude inventory by Estes; (2) "Reading Process Survey," a scale dealing with psycholinguistic perceptions of the reading process adapted by the instructor; (3) "Secondary Reading Information," a multiple-choice test of teacher knowledge of reading developed by the investigator; and (4) "Check List of Practices Related to Reading in Content Areas," a self-report checklist by Aaron of the frequency of use of various reading instructional strategies. In addition, observations were conducted in several participants' classrooms during which anecdotal data regarding teaching behavior were gathered. The investigator also examined changes in the approaches of participants' students to reading tasks by interviewing a sample of their students before and after the course.

The t-test of statistical significance, applied to participants' pre- and post-scores on the attitude inventory, process survey, knowledge test, and checklist revealed that participants had experienced significant changes in attitudes,
knowledge, and teaching behavior. The Chi-square test of significance showed no relationship between participants' years of teaching experience, level taught, highest level of education completed, prior reading course work, and subjects taught with their changes in attitude, knowledge, and behavior. No substantial differences in the reading strategies of participants' students were noted in the pre- and post-interviews.

It was concluded that an inservice course can be effective in changing secondary teachers' attitudes, knowledge, and behavior concerning the incorporation of reading strategies into their classes. It is not so clear that such a course can produce changes in students' approaches to reading tasks, although a wider variety of means to evaluate such changes needs to be used. The psycholinguistically-based "process" view of reading appears to hold promise for not only convincing content-area teachers of their responsibility for reading instruction, but also for providing the basis for that instruction. It was recommended that inservice courses might be more effective if they were followed up by individual consulting. Alternative means of evaluating both teacher and student change as a result of inservice education need to be developed.
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CHAPTER I

INTRODUCTION

Background
The reading crisis in America is not just an educational problem. It is a people problem. Millions of Americans, young and old, are handicapped socially and economically because they cannot read. Jobs are unobtainable, opportunities denied, and a large segment of the American people never achieve their potential.

The Right to Read movement was the outgrowth of a proposal of the late Commissioner of Education, James E. Allen, Jr., for a comprehensive national effort to achieve universal literacy throughout the country. It heralded the beginning of a national concern with reading and writing, a concern that has most recently focused on the schools, with the emergence of the "back to basics" movement. The dismal sets of statistics are recounted everywhere from the daily newspaper to the local school board minutes to congressional committee reports. Scores on college entrance exams and national standardized tests are said to be consistently declining, and the National Assessment of Educational Progress reports some discouraging figures from its reading tests conducted in 1975. Twenty-one percent of students from disadvantaged urban areas, 42% of black students, and 20% of students from the Southeast lack the minimal reading
skills necessary to survive in a modern society (Brody, 1977).

Assessing the reading ability of a nation is a controversial task, and methods other than years of schooling completed have been developed. The National Assessment test attempts to evaluate "functional literacy," or the reading needed to function in everyday life, rather than the kind of reading needed in traditional achievement tests. Bormuth constructed a cloze test (every fifth word is left blank to be filled in by the test-taker on the basis of the syntax and the meaning of the remainder of the passage) on a sample of news articles and discovered that only 33% of children in grade six and 65% of those in grade twelve were able to fill in 35% of the blanks (Chall and Carroll, 1975, p. 62). Newspapers are generally assumed to be written at a fourth to sixth grade reading level.

Even graduation from high school does not seem to carry a guarantee of minimal literacy with it. Commissioner Allen has cited a study reporting that 68% of the men in the Armed Forces had reading scores of less than seventh grade level. The parents of a Long Island 18-year-old, alleging that their high school graduate son can barely read or write, are suing his school district for five million dollars in damages (Brody, 1977).
The statistics game can be played many ways, however, and arguments can be made questioning the legitimacy of standardized test scores, calling for larger and more varied samples to be tested, or proposing alternative ways of defining literacy. Whatever objections one may raise to the "doomsday" prophets, however, the numbers, the cases, the literacy demands of twentieth century jobs, do seem to constitute a reading problem. The National Committee on Reading took the position that the reading problem in the United States should not be stated as one of teaching people to read at the level of minimal literacy but rather as one of ensuring that every person arriving at adulthood will be able to read and understand the whole spectrum of printed materials that one is likely to encounter in daily life (Chall and Carroll, p. 8).

Previous campaigns to eliminate illiteracy largely focused on beginning readers. Flesch's 1955 book, Why Johnny Can't Read, claimed that phonics was the answer: "Teach the child what each letter stands for, and he can read" (p. 2). Chall's study ten years later seemed to give some research impetus to that popular view, when she found that "code emphasis" approaches seemed to produce better beginning readers than "meaning-emphasis" methods (Chall, 1967). The extensive First Grade Studies (Bond and Dukstra, 1967), however, after an exhaustive examination of all possible combinations of methods in an attempt to discover which was most effective, were unable to point to any one method as producing consistently better readers. They did note
the presence of a "teacher variable" which seemed to transcend methods.

The 70's, however, have seen a shift in concern toward literacy problems of older students. As early as 1966, Artley was noting a decline in reading growth at the junior high level, the age at which formal reading instruction ends. The decline in SAT scores and college instructors' complaints about their students' reading and writing ability have most recently fueled the concern about high school students' language skills.

The direction to take in remediating this reading problem depends in large measure on what is seen as the cause. Is it the reading programs in secondary schools? Examine, then successful programs, extract their essentials, and duplicate them elsewhere. The problem with this approach is that it ignores a crucial point made by both the First Grade Studies (Bond and Dykstra, 1967) and the extensive review of the literature conducted by the Information Base on Reading (Corder, 1971) that it is the teacher who not only seems to make the difference but also to define the reading method being used. The other direction to pursue, then, is to focus on training teachers themselves.

In terms of pre-service training at the secondary level, the outlook is dismal. Austin and Morrison (1961),
after surveying 74 schools to learn how colleges and universities were preparing prospective teachers of reading, recommended that a course in reading instruction be required of all secondary teachers. In a follow-up study in 1975, Austin and Morrison (1976) discovered that only 24.8% of the responding schools had instituted such a course. Once again, they strongly recommended that a reading course be required of secondary teachers. Bader, in a 1975 survey, found that only 18 of 51 states (plus Washington, D.C.) required any reading preparation for secondary certification. It is obvious that prospective secondary teachers are little more prepared than their predecessors to teach reading skills.

Even if they were, however, the current job market in education indicates a lower and lower transition rate. Howe points out that for the first time since the Great Depression, there is a vast oversupply of teachers. Universities are adding yearly to the surplus and rising salaries are making teaching positions more attractive (Howe, 1973). All of this information points to using existing teaching staffs as the focus for training. As McCarty (1973) points out: "Barring societal revolution, most individuals who will be teaching for the next twenty years are now in place. The need in the future, therefore, will be for inservice education of practitioners, not preservice education." (p. 243).

Thus a national reading problem, coupled with a stable teaching force, compels the impetus for change to come
from within that existing group of teachers. With regard to secondary teachers, who should be responsible for teaching reading? How well prepared are they to do so?

The responsibility for the teaching of reading skills in secondary schools has not been assumed by most secondary teachers of various content areas. The task is generally allotted to the reading teacher. Occasionally it is assumed that English teachers are doing the job, although most of them feel burdened with the responsibility. In spite of the fact that reading specialists have bandied about the "every teacher a teacher of reading" slogan for some forty years now, comprehensive school-wide content-area reading programs are no more of a reality (Hill, 1975).

Part of the problem lies in a perception of reading as a conglomeration of basic "skills" which students should have mastered in the elementary grades. When reading is viewed as a process, a process in which a reader interacts with a printed message from an author, it can be seen as a learning situation with an unlimited endpoint. There is nothing magical about sixth grade that produces proficient readers no longer in need of help with that process. At the age of 71, Goethe declared that "I have spent my lifetime learning how to read." Surely junior and senior high school students have not completed the task in their teens.
Psycholinguists have amassed a substantial amount of evidence over the past ten years regarding the reading process. The source of power underlying psycholinguistics, especially as it applies to reading, comes from the joint work of scientists in cognitive psychology and linguistics.

Cognitive psychology reveals the patterns of human mental abilities and limitations—the workings of the human brain. Linguistics lends specificity to the patterns of human mental abilities by examining a subset of the human information processing system: language. The interweaving of these mental fabrics results in a taut framework for both theoretical and instructional hypotheses about reading and learning to read. (Cooper and Petrosky, 1976, p. 191)

This psycholinguistically-based view of the reading process sees reading as being only incidentally a visual process. By far the most essential components of the process involve the cognitive processing behind the eye rather than the graphic symbols on the page of text in front of the eye (Smith, 1971). Readers use those printed symbols, along with the sounds they represent, the syntax or grammar of the passage, and the semantics or meaning cues, to make some sense of what is on a page. Even more important than the textual components of the process are what the reader brings to it: his/her knowledge of written language, knowledge of the world, and background regarding the particular topic in the text. In other words, what the reader brings to the task is at least as important as the message of the author.

According to Goodman (1967), readers actively use
several strategies to accomplish the only essential objective in reading—comprehension. They sample from the available grapho-phonetic, syntactic, and semantic information; make predictions based on that sampling, as well as on their own background and experience; test those "guesses"; and confirm or reject them to achieve comprehension of the text. These general strategies remain the same for all readers; however, the approach will be shifted depending on the material itself and the purpose for reading it.

Thus, the reading process is a complicated one, involving as it does the two components of reader and message, for the reader brings to it all of his/her language, experience, and concepts, and the message embodies the same elements from an author (Goodman and Niles, 1970). When children are beginning to learn the process, trying to match their language and experience with that of the printed text makes the task less difficult. However, with older students this is not always possible, nor necessarily desirable, since at least one of the reasons for reading is to encounter new language and experiences.

Science, mathematics, social studies, music, art, industrial arts, home economics, in fact all school subjects require learners to handle special abilities. . . . Every teacher of whatever subject and level must be prepared to help children meet new demands on their reading competency and to develop the special
strategies which these demands require (Goodman and Niles, 1970, pp. 24-25)

The implication here is clear—reading is not in itself a subject area, but a process to be used in understanding other subject areas. Bound too long by the idea that reading is a subject, teachers have become over-concerned with the product as opposed to the process of reading (Robinson, 1977). To secondary content teachers who respond to requests that they teach reading skills with the answer that they are not teachers of reading, it can be said that they are not expected to be. They are teachers of mathematics, or social studies, or English, fields which use written language in specialized ways to convey information to the student. It is those "specialized ways" of the various content areas that should be the focus for instruction in reading strategies.

Many reading professionals are of the opinion that separate instruction in reading does not necessarily transfer to a student's reading in other subjects. Herber and Sanders' research (cited in Hill, 1975) offers evidence that student achievement is improved if the reading skills instruction is integrated with the content instruction.

Given a definition of reading as a process, rather than a subject area, thus necessitating a combination of instruction in reading strategies with instruction in a particular subject, the responsibility for students' literacy rests with an entire secondary teaching staff, not just the reading and/or English teacher.
Are teachers prepared to assume that responsibility? Do they feel competent to include instruction in reading strategies needed in their classes? Certainly their pre-service education, as previously noted, has not prepared them. There is some evidence that they have not received adequate inservice education either. The second Harvard-Carnegie study (Austin and Morrison, 1963) examined the content and conduct of inservice education in reading and found that vast improvements were urgently needed: "One-third of all school systems sampled offered no such services, and those that did provided programs so sporadic as to cast doubt on their overall effectiveness" (p. 180). McGinnis (1961), in a survey of secondary teachers and college freshman recently graduated from high school, found that secondary teachers are not providing instruction in reading, nor are they prepared to do so. McGuire (1969) surveyed over 1,000 English teachers and found that most felt a need for teaching reading but felt inadequately prepared to do so.

While it is true that there has been increasing emphasis on inservice education in recent years, it is not correspondingly true that the quality or effectiveness of those programs has improved. The list of "musts" for effective inservice education has been detailed frequently and researched often (Austin, 1967; Draba, 1975; Westby-Gibson, 1967). They generally include the following
recommendations:

(1) Participation should be voluntary;
(2) Planning should be shared by participants;
(3) Programs should be based on felt needs of participants;
(4) Release time should be provided;
(5) Inservice should be continuous;
(6) Group size should be limited for active participation; and
(7) Provision should be made for evaluation.

Obviously, it may not be possible to put into practice all of these recommendations in any one inservice program. However, far too many programs are the result of some administrator's decision that his/her teachers "need" something after which (s)he gathers them together in an after-school meeting to give them that something, and then provides no follow-up to determine whether they indeed "got it."

In short, then, secondary teachers often do not feel the need to incorporate reading strategies into their instruction, nor do they have the resources to do so. Neither their preservice nor their inservice education is meeting those needs.

Statement of the Problem

To meet the need of secondary teachers for training in the teaching of reading, the author designed, implemented,
and evaluated an inservice program in reading for a group of junior and senior high school teachers. The program consisted of eight two-hour sessions taught by the investigator, a teacher in the system, after school to a group of 15 Amherst secondary teachers. The need for and interest in such a program had been previously assessed by the administration of a questionnaire to the entire secondary staff in Amherst. Thus, the program was based on the expressed needs of the participants and on a definition of reading as a process underlying their individual disciplines.

The assumption of the study was that such an inservice program could positively change participants' attitudes toward incorporating reading instruction into their classes, their knowledge about how to do so, and their actual teaching behavior in the classroom. In addition, it was assumed that a carry-over to their students could be seen, so that the students would show some evidence of change regarding their approaches to reading tasks.

Thus, the investigator was seeking answers to the following questions.

1. Will the inservice program change participants' attitudes concerning the place of reading instruction in secondary schools?

Since one of the problems regarding reading on the secondary level has been the attitude of many teachers that they do not have the responsibility for incorporating
reading instruction into their classes, changing this attitude becomes a first priority in inservice education. While changes in attitude do not necessarily mean changes in behavior, they are surely a prerequisite.

2. Will the inservice program change participants' level of knowledge of reading and of ways to incorporate reading instruction into their classes?

Even teachers who feel the need to link reading with their content area, lack the resources to do so. Increasing their knowledge about reading in general, and reading strategies needed for their subject in particular, should fulfill this need. When teachers feel positively about reading instruction and have some information on it, they should be prepared to act.

3. Will the inservice program change participants' teaching behavior in regard to reading instruction in their classes?

This is the real crux of the problem and, ultimately, the goal of all inservice education. Changes in attitude and knowledge are necessary, of course, but if they do not lead to changes in actual classroom practice, their effect is minimal. This is, of course, the most difficult area to measure, since many effects of the inservice training may take some time to implement.
4. Will the inservice program change the behavior and attitude of participants' students in regard to reading tasks in their classes?

If, in fact, teachers have made changes in their teaching, then the effects of those changes should be felt by their students. Students should begin approaching reading tasks with varied strategies, flexible speed, and attitudes that reflect a high expectation of success.

5. Is there a relationship between participants' years of teaching experience, prior reading course work, level of education, subjects taught, and level at which they teach with their changes in attitudes, knowledge, and teaching behavior?

These factors may have had some bearing on the course's effectiveness for individual participants.

To collect data on the first three research questions, four instruments were administered at the beginning of the course and at its conclusion: (1) "A Scale to Measure Attitudes Toward Teaching Reading in Content Classrooms," an attitude inventory; (2) a "Reading Process Survey," a scale dealing with psycholinguistic perceptions of the reading process adapted by the instructor; (3) "Secondary Reading Information," a multiple-choice test of teacher knowledge of reading developed by the investigator; and (4) "Check List of Practices Related to Reading in Content Areas," a self-report checklist of the frequency of use of various reading instructional strategies. The t-test of statistical
significance was used to determine whether differences in participants' pre- and post-scores were significant. In addition, observations were conducted in several participants' classrooms during which anecdotal data regarding teaching behavior were gathered. To collect information regarding question four, approaches to reading tasks of participants' students, the investigator conducted interviews with a sample of participants' students during the first two weeks of the course and again two months after the last session. In regard to question five, demographic information on participants' years of teaching experience, level taught, highest level of education completed, prior reading course work, and subjects taught was also collected at the first session. The Chi square test of significance was applied to determine if those factors had any effect on changes in knowledge, attitude, or behavior.

Educational Importance of the Study

The extent of the reading problem of secondary students, and the lack of preparation of their teachers for rectifying the problem, clearly demonstrate the need for secondary inservice programs in reading. The inservice program designed and implemented for this study can be considered a pilot project which could be attempted and evaluated elsewhere. Through
the evaluation of effective components of the program, directions for future inservice work can be established. By examining which goals of the program were effected and which were not, other groups planning inservice work will have a sense of what direction to pursue, depending on their own goals.

The effectiveness of the "process," or psycholinguistic, definition of reading as the basis for secondary inservice training will also be examined. Secondary inservice programs in reading have traditionally operated from a view of reading as a cluster of skills and have often taught those skills in isolation. The course taught for this study had as a theoretical base the psycholinguistic definition of reading and instructional practices recommended in the sessions reflected this viewpoint.

The study will also be informative concerning content teachers' willingness and abilities to incorporate reading strategies into their classroom instruction. Positive changes will indicate that training all teachers in reading, rather than increasing the number of reading teachers and programs, might be the direction to follow. Reading professionals for some time have been urging reading specialists to shift their role from one of providing remedial instruction to a limited number of students to one of acting as resource
person or consultant to the entire staff. Presumably, such a shift would broaden the effect of the specialist and increase the general effectiveness of the secondary reading program. Evidence regarding this point of view was generated.

The investigation will serve as an examination of a variety of ways of evaluating inservice training, since a wide assortment of evaluative measures was used. In an evaluation study, where it is not always possible to control for all effects as in experimental research, it is important to use many indicators of success. Thus, multiple measurements are strongly advised (Weiss, 1972). The instruments used by the investigator, both those she developed and those she adapted from other sources, may be useful to others attempting to evaluate inservice programs with secondary teachers. In particular, the interview technique used to examine students' approaches to reading tasks provides an alternative to achievement testing, the traditional measure of student changes in reading behavior. The use of observations, as well as the self-report checklist of teaching behaviors, gives additional evidence regarding the transfer of acquired knowledge to classroom teaching practices.

Limitations

The prime limitation of this study is the sample. By volunteering for the course, teachers had already expressed an interest in reading at the secondary level, and
thus they may have been biased toward effecting changes in their classes and their attitudes. There is no guarantee that they were representative of Amherst secondary teachers in general. In addition, it would be difficult to generalize beyond Amherst, which given its university setting and high caliber of teaching personnel, may not be representative of the secondary teaching population. Thus, the study's results cannot be generalized beyond the sample of teachers who took the course.

Another limitation is the effect of intervening variables on the study's outcome. It is possible that something other than the reading course effected changes in participants. Changes in teachers' knowledge of reading may have occurred through outside reading, attendance at conferences, or observations of reading specialists. Normal growth in teaching--"warming up" to the subject--over the course of the year may have changed teaching behavior. Supervisor's evaluations may have had something to do with changes in teaching behavior as well. Attitudes could have been changed by a number of factors outside the course--school climate and environment, supervisor's evaluations, outside reading done on any of the pertinent issues.

In addition, the "Hawthorne effect" may have been operating. Course participants knew they were part of a study
and would be evaluated, and this may have facilitated positive change.

**Definition of Terms**

Inservice program--a type of education aimed at practicing teachers who have completed a program of preservice education and have since been teaching in the field. Such training may take the form of workshops, courses, a system of individual consultation, etc.

Reading--a complex process by which a reader reconstructs, to some degree, a message encoded by a writer in graphic language (Goodman and Niles, 1970). Within this process, the reader makes use of his/her own language, concepts, and experience as well as grapho-phonics, syntactic, and semantic information in the text.

Reading strategies--those interactions with written material which are available to the unaided reader (Goodman and Burke, 1972); schemes a reader has available for use when the text poses a potential problem.

Content areas--the separate areas of instruction commonly used in secondary schools; subject areas; e.g., mathematics, English, social studies, science, music, home economics, etc.
Outline of the Remaining Chapters

This first chapter has provided background and a rationale for inservice education in reading at the secondary level. The extent of the reading problem of older students was established, and possible solutions discussed. The author stated the purposes of her investigation, discussed its educational importance and stated its limitations.

Chapter II includes a review of the literature relevant to the topic, and will focus on three major areas: (1) research documenting the need for inservice education for secondary teachers; (2) research reporting various reading inservice programs for secondary teachers; and (3) research on various methods of evaluating the effectiveness of inservice programs.

Chapters III and IV describe and give the results of the reading inservice program conducted by the investigator during the fall of 1977 with Amherst junior and senior high teachers.

Chapter V provides a summary, conclusions, and recommendations for further research.
CHAPTER II
REVIEW OF THE LITERATURE

Overview

Research in inservice education in reading, particularly on the secondary level, is a difficult area to review and evaluate. The need for such inservice has been established and well-documented for some time. However, programs implementing that need have been minimal. Research on them consists largely of program descriptions with some cursory evaluation. In this review, the author has emphasized three major areas relevant to the topic: (1) research documenting the need for inservice reading education for secondary teachers; (2) research reporting various programs of inservice reading education teachers; and (3) research on various methods of evaluating such inservice programs.

The Need for Secondary Reading Inservice Education

Six major concerns highlight the need for inservice reading education for secondary teachers. First, evidence regarding reading competencies of secondary students indicates their teachers are not developing reading skills. A great deal of attention to this problem has surfaced in
the past decade and many recent national studies, mentioned in Chapter I, have documented it. Secondly, the evidence regarding the "teacher variable" as the most important component in reading instruction emphasizes developing teachers' skills, rather than methods or materials. The third concern involves the lack of preservice reading education for the majority of secondary teachers. Fourthly, studies examining reading programs, or the lack of them, at the secondary level have shown the need for inservice education. A fifth group of studies concerns the secondary teacher most often assigned responsibility for teaching reading, the English teacher. Finally, a considerable amount of evidence documents the fact that secondary teachers' perceived needs for knowledge about developing reading strategies for their students are not being met through inservice education.

Artley (1968) evaluated information from over 180 research studies from the previous decade on the status of secondary school reading. After examining research on secondary school reading achievement, he noted a decline in reading growth beginning in the junior high school years. "The most apparent reason is that there is little concerted effort to provide systematic reading instruction beyond grade six" (p. 107). One clear implication from this, Artley states, is a need not only for more trained
teachers but also for better trained teachers.

Austin (1968) mentioned several trends in the school population that highlight the need for continued reading instruction beyond the elementary years. One was an increase in the number and range of abilities of youth due to larger school enrollments. Compulsory school attendance laws, child labor statutes, civil rights legislation, and antipoverty programs were factors which have strengthened the holding power of the school and have also resulted in greater heterogeneity of the school population. In addition, the "knowledge explosion" of the past decade has underscored the need for expansion of reading instruction to the secondary grades, since "greater reading skill and efficiency are needed to cope with this information and to utilize it" (p. 358).

However, some five years later Early (1973), in reviewing secondary reading programs, pointed out that despite increasing attention to the problem, very limited progress had been made in extending reading instruction to the 12th grade. She discussed several alarming trends in the past years. One involves a change in secondary students who are reading better, if one defines reading as simply decoding print to speech, but comprehending less. They are also reading less: "Many of the children who learned to read in the last decade choose not
to" (p. 365). Another trend involves a change in teachers who, aware of their students' reading problem, do not require them to read as much. Films, lectures, demonstrations, simulations, and, in many cases, reading the assignment to the students are teachers' means of circumventing, not solving, their students' reading problems.

Karlin (1969) reviewed several studies concerned with the reading abilities of high school youth, and found that "perhaps as many as one-fourth (and in some areas an even higher proportion) of students lack the reading skills they need to read their books with the comprehension expected of them" (p. 387). He cites evidence from Penty's studies of high school drop-outs, which indicated that of the students whose reading was in the lowest quarter, close to 50% left school before the 12th grade. When she interviewed the dropouts six years later, she discovered that most gave poor reading as the cause of their problem. Karlin sees strong evidence for a close association between reading ability and school achievement.

Michaels (1965) attempted to discover from students themselves what their difficulties in reading various subjects were. He used an introspective questionnaire with 186 11th graders, asking them what reading assignments they received and how they read them, what difficulties they encountered, and which subjects were most difficult
(in terms of reading). One of his most interesting findings was that the teacher "by means of the procedures he employed, strongly influenced the reading skills needed and developed in his classroom" (p. 20).

Moore (1969) reviewed the research on reading in the content fields and concluded that what is now required are strategies designed to provide for many needs in the classroom. He cited evidence regarding the wide range of reading levels in secondary classrooms. In one college reading class, standardized test scores ranged over 20 reading grade levels. Coping with this range is one of the continuing tasks of secondary content teachers.

Palmer (1974), too, examined the skills required to cope with reading in the various content areas, and found that general reading competence does not automatically include them. Developing these abilities cannot be left to chance, nor is it the task of the reading specialist alone.

The content classroom provides a place where reading abilities may be developed functionally. The implications are apparent. Every teacher of whatever subject and level must be prepared to help students meet new demands in reading and to develop the special reading strategies which these demands require. (p. 2)

Parades (1975) argued that reading activities in junior high schools can provide students with a solution to finding a way to belong, a primary need of adolescents.
He suggests a four-pronged approach, consisting of systematic reading instruction, content area assistance, personalized choice reading, and basic skills development. Several problems have interfered with the development of this model: the misconception that all children "learn to read" in elementary school, which ignores the idea of reading as a lifelong development process; the notion that reading instruction is only necessary for disabled readers; and insufficient knowledge of reading on the part of secondary teachers. He recommended helping teachers see the need for reading instruction, giving them additional training to enable them to do so, providing flexible grouping for students, and supplying a wider variety of materials.

The preceding researchers have all looked at the nature and extent of the reading problems of secondary students. Another body of evidence has emphasized the necessity of examining the effectiveness of their teachers as a possible source of the problem and as the locus for its solution. As Moore states in a review mentioned previously:

There ought not to be much disagreement with the statement that the individual teacher, whatever her level, is the key person in any program designed to develop readers who perform well at more mature levels. There is abundant research evidence which shows that students do not come by higher reading abilities accidently, nor do they come by them easily unless
they are influenced by a home and a school which recognize and promote a realization of the significance of learning through reading. (p. 176)

The basis for the teacher effectiveness research has come from studies of elementary reading methods. The notion of the "teacher variable" being the most crucial aspect of reading instruction in the elementary grades was well-documented by both the Information Base on Reading (Corder, 1971) and the First Grade Reading Studies (Bond & Dykstra, 1967). The former was an exhaustive review of the existing literature in the field of reading. The analysis of reading methods and materials noted the presence of this teacher variable and concluded that it is the teacher, by his/her daily decisions about what and how to teach, who operationally defines whatever method is in use. The First Grade Studies, a collection of 27 separate investigations comparing methods of beginning reading instruction, also noted that this elusive teacher variable seemed to be more important than the method per se.

Future research might well center on teacher and learning situation characteristics rather than methods and materials. The tremendous range among classrooms within any method points out the importance of elements in the learning situation over and above the methods employed. To improve reading instruction, it is necessary to train better teachers of reading rather than to expect a panacea in the form of materials. (p. 123)
While both of these studies were primarily concerned with elementary instruction, it seems logical to assume that the same variable of teacher effectiveness is also operating in secondary education.

Artley (1969) suggested taking the conclusion regarding teacher effectiveness and concentrating future research on examining teacher abilities and characteristics. Unless teaching is defined in terms of teacher behavior as related to pupil behavior and cognitive aspects of learning, measuring teacher effectiveness will be a difficult if not impossible task. He recommended a five-step procedure for such research: (1) formulating a broad concept of reading maturity; (2) making decisions on how to measure correlates of reading growth; (3) ascertaining teacher characteristics and behavior which are most effective in promoting these assumed factors; (4) subjecting each assumed factor to measurement and determining its relationship to pupil growth in reading; and (5) using all of this information to improve programs of teacher education in reading.

Teacher education in reading, particularly on the secondary level, is woefully in need of improvement. Austin and Morrison (1961) conducted a survey of U.S. colleges and universities to learn how they were preparing prospective teachers of reading and to make recommendations
for improving that preparation. Of the 371 responding institutions in the questionnaire study, only 100 indicated that a secondary reading methods course was offered to undergraduates and of these, only 28 made such a course a requirement. Thus, they recommended the following:

Because the student entering secondary schools from the elementary grades needs to expand his reading power in order to master the reading skills essential for success in the junior and senior high school, it seems unfortunate that few prospective secondary school teachers receive any instruction in the teaching of reading that will enable them to provide adequate guidance for pupils. As a result, formal reading instruction is usually terminated at the elementary grade level for all students, including the retarded and disabled readers who very likely have been receiving remedial assistance. In an effort to insure that special consideration be provided for the very slow reader in the secondary school as well as to guarantee that the development of reading skills is continued through the twelfth grade for all other students it is recommended that a course in basic reading instruction be required of all prospective secondary school teachers. (pp. 146 & 147)

A decade later, Austin and Morrison (1977) conducted a follow-up to their original study to determine what changes had taken place. They asked the same sample of schools to what extent the recommendations of the original study had been implemented. Only 40 of the 161 respondents required a reading course of secondary education majors. Another 24 schools had implemented the recommendation in modified or strengthened form, although the authors point out that generally this meant a modified
form, in which a course was required of some, but not all, secondary majors. In 48% of the responding schools, the recommendation was not in effect in any form. It seems that prospective secondary teachers are still not being prepared for reading instruction.

One hopeful sign mentioned by Austin and Morrison was a trend taken on the part of state legislatures to require a reading course for secondary certification. Bader (1975) conducted a survey of state certification requirements to determine the extent to which states were requiring preparation in reading instruction of secondary teachers. While only 18 of 51 respondents (35%) required such preparation, an additional 30% reported that they had the requirement under consideration. This is an increase of 100% over a study completed in 1973 by Estes and Piercey. Bader, too, saw a strong trend toward required reading preparation for secondary teachers. She pointed out, however, that "inservice education is needed more than ever because teacher turnover in the present economic crisis is less than in the past" (p. 140).

One could assume that the lack of preparation for reading instruction on the part of secondary teachers has had some effect on the content and conduct of reading programs in secondary schools. Several investigators have
examined the status of such programs. Simmons (1963) surveyed reading practices at the high school level in a five-state area in the Upper Midwest. His questionnaire elicited information from high school principals concerning who administered the reading program in their schools, the nature of students in the program, and general characteristics and specific practices within the program. In 81% of the schools, each teacher was said to be responsible for the teaching of reading, although Simmons felt the "every teacher a teacher of reading" claim was a superficial one, often used to "cover up some serious shortcomings within the high school curriculum" (p. 86). More than one third of his sample reported having no reading program of any kind. One amazing finding indicated that 57% of those responsible for supervising the reading program in their schools had had no formal training in reading!

Farr, Laffey, and Brown (1970) conducted a survey of all Indiana junior and senior high schools to determine the nature and extent of secondary reading programs in the state. They found that English teachers were generally assigned responsibility for teaching reading (73% of the schools), although a lack of background for such instruction was noted. They strongly recommended inservice courses to rectify teachers' lack of preparation: "One of the
obvious reasons that teachers do not teach reading in the content areas is that they have not been prepared to do so" (p. 318).

McCullough (1975) investigated the status of content area reading programs in Florida's secondary schools. Of her random sample of 94 schools, only 26% had organized content area reading programs. Only 8% reported curricula for reading instruction in four major content areas (English, science, math, and social studies), although 46% of the English departments made some provision for reading instruction. She concluded that teacher training in the teaching of reading in the content areas is vitally needed.

All of the preceding investigators have noted that English teachers are either assigned or assume responsibility for reading instruction in their schools. Yet the national study of high school reading programs, conducted from 1963 through 1965, stated that "most schools are failing to provide any integrated or sequential training in reading . . . at any level--remedial, average, or advanced" (Squire, 1968, p. 152). This survey of 168 schools with exemplary English programs used questionnaires, checklists, interviews, and observations to ascertain how these schools conducted their programs. In contrast to
findings from other studies, the English teachers themselves seemed unimpressed by the need to teach reading: only 194 of 1,331 teachers ranked the teaching of reading as a significant aspect of an English program. This was reflected in the analysis of instructional time--only 3 or 4% of time in 10th grade was spent on reading, declining to 2% in grade 12. In the summary reports, observers in the study rated schools on a seven-point scale with respect to the effectiveness and coordination of instruction in reading--85 of 173 schools rated were assigned to the two lowest rankings.

Gunn (1969) reviewed the history and present status of reading instruction with regards to the English teacher. She documented continuously changing definitions of the subject "English," pointing out the growing importance and recognition of the reading component, which now includes "not only the basic ability to read, but also the ability to read increasingly difficult factual material, as well as the ability to read literature with depth and insight" (p. 375). She, too, decried the lack of preparation of English teachers to implement the reading component, and cited the 1964 report of the NCTE Committee on National Interest and the Continuing Education of Teachers. This study is based on the replies to 10,000 questionnaires sent to junior and senior high school principals
who gave them to three "representative" English teachers, each teaching at different levels. Of the respondents, 90% did not feel well-qualified to teach reading. As Gunn concludes, "evidence of need for preparation in reading instruction is all but overwhelming" (p. 383).

Another national study was conducted by McGuire (1969). Questionnaires were mailed to 2004 randomly selected secondary school members of NCTE to determine their educational preparation, teaching practices, and personal attitudes toward reading. He found them quite willing to accept the responsibility for teaching reading: 82% felt it was a major responsibility; 78% believed in developmental as well as remedial reading; and 84% believed all prospective high school teachers should be required to take a course in the teaching of reading. However, that same percentage (84%) had not received a course in the teaching of reading at the undergraduate level, and over half of the teachers considered themselves poorly prepared to teach reading.

Several regional studies have documented the lack of preparation of English teachers for reading instruction. Crisp (1968) surveyed Illinois secondary English teachers on how they viewed their preparation for several facets of English instruction. Their weakest areas was in the
category "knowledge of ways to teach reading in the English classroom." Again, inservice education was recommended as a corrective measure.

If English teachers, who are generally given major responsibility for conducting reading instruction in secondary schools, do not feel prepared or qualified for the task, what can be said of teachers of other content areas? Several investigators have attempted to ascertain teacher attitudes about and knowledge of reading. McGinnis (1961) surveyed the preparation of teachers and their insight into reading needs of their pupils. She analyzed responses from 570 high school teachers in Michigan to a questionnaire concerning: the percentage of their students possessing reading skills essential for required work; expectations for assuming the responsibility of teaching reading; and undergraduate training toward this end. In addition, she analyzed replies of 1,029 college freshmen who had recently graduated from high school concerning their high school reading needs and the reading training they had received.

The teachers estimated that one third of their students did not read well enough to do the reading in high school classes. While 82% said they had learned in college that reading skills could be improved, only 10% had learned to teach reading. Of the college freshmen,
61% reported that their high school teachers had not taught them how to improve their reading skills. She concludes that secondary teachers as a whole are not providing instruction in reading, nor are they prepared to do so.

Braam and Roehm (1964) conducted a survey of teachers of nine representative subject areas from 16 schools in order to determine their level of knowledge of reading skills; the relationship of their level of knowledge with subjects taught; and whether inservice training increased their knowledge. They found teachers lacking in knowledge of reading skills defined by experts, and, discouragingly, that inservice training did not appear to increase that awareness. In a replication of the earlier study, Braam and Walker (1973) found that the number of teachers who reported having had some inservice training in reading was only 27%, a figure down 1% from the 1964 study. They concluded that channels of communication between reading experts and classroom teachers were no more effective than they had been eight years ago.

In an attempt to ascertain the problems and concerns of secondary teachers in relation to teaching reading, Ramsey (1975) surveyed 308 teachers representing various geographical areas and types of schools. Over 95% were in their first year of teaching. Less than 12%
of the teachers had received any training in teaching reading, even as a small part of a larger course in general or special methods. The teachers also believed that a high proportion of their students--between 25 and 50%--had significant problems in reading material for class. When asked to rank solutions to the problems, the teachers gave top priority to "training content teachers to teach reading."

A study by Flanagan (1975) investigated the influence of subject taught, amount of teaching experience, level taught and training in the teaching of reading on 224 Oregon teachers' attitudes and perceptions of competency in content area reading instruction. She designed a 27-item instrument consisting of a sample of content area reading instruction skills. She found that the teachers expressed positive attitudes and perceptions of competency when given specific illustrations of the concept, content area reading instruction. Subject taught was the major factor influencing attitudes and perceptions, but training in the teaching of reading and amount of teaching experience also influenced perceptions of competency. She concluded that inservice and preservice training should focus on the contribution each content area can make in the development of students' reading proficiency.
Hargrove (1973) used the Otto-Smith Attitude Inventory to assess 286 content teachers in a Georgia school system. Their attitude was essentially negative, although courses and inservice training appeared to be positive factors in influencing favorable attitudes toward teaching reading in the content areas. Again, she recommended inservice training, formal courses, and reading staff assistance for content teachers.

Secondary Reading Inservice Programs

An oft-repeated theme of the preceding investigators, who were assessing reading problems of secondary students and their teachers' lack of preparation to deal with them, was that inservice education in reading was sorely needed. The researchers reviewed in this section took that recommendation and attempted to implement various inservice programs in reading, or gave guidelines for doing so.

According to some researchers, inservice education has been no more effective than preservice training in preparing teachers for reading instruction. In the second Harvard-Carnegie study on reading, Austin and Morrison (1963) examined the content and conduct of reading instruction in the nation's elementary schools. They found that over one third of all school systems sampled offered no inservice training and those that did
provided programs so sporadic as to cast doubt on their overall effectiveness. They suggested that teachers be actively involved in planning inservice programs. In addition, one of their recommendations was "that a carefully planned reading program be undertaken in the content areas which would include the teaching of specific reading and study skills unique to each area" (p. 223), since success in education depends largely on "reading to learn."

Nagle (1972) attacked the "assumptive model of inservice." The classic example is the professional development day, which gathers all teachers together to hear a speaker on some broad topic, assuming that teachers will somehow implement new ideas, despite lack of a structured effort. He focused on planning as the mainstay of successful inservice, suggesting that a needs assessment be conducted first, and then priorities established, and lastly, programs evaluated for their effect on both students and teachers.

Tilley (1971) examined inservice teacher education in its historical context, and concluded that it has been a rather ineffective means of implementing educational change. He suggested that perhaps more recent models of inservice education may be more effective, and stated
the case for individualizing inservice education based on teachers' perceptions of what is real in their solutions, and what would be ideal.

Feinberg (1974) attempted to identify guidelines which could be implemented to maintain a successful inservice program in schools with grades five through nine. The responses of his sample of 102 schools (two from each state) which had been identified as engaging in highly effective inservice programs or practices were compared with those of a randomly selected control group. He identified several factors as distinguishing effective from ineffective inservice programs:

--conducting a needs assessment;
--allowing teachers to influence planning and determine methods of inservice programs;
--defining specific objectives;
--using the services of resource persons and consultants;
--compensating teachers monetarily;
--using videotape; and,
--evaluating programs in terms of established objectives.

The International Reading Association has published two guides, the earlier one by Aaron, Callaway, and Olson (1965), and the most recent one by Otto and Erickson (1973).
Both contain guidelines for effective inservice, some useful models for implementing them, and examples of evaluation instruments. The guides are actually handbooks, however, and neither cites any research to support the programs or models they suggest.

The foregoing authors examined general guidelines and programs for inservice education. Most researchers in this area presented descriptions of inservice programs actually undertaken. In reviewing secondary inservice programs, Williams (1969) detailed several trends:

(1) secondary programs have profited from the mistakes of elementary inservice;
(2) the local school district rather than the University establishes goals;
(3) team efforts are supplanting single, individual programs;
(4) one day presentations are giving way to continuous inservice education;
(5) there is a movement away from inservice education for teachers only to total staff involvement; and
(6) development of regionally and nationally produced programs to replace those developed by local systems.

Williams' view is considerably more positive than this author's, and not many of the programs presented below provide cause for such optimism.

A small group of authors described inservice programs which emphasized the "process" approach to
reading used by this investigator. Bullerman and Franco (1975) designed a flexible training program for reading in the content areas in a Florida school system. Workshops on techniques were conducted during teachers' conference periods with follow-up monitoring in teachers' classes afterward. In addition, a college credit course was offered to those desiring a concentrated, more in-depth exposure to the techniques. The authors mentioned a positive response to their program, but gave no specifics on the evaluation. In order to prod secondary teachers to awareness of their responsibility for teaching reading, Osburn (1974) tried a simulation approach. Her model directed teachers' attention to their own reading process as they read a difficult selection before and after they had been provided with experiences which helped develop their conceptual and experiential background. Because she included so many specifics of her approach, her account was a useful one. Goodman (1973) has used insights from psycholinguistics to provide training in miscue analysis for reading teachers, focusing on the teacher, not materials and methods. She designed a program consisting of a three to five day introduction of concepts and procedures, intermittent follow-up workshops and observations, and demonstrations with teachers in
their classrooms, followed by individual conferences.

Another group of authors have described programs aimed specifically at reading in the content areas. A program developed by Smith (1970) operated on the premise that a carefully planned one day program could develop positive attitudes toward teaching reading and specific instructional practices as well. His three stage program consisted of presentation of background information on reading by a reading supervisor; a symposium in which selected teachers shared their content reading practices with the rest of the faculty; and finally, departmental meetings which discussed the two former components. He reported a positive response on a five-item inventory used as an evaluation instrument. Herber (1970, 1968) has designed several inservice programs to disseminate information and procedures for constructing reading and study guides. His approach involved intensive training of a core of content specialists, who then disseminated the information to their colleagues. The training consisted of demonstrations of the method, practice, and follow-up. Evaluation was accomplished by means of two questionnaires, one measuring changes in understanding, and the other changes in methodology.

A massive attempt to coordinate efforts in teaching reading in the content areas has been that of
Project CONPASS (Consortium of Professional Associations for the Study of Special Teacher Improvement Programs; Estes, 1973). The motivating idea was to have teachers of all content disciplines and of reading at all school levels work together to serve their common needs. Initially, the project brought together ten college teachers of English, math, reading, science, and social studies for a meeting at Syracuse University in April 1970. The primary goal of the group was to disseminate methods and materials for reading instruction in the content areas to the profession in a well-organized fashion. The project's most notable success has been to gain the close cooperation of three groups who rarely work cooperatively: liberal arts professors, education professors, and teachers of reading.

A third group of reading inservice educators have concentrated on the teacher-consultant relationship. James (1969) developed a program involving consultants and teachers in a series of training sessions followed by individual conferences to help teachers provide for junior high school pupils' individual differences in reading. She concluded that the teachers had difficulty in learning to apply principles of individualization without extensive practice in incorporating them into their
instructional program.

McCracken's year long project (1968) with junior high teachers involved an intensive summer institute which was continued throughout the year with monthly seminars, bi-monthly observations, and evaluation by a team of university professors of reading methodology. McCracken sums up what he considers the main strength of his program: "it takes a thousand pounds of traditional summer work, or ten thousand pounds of traditional undergraduate course work, to accomplish what one pound of on-the-job supervision can do" (p. 276).

Waynant (1971) felt that one major reason for teachers' lack of response to inservice programs has been the emphasis placed on their deficiencies. She suggested inservice which involves teachers in decisions; identifying their interests, strengths, and concerns; providing a feedback system to consultants; and guaranteeing consulting results in performance terms. "Project Bonus" successfully incorporated these aspects into a Title I summer program in Maryland. The consultants guaranteed that at least 80% of the teachers involved would meet all of the objectives, which had been proposed by the teachers themselves. By the end of the following year, 97% of the teachers indicated they actually practiced the behaviors learned in the classroom. Norman (1973) also reported
a summer workshop where teachers contracted to use in
their classrooms some of the instructional techniques they
had learned.

By far the greatest number of inservice programs
in reading at the secondary level are the courses or
workshops taught by the local reading teacher or a uni-
versity consultant. A sample of programs are reviewed
and discussed below. Minturn (1971) described a Title I
secondary reading inservice program in Missouri consisting
of monthly workshops conducted by reading consultants.
The content of the workshops was based on teacher respon-
ses to an inventory questionnaire, although here is a
case where the needs assessment format probably determined
the needs. Many questionnaire items dealt with word
recognition skills and since many teachers indicated a
lack of knowledge about them, three workshops were con-
ducted on word recognition alone.

Faulkner (1975) designed a 30 hour reading work-
shop for all language arts teachers and selected teachers
from other subjects. There was a slight twist on the
usual format for this type of workshop, however, in that
participants spent the first three sessions investigating
reading problems of their students, and the last seven
formulating a reading workshop for the students.
Henrikson and Rosen (1975) developed an inservice program to meet Austin and Morrison's recommendations on effective inservice. Their 12-session workshop included 98 participants from two inner city junior high schools and was staffed by two university professors and five graduate students. Teacher participation was emphasized. Attitudes and self-evaluation of reading concepts were measured before and after. In explaining why concepts but not attitudes changed, the authors underscore an important point:

It is likely that these secondary teachers were unable to operationalize their attitudes due to a significant lack of knowledge of key concepts in reading and inability to apply them. Perhaps one major problem of reading specialists conducting workshops with secondary teachers might be the assumption that these professionals are far more negative than they actually are. (p. 74)

Two additional programs deserve attention in this section because of a modicum of originality if not effectiveness. Schleich (1971) attempted to develop an all school program in reading by a three-step procedure: a school-wide testing program; a practicum for department chairmen and administrators with follow-up for practice; and a voluntary course for teachers. At the end of the inservice program, teachers still felt a need for more reading teachers to deal with problem students, rather than feeling they could cope with them themselves. Smith
and Otto (1969) tried a novel approach to inservice by conducting a personal reading improvement course for secondary school teachers. While the course was ostensibly designed to improve participating teachers' reading abilities, the authors also felt it would be a means of convincing secondary teachers that instruction is appropriate and valuable beyond elementary school. However, an attitude inventory administered at the end of the seven-week course indicated that participants were more firmly convinced that the teaching of reading is best handled by specialists.

Evaluating the Effectiveness of Inservice Programs

In a 1966 review of inservice education research, the National Education Association noted three trends. The first was emphasis on research that is largely opinion and recommendations on forms and problems. Secondly, there is a growing emphasis on teacher needs and a growing realization that inservice education could serve purposes other than subject-matter orientation. A third, and much smaller trend, was toward actual experimentation and evaluation of inservice education. By far the largest group of researchers in the previous section would fit in the first category. Most model and program developers of inservice reading education for secondary teachers
either make no mention of evaluation, or make some vague reference to a "positive response from participants."

There are, however, a few examples of researchers who systematically attempted to evaluate whether or not their program succeeded. Generally, this was done in one of two ways, either by measuring teacher change or by measuring student change.

Pennington (1976) attempted to determine the effectiveness of a year-long inservice program conducted by a reading coordinator and consultants with fifty teachers from three junior high schools. She used three instruments to get at teacher change: (1) a "Teacher Attitude Toward Reading the Content Area Inventory," (2) a "Teacher Attitude Toward Inservice Education Inventory," and (3) a "Personal Inventory of Teaching Strategies." She reported positive changes in attitudes on both scales, but changes in classroom instructional practices only in one area, that of introducing vocabulary.

Williams (1967) in his report on an NDEA institute for teams of principals and teachers in grades seven through twelve, used a self-report checklist to determine the effectiveness of the program on its participants. No other means of evaluation was reported. Chandler (1975) investigated the effect of inservice training of a high
school staff on their ability to apply content reading skills selected by them as areas in which they needed and wanted to improve. Using an investigator-designed "Content Area Reading Instructional Skills Test," she found that her experimental group scored higher. The assumption was made that the ability to apply instructional skills improves student achievement, although this was not evaluated.

Schirmer and Navarre (1968) did attempt to evaluate student achievement as a measure of success of a summer remedial reading seminar. Students were pre- and post-tested using the Gray Oral Reading Inventory and the California Test of Personality, as well as a questionnaire on their attitudes. Some gain on the Gray was noted, although not a significant one. Problems in this attempt stem largely from the reading test used (secondary students with severe reading problems are not likely to perform at their competency level in an oral reading test) and from the length of the seminar (six weeks). Jensen (1976) conducted an inservice program consisting of a summer workshop, year-long training of one teacher from each of four major content areas, monthly inservice sessions, and year-long supervised implementation of reading in the content area instruction. She failed to find consistent significant differences in student achievement on the Gates-MacGinitie Reading Test before and after the
training. She concluded "it may be that it is not possible to measure the quality of the inservice training in terms of mean gain reading scores as measured by a standardized reading test" (p. 3473).

Several investigators working with elementary teachers on reading inservice used experimental designs, and problems in those designs should be noted by secondary researchers. DeCarlo and Cleveland (1968) carried out a study designed to evaluate the effectiveness of an inservice program on the classroom behaviors and attitudes of the teachers and upon the reading skills and attitudes of their pupils. Twelve teachers and their classes from four school districts in Pennsylvania were randomly assigned to an experimental and a control group. Both groups participated in a pre-school seminar, the experimental group receiving training in developmental reading, while the control group took part in a program of children's literature. The experimental group continued with regularly scheduled consultant services during the first 16 weeks of school, and bi-weekly meetings. No significant differences were found between control and experimental groups in reading achievement or pupil attitude, but benefits of the inservice program did occur in the area of teacher growth. They found that teachers effected
changes freely and easily as they shared ideas and worked cooperatively in a permissive, sympathetic climate.

Heilman (1966) reported a study of an extensive inservice program designed to change first grade teachers classroom behavior and the reading achievement of their pupils. Thirty Pennsylvania teachers, half of them in an experimental group and half in a control group, made up the sample. Experimental group teachers participated in a two-week preschool seminar and in 25 two-hour seminar sessions held during the first 30 weeks of the school year, for which they were paid. There were no significant differences in pupils' reading achievement, although teacher growth was noted.

DeCarlo and Cleveland's and Heilman's studies underscore Jensen's point about measuring reading gains by a standardized reading test. A prime need in evaluation research is for use of many indicators of success. Weiss (1972), in her manual on evaluation research, points out that this usually entails multiple measurement. Light (1975) proposed a model for evaluation of teacher inservice programs based on multiple data gathering, including interviews, questionnaires, and classroom observations. Using systematic procedures for securing data, incorporating both reported and observed behavior, can provide implications for planning. Katrein (1969) and
Moburg (1972) suggested several possibilities for reading inservice education. In the area of teacher change, Moburg suggested using some measure along with the teacher's self-evaluation on a questionnaire, or attitude scale, perhaps combining that with interviews, checklists, observations, etc. In addition, Katrein suggested introspective instruments and teacher logs. If pupil change is to be measured, both warn against using only reading achievement test scores, particularly if the test does not match the purposes of the inservice program. Other methods of assessment could also be utilized—informal inventories, observations, examination of worksheets, interviews, attitude scales, self-concept inventories, number of library books checked out, etc.

A great deal remains to be done in terms of evaluating inservice education. Given the number of intervening variables and the relatively long time span of inservice, experimental research in this area is difficult to conduct. However, even adequate descriptions of inservice programs, with full information on the sample, program specifics, and evaluation, would be helpful to those desiring to replicate a study.
Summary

This review of the literature has focused on three major areas—need, programs, and evaluation in secondary reading inservice education. The need for such training has been so forcefully and consistently established that it would seem no longer necessary to conduct research on it. By far the largest group of research examined herein would fall in that category. Various types of secondary reading inservice programs have also been amply described and documented, although models based on a "process" approach to reading have been few. The real need appears to be in developing more effective ways of evaluating, from a variety of standpoints, inservice programs. The study conducted by the author and described in the following chapter was an attempt to fill this need.
CHAPTER III
METHODOLOGY

Introduction

Chapter I established the extent of the reading problem of secondary students, and suggested that the main focus for remedying it should be their teachers. Inservice education which emphasizes reading as a process underlying learning in several subject areas was proposed as an approach to the problem. Chapter II included a review of the literature on the need for secondary in-service education in reading, models and programs of such education described in the literature, and problems concerned with evaluating the program.

This chapter will outline the research conducted by the author with junior and senior high school teachers during the fall of 1977. An overview of the study, the participants, the instruments used, and the proposed analysis of the data are described. Also included is the procedure for assessing a need for the inservice program, and an overview of the eight-week course in reading taught by the author, which provided the data for this project.
Overview of the Study

As previously stated, the purpose of the study was to design, implement, and evaluate an inservice program in reading for a group of junior and senior high school teachers. The investigator hypothesized that such an inservice program could positively change participants' attitudes toward incorporating reading instruction into their classes, their knowledge of how to do so, and their actual teaching behavior in the classroom. In addition, it was assumed that participants' students would benefit by showing some evidence of change regarding their approach to reading tasks. Answers to the following questions were sought by the investigator:

1. Will the inservice program change participants' attitudes concerning the place of reading instruction in secondary schools?

2. Will the inservice program change participants' level of knowledge of reading and of ways to incorporate reading instruction into their classes?

3. Will the inservice program change participants' teaching behavior in regard to reading instruction in their classes?

4. Will the inservice program change the behavior and attitude of participants' students in
regard to reading tasks in their classes?

5. Is there a relationship between participants' years of teaching experience, prior reading course work, level of education, subjects taught, and level at which they teach with their changes in attitude, knowledge, and teaching behavior?

In order to answer these questions, the investigator developed and taught an inservice course in reading for secondary teachers in Amherst during October and November 1977. Prior to offering the course, she had assessed the need for and interest in such a program through a questionnaire administered to the entire staff of both the junior and senior high schools in Amherst. From responses on the questionnaire, eight two-hour inservice sessions were developed. In addition, a booklet of resources concerned with reading strategies at the secondary level was compiled by the investigator and distributed to course participants.

Four instruments were used to collect data on the first four research questions: (1) "A Scale to Measure Attitudes Toward Teaching Reading in Content Classrooms," an attitude inventory; (2) a "Reading Process Survey," a scale dealing with psycholinguistic perceptions of the reading process adapted by the instructor; (3) "Secondary
Reading Information," a multiple-choice test of teacher knowledge of reading developed by the investigator; and (4) "Check List of Practices Related to Reading in Content Areas," a self-report checklist of the frequency of use of various reading instructional strategies. In addition, observations were conducted in several participants' classrooms during which anecdotal data regarding teaching behavior were gathered. To collect information regarding question four, approaches to reading tasks of participants' students, the investigator conducted interviews with a sample of participants' students during the first two weeks of the course and again two months after the last session. Demographic information on participants' years of teaching experience, level taught, highest level of education completed, prior reading course work, and subjects taught was also collected at the first session. Participants additionally filled out a course evaluation form provided by the Amherst Staff Development Advisory Group.

Sample

The sample for this study consisted of 15 teachers and aides from Amherst Regional Junior and Senior High Schools who volunteered to take the inservice course in
reading taught by the author during October and November 1977. Several other teachers whose schedules allowed them to attend the course only sporadically were not included in the final study. This particular sample was chosen primarily because the author was a reading teacher within the Amherst system and was thus aware of the needs and interests of its teachers, as well as having established credibility as a teacher with her colleagues. In addition, data gathered from the aforementioned needs assessment indicated a strong need for and interest in a reading course.

A third reason for the choice of the sample was the structure of the inservice program in Amherst. This program is developed, organized, publicized, and evaluated by a Staff Development Advisory Group. The group's purposes are to: (1) facilitate professional growth and development of staff; (2) provide support for the personal growth and development of staff; and (3) act as a liaison/advocate for staff on staff development related activities. Toward this end, the group strongly encourages staff members to offer workshops and courses, as they have found their most successful offerings have been those provided by teachers' colleagues, rather than by a university professor or outside consultant. Thus, the structure of this inservice program made Amherst an ideal locale for
the author's study.

Another factor contributing to the choice of this particular population was an impending change in the way in which students are grouped for instruction in Amherst secondary schools. Students are presently grouped in five "phases," or achievement levels, for most subjects. Beginning in the fall of 1977, seventh grade students will be grouped more heterogenously, and the following year such changes will take place in the remaining secondary grades. This transition means teachers will be coping with an even wider variety of reading levels within their classes, and many are apprehensive concerning this prospect.

The group of teachers who volunteered for the course consisted of three high school teachers and twelve junior high teachers. Three of this latter group were aides; however, for the purposes of this study they were considered as teachers since all had teaching certificates and all taught, although generally in small groups. The teachers represented several content areas: English, social studies, math, music, foreign language and special services.

Amherst is a small, middle income residential town in western Massachusetts with a population of 12,000. It is the home of Amherst College, the University of
Massachusetts, and Hampshire College, and, since Mount Holyoke and Smith Colleges are nearby, it is decidedly an academic community. Some 75% of its high school graduates go on to some form of higher education. Teachers in the system are a very competent and well-educated group: some 30% of secondary teachers hold master's degrees, and another 30% have education beyond a master's degree.

**Needs Assessment**

In order to assess the need for an interest in an inservice course in reading, the author administered a questionnaire to all Amherst junior and senior high school teachers, counselors, and aides (see Appendix A). Over half of the respondents indicated an interest in such a course. The questionnaire listed several topics, phrased as questions, which teachers were asked to rank according to their level of interest. Two open-ended questions were designed to elicit other issues teachers might like to see addressed in a reading inservice course, as well as their perceptions concerning students' reading problems. This information was analyzed and categorized under topics. Table 1 lists the proposed topics and the numbers of teachers who expressed strong, moderate, or no interest in each.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Level of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) How do people read?</td>
<td>Very 21</td>
</tr>
<tr>
<td>(b) How are people taught to read?</td>
<td>Moderate 22</td>
</tr>
<tr>
<td>(c) Why do some students fail to learn to read?</td>
<td>Not At All 4</td>
</tr>
<tr>
<td>(d) What is reading comprehension and how do you develop it?</td>
<td>Very 24</td>
</tr>
<tr>
<td>(e) How can you help students deal with the reading in their textbooks?</td>
<td>Moderate 19</td>
</tr>
<tr>
<td>(f) How can you help students develop a flexible reading speed?</td>
<td>Not At All 3</td>
</tr>
<tr>
<td>(g) How can you develop general vocabulary?</td>
<td>Very 40</td>
</tr>
<tr>
<td>(h) How can you develop technical vocabulary, or vocabulary</td>
<td>Moderate 9</td>
</tr>
</tbody>
</table>

**TABLE 1**

**FREQUENCY OF STAFF RESPONSES TO TOPICS ON NEEDS ASSESSMENT**
<table>
<thead>
<tr>
<th>Question</th>
<th>Columns</th>
</tr>
</thead>
<tbody>
<tr>
<td>How can you match students and reading materials?</td>
<td>23</td>
</tr>
<tr>
<td>Why do you motivate students to read?</td>
<td>16</td>
</tr>
<tr>
<td>How important is it to read?</td>
<td>15</td>
</tr>
<tr>
<td>How do you discuss students' reading problems with parents?</td>
<td>14</td>
</tr>
<tr>
<td>What do reading tests measure?</td>
<td>12</td>
</tr>
<tr>
<td>How else (besides standardized reading tests) can you assess how well students are reading?</td>
<td>11</td>
</tr>
<tr>
<td>How can you accommodate varying reading levels in the classroom?</td>
<td>10</td>
</tr>
<tr>
<td>Is oral reading of any value?</td>
<td>9</td>
</tr>
<tr>
<td>What is the relationship to dialect with learning to read?</td>
<td>8</td>
</tr>
</tbody>
</table>

TABLE 1 (Continued)
When asked to list additional topics they would like to see addressed in a course, teachers listed the following:

- should (and if so, how) reading be evaluated in a non-reading course (e.g., science)
- how to undo the fear and terror some kids have of reading
- how to read scientific materials quickly but accurately and pick out key points
- different methods of reading for different materials; how to read a physics book vs. how to read a novel
- how to coordinate reading services with and for kids who need them in all their classes
- which tests are particularly good and particularly poor
- sources of low-level reading material with high interest level for teen-agers and adults.

Teachers listed a great number and variety of items as being the main reading problem of their students. A representative sample follows:

- motivation less than ability
- following directions
- reading carefully with great precision (for reading a sentence with technical terms)
--comprehension
--high interest and motivation but low reading levels
--interpreting questions
--understanding work problems
--flexible rate
--sorting through passages to find information
--reading word by word
--don't feel the joy of reading
--understanding technical vocabulary
--self-motivated, as opposed to required, reading
--reading technical writing
--reading beyond a literal level
--assume there is only one way to read.

Course Description

Using the information gathered from the previously described needs assessment questionnaire, the author developed a course entitled "Reading Is Alive and Well and Living in Your Class: Reading Strategies for Secondary Teachers." The course was conducted for eight two-hour sessions after school in October and November 1977. The course syllabus, listing topics and focusing questions, is included in Appendix B.

The objectives of the course were (1) to inform
secondary teachers about the reading process; (2) to propose strategies whereby secondary teachers could incorporate reading instruction into their classes; and (3) to help teachers develop ways to accommodate individual needs (in terms of reading) in their classes. The needs assessment had revealed a high level of interest among the teachers concerning reading, and the instructor was able to proceed on the basis of that interest.

During Session I, "Learning to Read," the instructor laid the groundwork for the course by involving participants in a simulated experience of learning to read, some discussion of the reading process, and by giving examples of methods by which children are taught to read. Emphasis was placed on the idea of the reading process consisting of an interaction between a reader, with all of his/her language, background, and experience, and a message from an author. By observing their own difficulties with one example of technical writing, they were able to see that what they brought to the task had as much to do with their comprehension as what was actually in the passage. It was suggested that teachers look at a reading problem as a breakdown in one of the two components of the process: the reader's language, concepts, and experience, or the author's message.
The next two sessions dealt with "Reading to Learn." Session II focused on coping with textbook reading and was conducted by the reading teacher at the high school. He discussed readability, presented one readability formula, and had participants calculate the readability of a text they used. In addition, he presented and discussed the "SQ3R" study technique for use with textbook assignments. Session III dealt with reading in the content areas. A comparison was made of two different types of guided reading—the DRA (Directed Reading Activity) and the DRTA (Directed Reading-Thinking Activity). Participants were involved in a demonstration of the latter technique, and agreed that it held promise for involving students in what they read and setting purposes for that reading. Then, in groups, participants analyzed their own content areas for reading difficulties students might encounter. Lists of these difficulties were generated and shared with the larger group, and possible solutions suggested.

Session IV, "Words, Words, Words--Developing Vocabulary," was divided into two parts: developing general vocabulary, taught by the instructor, and dealing with content or technical vocabulary, conducted by the instructor's colleague, the reading teacher at the junior high. In both sections of the class, alternatives to vocabulary
lists requiring definitions and sentences were stressed. In the general vocabulary section, participants shared methods they personally used to build their own vocabulary and some fun, word-centered activities presented by the instructor (e.g., dictionary activities suggested by Kohl, Mad Libs, Tom Swifties). In the technical vocabulary section, a method adapted from Herber's work for teaching content words was presented. It involved selecting a few key words that were tied to concepts; teaching them on a variety of comprehension levels, depending on students' previous background and experience; and reinforcing them by exercises on various comprehension levels, depending on the importance of the word to the concepts being taught.

Session V, "Motivation is the Key," suggested to participants that there were two aspects to motivating students to read: one involved motivating students to read in general, which involved developing lifetime reading habits, and the other involved motivating students to read what teachers require them to read. The former implied using personal, or self-chosen material, and the latter involved "selling" a book for English, or building students' background and experience so that they feel comfortable enough with the "unknown quantity" to tackle it. The instructor presented one technique for involving
students in reading, USSR (Uninterrupted Sustained Silent Reading), and involved participants in a simulation of the experience. A list of reasons why students don't or won't read was generated, and possible strategies for overcoming these reasons were suggested in a group discussion. Sources of adolescent literature were suggested, and ways to use newspapers and magazines as high-interest alternatives to textbooks were discussed.

"Organizing for Instruction" was the title of the sixth inservice session. Participants were asked to estimate the typical range of reading levels in a secondary classroom and all underestimated. The concept of grade levels in reading was discussed, and the idea that there would always be a range of reading levels in any particular class was stressed. One method for dealing with a range of reading levels with a single textbook, Herber's study guide, was presented. Two sample guides, one on social studies content and one on a poem, were worked through and discussed by the group. A plan for constructing study guides was then developed with the class.

Session VII, "Speed Reading," attempted to stress flexibility of rate, rather than speed for its own sake. Participants were asked to share any experiences they had with speed reading courses and the notion that readers who claim extremely high rates were really skimming was
introduced. A chart listing various reading tasks, and the purposes for each, was distributed and participants were asked to fill in an appropriate reading rate. Skimming and scanning were demonstrated, and a discussion of where and when to use these techniques ensued. Two reading machines, a tachistoscope and a controlled reader were introduced and the advantages and disadvantages of reading machines were discussed. Simple techniques for increasing speed with newspapers and fast-moving, light fiction were presented.

The last session dealt with assessment of reading levels and growth in reading. A section of a standardized reading test was administered, and a discussion of what such tests did and did not measure followed. Several methods of informally assessing reading were developed: observations, the cloze technique, informal reading inventories, and miscue analysis. Questioning was presented as an excellent method of assessing reading, and the author demonstrated several techniques in a simulation with a volunteer participant.

Approximately the first 15 minutes of each inservice class were devoted to a "sharing session," in which participants discussed methods or techniques they had attempted and various follow-up strategies were suggested, either by the class or by the instructor. Participants
also began to bring in news items or professional articles concerning reading and these were discussed from the perspective of what had been learned from the course. In addition to the resource booklet each participant received, a small resource library of materials concerning secondary reading was maintained in the reading lab by the instructor and many participants made use of it.

Instrumentation

In order to evaluate the effectiveness of the in-service course on the knowledge, attitudes, and teaching behavior of the participants, as well as on the reading strategies used by their students, the researcher administered six instruments. "A Scale to Measure Attitudes Toward Teaching Reading in Content Classrooms," by Joseph L. Vaughan, Jr.; "Reading Process Survey," adapted by the author from several sources; and "A Check List of Practices Related to Reading in the Content Areas," adapted from a list by Aaron, were administered at both the first and last sessions. In addition, a form designed to elicit demographic data was completed by participants during the first session, and a course evaluation form provided by the Amherst Staff Development Advisory Group was filled out at the last session. In order to reduce the amount of class time spent on data collection, the knowledge test, "Secondary Reading Information," was administered at the second
inservice session and participants were allowed to return it the following day. The same procedure was followed at the last session. A description, source, and rationale for each of the above instruments follow. The instruments themselves are included in Appendix C.

**Demographic Reading**

This form was designed by the instructor to elicit information from participants on the number of years which they had been teaching, the level (junior or senior high) at which they taught, the highest level of education completed, prior course work in reading, and what subject they taught. This information was used in the analysis of the relationship of these variables with scores on the instruments measuring knowledge, attitudes, and behavior.

**Attitudes Toward Teaching Reading**

"A Scale to Measure Attitudes Toward Teaching Reading in Content Classroom" by Joseph L. Vaughan, Jr., was selected by the investigator over another widely-used secondary attitude inventory (Smith & Otto, 1969) because of studies that had been conducted to investigate its construct validity. It was designed to help in the identification of teachers' attitudes toward teaching reading in content area classrooms, published in a secondary reading journal (Vaughan, 1975) and was available for use
at the author's invitation without copyright permission.

The scale, a seven-point Likert type, consisted of 15 items to which respondents were asked to rate the degree to which they agreed by circling a number from one to seven ("strongly disagree" to "strongly agree"). The scale was administered without a time limit, and an individual's score on the test consisted of his/her total summed score of the response values. Response values for items 1, 2, 4, 6, 8, 10, 12, 13, and 15 were rated from seven to one, since these items were stated positively, and the reverse for items 3, 5, 7, 9, 11, and 14, since these items were stated negatively.

The author had examined the scale for two aspects of reliability, internal consistency and stability. Internal consistency, which checks the extent to which all items in a test measure the same abilities, was calculated using Cronbach's Alpha and produced a coefficient of .87, very high for an attitude scale. The coefficient of stability, which measures correlation between two successive administrations of the same test, was calculated using the Pearson product-moment correlation at .77. The author concludes that his scale has a "reliability which is higher than typically found in measures of affective constructs" (p. 606).
Three aspects of validity—convergent validity, sensitivity to treatment, and discriminant validity—were examined by the author in an attempt to establish the construct validity of his scale. Construct validity checks the extent to which certain explanatory concepts or qualities account for performance on the test, and is the type most appropriate for use with measures of affective factors. To examine convergent validity, two groups known to differ on the construct were identified, and their mean scores compared. Differences on the total score and on each item were significant, and all favored the group previously identified as having a high attitude toward the construct. In regard to sensitivity of treatment, the scale detected a significant change in attitudes caused by instruction in a graduate education course designed to familiarize students with aspects of teaching reading in content area classrooms. Discriminant validity was determined when correlations between scores on this scale and a scale on attitudes toward open education were low (median value of .25), indicating the scales measured different constructs. Since each phase of validation was replicated, producing similar results, the data strongly suggest construct validity of the scale.
Knowledge about Reading

Two instruments were designed by the investigator to measure participants' knowledge about the reading process and specific aspects of reading in the content areas. Since they were administered at separate times and had different formats, they were scored separately. Scores on each were calculated by summing correct responses.

The "Reading Process Survey" consisted of ten items to which participants were asked to agree or disagree. The items were based on a definition of reading as a "psycholinguistic guessing game" (Goodman, 1967), in which readers partially select from the available language cues on the basis of their expectations. As this partial information is processed, tentative decisions are made to be confirmed, rejected, or refined as reading progresses. Since it was this view of reading which formed the foundation of the entire inservice course, it was felt that a separate "test" of its assumptions would provide useful information. This allowed a separate analysis of data from the process survey. An additional pragmatic concern was that this section be administered before participants had received any information on the reading process. Since the first session dealt with this topic and the knowledge test itself was not given until the second session, it was necessary to have participants fill
out the survey before beginning the course.

The knowledge test itself, entitled "Secondary Reading Information," was administered to participants at the beginning of the second session. They were given 20 minutes to complete it, although because of its length, anyone wishing to return it the next day was allowed to do so. The test consisted of 22 multiple choice items which sampled the content of the course in particular and the secondary reading field in general. Thus the test assessed knowledge in these areas:

(1) reading to learn (content reading)--items 2, 5, 10, 13, 15, 20, 21, 22;
(2) vocabulary--items 7, 17;
(3) motivation--items 1, 18, 19;
(4) organizing for instruction--items 8, 11, 12;
(5) speed in reading--items 8, 11, 16;
(6) assessing and evaluating--items 3, 19, 14.

Test items were largely constructed by the author, although some were adapted from a test of "Teacher Knowledge of Reading at the Secondary Level" (Narang, 1976).

In an attempt to establish the content validity of the test, the author constructed a pilot instrument of some 35 items, administered it to a group of reading experts and teachers, and eliminated those which proved ambiguous or non-discriminatory. In this manner, a test
of 22 items was established. Reliability of the instrument was calculated using the Kuder-Richardson Formula 21, which gives an estimate of the internal consistency of the test. The correlation was .71, which is adequate for a short, teacher-constructed test, since this formula tends to underestimate true reliability (Stanley & Hopkins, 1972).

Teaching Behavior

In an attempt to ascertain whether teachers had made any changes in the ways in which they included reading strategies in their courses, the researcher used two modes of assessment. One was a checklist of teaching practices administered at both the first and last sessions of the course, and the other was observations in some teachers' classrooms.

The "Check List of Practices Related to Reading in Content Areas," a self-report rating scale, listed 15 practices which are often recommended for effective teaching of reading skills in the various content areas. Participants were asked to respond by circling the frequency with which they practiced the behavior. A score of one on any given item meant "almost always" practice; a score of two indicated "most of the time," three "sometimes," and four, "seldom or never" practiced. The
checklist was adapted from a sample by Aaron (1965).

Since the checklist sampled general practices in regard to reading in the content areas, the investigator felt it would be useful to examine separately those items which seemed to state practices explicitly encouraged, explained, or taught in the inservice course. In that respect, the following areas were analyzed separately:

(1) readability--item 2
(2) content vocabulary--items 12 and 13
(3) content reading skills--items 14 and 15
(4) establishing purposes for reading--items 17 and 18.

In addition to the checklist, the investigator conducted observations in the classrooms of course participants who indicated a willingness to be observed. A rating scale was devised for the first few visits, but proved to be inadequate since the courses observed were naturally not reading courses and thus did not always explicitly deal with reading strategies. However, there were often practices related to reading proceeding in the class, and attitudes toward reading tasks were evident. It seemed more appropriate to have the observer act as recorder, and to report anecdotally any procedures related to reading.
Student Reading Behaviors

A structured interview was conducted with a sample of participants' students during the first two weeks of the course and again one month after the course's conclusion in order to determine whether any change had taken place in students' reading strategies and attitudes toward reading. Since the inservice training had as an end goal changes in student achievement, it seemed logical to attempt to assess such changes. Traditionally, this has been done by administering a standardized reading achievement test to participants' students, generally with no conclusive results. This may not necessarily mean that the inservice program was ineffective but rather that the test did not really reflect the objectives of the training. Students in a secondary science class, for example, may be able to read a chapter in their text more purposefully as a result of their teacher's training in conducting a guided reading lesson, but this may not appear as a gain of a year in the comprehension or vocabulary section of a reading achievement test. Thus, the interview form proposed by the investigator is offered as an alternative approach, designed to assess actual differences in particular reading strategies used by students.
The interview consisted of eight open-ended questions which were carefully designed to elicit information on how the students approached reading tasks and not on their teachers' practices regarding reading. This was done so as not to make the process threatening to participants in the inservice course. The interviews were conducted by the investigator and were tape recorded. The base questions attempted to ascertain how students read material in a given content area, what they did when they came to a word they did not know or a section they did not understand, how long (comparatively) it took them to read content material, and their attitudes toward reading in that area. The form was not adhered to strictly, so that follow-up questions could be asked if students seemed not to understand the question. For example, many students reacted to the first question, "what do you do when you're given a chapter in _____ to read?" with a response such as, "I just read it." The researcher might follow with these questions: "But how do you read it? Do you just start right in or do you look it over first? Do you always do the reading in the same way?"
Data Collection and Proposed Analysis

Procedure

As part of the initial inservice course meeting, teachers were asked to complete the following instruments: (1) demographic information sheet; (2) "A Scale to Measure Attitudes Toward Teaching Reading in Content Classrooms," (3) "Reading Process Survey," and (4) "Check List of Practices Related to Reading in Content Areas."

At the second class session, "Secondary Reading Information" was distributed and returned either that day or the following. Participants were asked to use codes rather than their names in order to assure anonymity. This procedure was intended to encourage honesty of response from participants and objectiveness in analysis from the investigator.

The post-course instruments were administered as part of the final class session. They included: (1) "A Scale to Measure Attitudes Toward Reading in the Content Area," (2) "Reading Process Survey," (3) "Secondary Reading Information," and (4) "Check List of Practices Related to Reading in Content Classrooms." The "Staff Development Comment Sheet," on which participants evaluated the course, was also completed at this session. Participants were asked to use the same codes they had used on the precourse instruments to allow pre- and
post-scores to be compared. Observations in classrooms of participants were carried out in January and February 1978, approximately two months after the course had ended.

To obtain a sample of participants' students for interviewing, the investigator, following the first session when the final list of course participants was known, examined their class lists and randomly selected five students from each participant's classes. The students represented all grades and achievement levels in the school. After students with no study halls during which they could be interviewed were eliminated, a group of 25 students was finally selected for interviewing. Initial interviews were conducted during the first two weeks of October, and post-interviews during January.

Proposed Analysis

Each participant received a pre- and post-score on the attitude inventory, the process survey, the test of reading knowledge, and the self-report checklist. Mean scores and standard deviations were calculated on both scores for each instrument and the t-test of statistical significance applied to determine the answers to the following questions:

(1) Was there a significant difference between participants' attitudes before and after the inservice course?
(2) Was there a significant difference between participants' knowledge concerning reading before and after the inservice course?

(3) Was there a significant difference between participants' reported teaching behavior in regard to reading instruction in their classes before and after the inservice course?

A two-tailed test was used and a significance level of .05 established.

Participants had also supplied information on their years of teaching experience, prior reading course work, level of education, subjects taught, and level at which they taught on the demographic information sheet. In order to compare these variables with their changes in attitudes, knowledge, and teaching behavior, the Chi-square test of significance was computed to answer the following question:

(4) Was there a relationship between participants' years of teaching experience, prior reading course work, level of education, subjects taught, and level taught with their changes in attitudes, knowledge, and teaching behavior?
Since the demographic data were reported as frequencies of certain categories, it seemed logical to ascertain whether they deviated significantly from what would be normally expected in such a population. This statistic, in other words, allowed the investigator to analyze whether the fact that a participant was an English teacher as opposed to a math teacher made a significant difference on whatever changes in attitude, knowledge, or behavior they had experienced.

All of the above analyses of the data were completed using the Statistical Package for the Social Sciences (SPSS; Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975).

In addition, the results of the interviews with students, the observations in participants' classes, and participants responses on the course evaluation form were anecdotally reported and analyzed for changes that could be attributed to the inservice course.

Summary

This chapter outlined the research conducted by the investigator on the effect of a secondary reading inservice course on junior and senior high school teachers' knowledge, attitudes, and behavior. A description of the study, the sample, instrumentation, and data
collection and analysis procedures were included. In addition, the procedure used to determine the need for an inservice course was described, as well as an outline of the eight-week course provided.
CHAPTER IV
RESULTS AND DISCUSSION

Introduction

This chapter presents the results of the evaluation of a reading inservice course conducted by the author for junior and senior high school teachers. Results of the t-tests of statistical significance used to determine differences in participants' attitudes, knowledge, and teaching behavior in regard to reading are presented, as well as information gathered from observations of teachers' classes. Findings from the interviews with participants' students regarding strategies they use in reading tasks are reported anecdotally. The results of the Chi-square tests examining the relationship between changes in participants' attitudes, knowledge, and behavior, and such demographic variables as years of teaching experience, level taught, highest level of education completed, prior reading course work, and subjects taught are also presented. Finally, data from the course evaluation form are reported anecdotally. A discussion of the results follows.
Results for Each Research Question

Will the inservice program change participants' attitude concerning the place of reading instruction in secondary schools?

To answer this question, participants received a pre- and post-score on "A Scale to Measure Attitudes Toward Reading in Content Classrooms." Group means and standard deviations for both the pretest and the posttest were calculated, and the t-test of significance applied to the differences. Table 2 displays the results. On the pretest, with a possible score of 105, participants' scores ranged from 35 to 86. The mean was 73.4, with a standard deviation of 13.7, indicating a substantial amount of variance around that average. On the posttest, scores ranged from 71 to 99, with a mean of 88.2. Variance on this test was much lower, with a standard deviation of 8.4. The t value for the difference between the pre- and posttest scores was 4.59, which proved to be significant at the .05 level.

Another way of examining changes in participants' attitudes is to compare them with a set of categories set up by the tests' author. Estes (1977) defined several broad descriptive categories for interpretation purposes, based on a range of summative scores derived from his validation studies. Table 3 summarized where the author's sample fell in terms of these categories. On the pretest
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<thead>
<tr>
<th></th>
<th>Mean Pre</th>
<th>Mean Post</th>
<th>Standard Deviation Pre</th>
<th>Standard Deviation Post</th>
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<td>Attitude</td>
<td>73.4</td>
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<td>13.7</td>
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<td>7.2</td>
<td>1.6</td>
<td>1.6</td>
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<td>Knowledge (Secondary Reading)</td>
<td>13.2</td>
<td>17.0</td>
<td>3.4</td>
<td>3.6</td>
<td>5.39*</td>
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<td>Teaching Practices</td>
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<td>Readability of Text</td>
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<td>.9</td>
<td>.6</td>
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<td>.7</td>
<td>.6</td>
<td>2.52*</td>
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<td>3.0</td>
<td>.8</td>
<td>.8</td>
<td>1.94</td>
</tr>
<tr>
<td></td>
<td>3.1</td>
<td>3.6</td>
<td>.8</td>
<td>.7</td>
<td>1.73</td>
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*p < .05
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<th>Posttest</th>
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<tr>
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<td>0</td>
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<td>Above Average</td>
<td>5</td>
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</tr>
<tr>
<td>Average</td>
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<td>26.7</td>
</tr>
<tr>
<td>Below Average</td>
<td>3</td>
<td>20.0</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Pretest:  N = 13
Posttest: N = 15
27% of the participants were in the "below average" or "low" group, while on the posttest, no participants fell in either of these categories. On the pretest, no participants ranked in the "high" group while on the posttest, 47% were in this category. Another 40% were in the "above average" category on the posttest, while only 33% were in this group on the pretest. In other words, participants changed from 54% falling into the average and below categories to 87% in the above average categories.

Will the inservice program change participants' level of knowledge of reading and of ways to incorporate reading instruction in their classes?

Two instruments had been used to provide information regarding this question—"Reading Process Survey" and "Secondary Reading Information." Participants' scores on both were the total of correct responses, with a possible score of 10 on the process survey, and 22 on the information test. On the pretest administration of the process survey, scores ranged from 3 to 8, with a mean of 5.5. The standard deviation was 1.6. On the posttest, scores ranged from 3 to 9, with a mean of 7.3 and a standard deviation of 1.5. Application of the t-test produced a t-value of 4.09 between pre- and post scores, which was significant at the .05 level.
Scores on the "Secondary Reading Information" pretest varied from 7 to 17, with a mean of 13.2 and a standard deviation of 3.4. On the posttest, scores ranged from 10 to 21, with a mean of 16.5, and a standard deviation of 3.6. The $t$ value for the difference was 5.39, which was also significant at the .05 level. These results appear in summary form in Table 2.

Will the inservice course change participants' teaching behavior in regard to reading instruction in their classes?

Two methods were used to determine an answer to this question. One was the "Check List of Practices Related to Reading," an self report checklist on the frequency with which teachers reported using specified practices regarding reading instruction in their classes. The other method was observation of participants' classes.

Participants' scores on the checklist were calculated by averaging the frequency with which they used each of the 15 listed practices. The frequency varied from four (almost always use) to one (seldom or never use). On the pre-checklist, the average frequency of use was 2.7, indicating that, on the whole, participants "sometimes" used various reading strategies in their classes. On the post-checklist, the average frequency was 3.1, indicating that participants had moved to the "most of the time" use category. This difference resulted in a $t$ value of 2.52,
which was significant at the .05 level.

The investigator examined separately, however, several questions which concerned areas specifically mentioned or emphasized in the inservice course. Question 2--"I know the reading level of the textbook(s) being used"--concerned the topic of readability which had been developed in session II of the course. The pre-course frequency showed a mean of 2.3 (sometimes) on this item, while the post-course frequency mean was 2.8, a move toward the "most of the time" category. The t value of 1.75 for this variable proved not to be significant at the .05 level.

Practice 12--"I am aware of the special vocabulary and concepts introduced in the various units"--and practice 13--"Adequate time is given to vocabulary and concept development"--were stressed often in the course, although most particularly in session IV. The average frequency of use for this category on the pre-checklist was 3.2, indicating that even before the inservice course participants used these practices most of the time. On the post-checklist, the mean changed to 3.7, meaning participants had moved closer to the "almost always" use category. This difference, expressed as a t value of 2.52, was significant at the .05 level.
The next two practices examined separately were number 14--"I know the special reading skills involved in my subject"--and number 15--"I teach adequately the special reading skills involved in my subject." The idea of different reading strategies for different subjects was reiterated often in the course. On the pre-checklist, participants scored a mean frequency of use of 2.3 ("sometimes"). This changed to a mean of 2.9 on the post-checklist. The t value of 1.94 was not significant for this difference.

The final category involved establishing purposes for reading and included items 17 and 18 ("I attempt to prepare students for reading material for which their background is limited" and "I either give students a purpose when assigning reading material or have them state their own"). Participants' pre-scores averaged a frequency of use of 2.9 (very close to "most of the time"), changing to a mean of 3.5 ("almost always") on the post-checklist. This difference was not significant at the .05 level.

Observations

The researcher was able to make observations in eight participants' classes in order to obtain information regarding use of various reading strategies within their classes. Two of these were English teachers, two were math
teachers, one was a music teacher, and three were special services staff, although two of the latter group were in fact teaching social studies when observed, and one was teaching science. One of the social studies participants left school at the semester, and was thus unable to be observed. Two teachers felt it would not be possible for the observer to see any "reading activities" in their classes, and the three who taught at the high school were unable to be observed due to schedule conflicts.

In one English class observed, a group of "slower" eighth graders was reading a novel. The entire class was reading the same text despite a wide variety of reading levels in the group. However, the teacher had made several adjustments which appeared to make the task into at least a potential learning situation for all levels of students. First, a discussion of the portion of the text read the day before took place. Students also kept a journal on the novel, and each day they wrote a response to the previous day's reading. The teacher, presumably to assist students reluctant to write, structured a response on the board:

"Fletcher, accompanied by Wilson came to the Starrett farm with a proposition. His deal: __________." Difficult vocabulary was discussed in context: e.g. "What's another word for proposition?" Success in the writing task was facilitated by having students "talk through" their writing
before actually beginning. Background was built for the day's reading by discussing the movie based on the book. While the group had difficulty with discussion (it is not a teaching method used extensively with lower level classes), they persisted. The teacher led students to predict what might happen next, and then read the day's chapter aloud, with virtually 100% of the class following along. The teacher read extremely well, modeling "comprehending" behaviors: "I was trying to think what season it was and this just gave me a clue." Throughout the class, student responses were accepted, with little effort made to direct them to a "correct" answer, although they were asked to give evidence.

In the second English class observed, students were involved in a drama unit. They were taking a quiz on drama terms, which involved matching, putting words in context, and explaining some 20 vocabulary words. The observer had no information on how the terms had been taught, although the teacher pointed out that since the inservice course he structured his vocabulary quizzes and worksheets differently, testing words in a variety of contexts rather than simply requiring definitions. He mentioned that after studying the drama terms, students were asked to apply them to plays they read. The second part of the class involved the oral reading of a play from an anthology. Little preparation for reading
took place, although a good atmosphere for oral reading existed. Students, even those with reading difficulties, readily volunteered for parts and there was a general acceptance of the way in which any student read.

In one math class observed, the teacher was introducing the concept (and the word) "percent." She began by placing the word on the board and asking students where they had seen it before. Students mentioned weather reports (percent chance of rain), sales (percent off), marks on a test in school, recommended percentages of nutrients on packages, percent of fat in ground beef, etc. Her next step was to do a structural analysis of the word, dividing it into syllables, asking students about the meanings of the two parts ("When someone says cent, what does that mean? Is there any other word you've seen that part in?"). She mentioned the root's Latin derivation, and then moved to the prefix "per," giving students examples like "22 miles per hour" for them to make a connection. The next step was a concrete example—a can of beans with a label stating that it contained 10% water. A discussion of exactly what that meant followed. Again further examples were elicited from the class and explained through discussion. The last step involved the introduction of the symbol "%" for the word. The night's homework was to bring in examples of ways in which percents were used in everyday life.
A second math class observed contained little that would pertain to reading. Students were assigned a portion of the text to read in class for approximately the last ten minutes. Students were given a purpose for reading: "Read section one of chapter five to find out when lines are considered parallel." No further preparation was given, although the first part of class did not appear to be on this topic. Many students did not use the time to read.

The aide who was teaching science to a group of special needs students began his class with a technique from the course, USSR (Uninterrupted Sustained Silent Reading). A variety of science trade books were available for students to choose from, including many he had borrowed from elementary school libraries. Rules were posted for the reading, and all students seemed actively involved in their reading. Students who wished to share a piece of information after the time was up were given an opportunity to do so.

The two teachers observed in social studies classes also worked with special needs students. One was introducing vocabulary using the Herber technique suggested in class. The vocabulary, from a geography unit, was constantly connected to both a visual symbol and example on a map as well as an aural one (hearing it and saying it). Students kept notebooks with the words as well, which they defined (in their own words) and illustrated the words. The other
social studies class involved reading a *Scope* magazine article on Thor Heyerdahl's Kon-Tiki journey. Extensive use of maps to diagram exactly where the raft had gone were made, since students seemed to have difficulty following the sequence of events.

The music teacher was observed in a chorus class, where it was difficult to observe much regarding reading. She did, however, read aloud song lyrics as students followed along before the song was sung. The special symbols of music were pointed out ("that means go back to the beginning").

Will the inservice program change the behavior and attitude of participants' students in regard to reading tasks in their classes?

A selection of students from participants classes were interviewed at the beginning of the inservice course and again one month after it ended. Students were asked five open-ended questions regarding the strategies they used for the reading in a particular subject. The pre- and post-interviews were tape-recorded and analyzed for differences that might be attributed to the inservice course. There were no substantial differences found between students' responses on the first and on the second interviews. Thus, interview results are simply presented for each question and where there were differences, they will be noted.
1. What do you do when you're given a chapter in _______? How do you read it?

Students appeared to have the most difficulty with this question. Most answered with responses such as "I just read it," "I start at the beginning and read right through," "I go to my room and do it (or study period, or class)," or "I usually read in bed, after I've done my written homework." There appeared to be no differences in the way students read varying kinds of materials; that is, responses tended to be the same regardless of whether the student was being questioned about his/her reading in English or in mathematics. When asked if they looked over an assignment first, many reported that they counted the pages first. Some few students mentioned skimming to get an idea of what the reading dealt with; "Sometimes I glance over it to see what it's about." One or two students answered that it depended on what they had to do with the reading. "If I have to write something I read more carefully and take notes" was one student's comment. This was one area where some changes seemed to take place—in the post-interviews, more students mentioned looking over an assignment first or changing their reading style depending on their purpose for reading; "If I'm reading for a test, I read slowly and carefully."
2. What do you do when you don't understand what you've read?

Responses to this question were fairly standard: "I ask my parents or teacher," "I go back over it again," "I skip it," or "I give up." In general, the post interviews revealed that more students went back and re-read carefully the part that caused them difficulty, although none seemed able to articulate how they did this. Some had other solutions: "I wait until class the next day and try to get the meaning of the reading through the discussion," "It depends on whether it's relevant or not," "Turn off the TV or anything that could be distracting my mind from reading, then re-read it." Most students especially mentioned slowing down when the going got difficult. Some students had difficulty separating this question from the one following.

3. What do you do when you come to a word you don't know?

Almost all junior high students responded with "I look it up in the dictionary" although high school students appeared more honest with responses such as "Look it up if I feel that it's really important to the book but if not, I'll just skip it," "I can usually figure it out from the context," "If I remember, I ask my parents if I can't think of anything else to say." When pressed for alternate
responses, junior high students were also able to come up with other strategies: "Ask someone," "Figure it out from other words," "Just go on until it makes sense." One student gave an interesting explanation of using the context "like if it said 'we drove off in a blank,' it would be obvious it was some sort of car." Many students mentioned skipping the word, and some few said they sounded it out. One student when asked if he used this strategy, replied "Why would I do that? It's the meaning I don't know."

4. Does it take you longer to read some things in _______ than others? Which? Do you read slower/faster than most of the kids in your _______ class?

Most students reported reading everything at the same pace--moving steadily along through an assignment. There were conflicting approaches to boring material--some felt it made the going slower, others said they try to go very fast. Several said mathematics took longer to read. Many reported that reading for English class went much slower. Some of the more advanced high school students mentioned older-style books such as Shakespeare or Dickens, or books containing dialect, require much slower reading. One student suggested that "passages with many characters that aren't introduced often take more time." In the post-interview most students said their speed depended on what
they were reading. A majority of students had difficulty comparing their reading rate to other students' reading rate.

5. Do you like to do the reading in _______?

Very few students mentioned a general dislike of reading, but related it to specific books they were required to read. One student said, "Textbooks aren't fun to read." Many said that it depended on what they were reading in the class. Several English students mentioned a dislike of classics, and a preference for more "up-to-date" literature. One student liked all her English reading "because it isn't work, but if I'm feeling guilty, I can always 'read' and think I'm working," while another felt it helped "give me a different perspective of the events in my life."

Students in lower level classes tended to be more negative on this question. Of his history reading, one student commented: "it's just not my cup of tea." One student really enjoyed psychology reading "because it's usually interesting and I learn something from it," while another felt he benefitted more from lectures, filmstrips, etc. Virtually no differences between pre- and post-interviews on this question were found.
Is there a relationship between participants' years of teaching experience, prior reading course work, level of education, subject taught, and level at which they teach with their changes in attitude, knowledge, and teaching behavior?

The Chi square test of significance was calculated between the demographic variables mentioned in this question and a "difference" score derived from pre- and post-scores on the attitude inventory, knowledge test, and checklist of teaching practices. A summary of demographic variables of course participants is reported in Table 4. The results of the Chi square tests are summarized in Table 5. None on the Chi square values was significant, indicating that for this sample there does not appear to be any relationship between the variables. In other words, participants years of teaching experience, prior reading course work, level of education, subjects taught, and level taught appear to have no connection with how much change they experienced through the inservice course.

**Anecdotal Data**

At the last course session, participants filled out a course evaluation form supplied by the Staff Development Advisory Group. A summary of their responses appears in Table 6. An examination of these results shows that virtually all participants found the inservice course valuable. One person felt that the goals had not been adequately defined.
### TABLE 4
SUMMARY OF DEMOGRAPHIC INFORMATION ON PARTICIPANTS

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<th>Variable</th>
<th>Response Category</th>
<th>Frequency</th>
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<td>2-5 Years</td>
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<td></td>
<td>6-10 Years</td>
<td>3</td>
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<td>More Than 10 Years</td>
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<td>33.3</td>
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<td>Master's Degree</td>
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<td></td>
<td>Master's Plus 30 Credits</td>
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<td>26.7</td>
</tr>
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<td></td>
<td>CAGS</td>
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<td>6.7</td>
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<td>Doctoral Degree</td>
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<td>TABLE 4 (Continued)</td>
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<td>4. Prior Reading Course Work</td>
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<td>Inservice Course or Workshop in Reading</td>
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<tr>
<td>Social Studies</td>
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<td>Science</td>
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<td>Foreign Language</td>
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<td>Music</td>
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N = 15
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<td>Chi Square</td>
<td>Sig.</td>
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<td>Disagree</td>
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<td>----------------</td>
<td>-------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>1. This program met my expectations.</td>
<td>9</td>
<td>69</td>
<td>4</td>
</tr>
<tr>
<td>2. It will have value for me in the classroom.</td>
<td>8</td>
<td>69</td>
<td>4</td>
</tr>
<tr>
<td>3. The arrangements (preliminary information, physical facilities, etc.) were satisfactory.</td>
<td>9</td>
<td>69</td>
<td>4</td>
</tr>
<tr>
<td>4. The program had adequate, clearly identifiable goals.</td>
<td>10</td>
<td>77</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5. The resource people were appropriate for meeting the programs' goals.</td>
<td>11</td>
<td>85</td>
<td>2</td>
</tr>
<tr>
<td>6. The program provided sufficient variety to maintain my interest.</td>
<td>9</td>
<td>69</td>
<td>4</td>
</tr>
<tr>
<td>7. I would recommend this program to a colleague next year.</td>
<td>10</td>
<td>77</td>
<td>3</td>
</tr>
</tbody>
</table>

N = 13
The largest majority felt that the resource people were appropriate for meeting the program's goals, which would support the idea that teachers from within a system carry credibility. All participants felt they could recommend the program to a colleague.

For question 8, "What did you find most useful in this program?", the following responses were made:

--Silent reading technique
--The most helpful part of the course was the practical suggestions for classroom activities.
--Specific methods given in the resource book and demonstrated in class.
--The booklet given to all participants.
--Relaxed but professional approach.
--Motivation, how we learn to read aspects.
--Concrete information that could be used.
--Practicability of materials.
--Demonstrations.
--The broad view of reading, not a technique only, which was taken.

To question 9, "If this program were offered again, what changes would you suggest?", participants suggested the following:

--When you actually explained some of what was in the book this had more meaning for me.
--Applying the techniques from the reading (Figuring out readability levels). I would have liked to design a study guide based on the three types of questions we studied. I did more reading for the course when I had something to prepare for class. Towards the end, there were fewer assignments, and I slacked off.

--A different time slot when energy levels are higher.

--More strategies for non-English content area teachers.

**Discussion**

The results presented in this chapter clearly show that the inservice program changed its participants attitudes regarding the place of reading instruction in content classrooms; their knowledge about reading, both as a process and in terms of specific strategies; and the frequency with which they reported using "recommended" reading practices. Observations in teachers' classrooms provided some additional evidence that teachers were using information and strategies presented in the inservice course to improve their approach to reading in their classes. Since pre-observations were not conducted, however, this evidence is not conclusive. Many of the teachers observed probably used many recommended practices before taking the course.
Less clear were the results of the interviews with participants' students to determine any changes in their approaches to reading tasks. No substantial changes were able to be detected. This could be due to several factors. Students may not have been conscious of changes they had made, and thus could not articulate them in the interview. Not enough time may have elapsed between pre- and post-interviews to allow students to make significant changes. The Interview questions may have been too open-ended to obtain enough specific information from students. The interviews did, however, provide a wealth of information on how students read various materials, even if those methods did not change over the course of the semester.

The results of the Chi square tests between the demographic variables and changes in participants knowledge, attitudes and behavior showed no significant relationship. It appears that these variables have little influence on how teachers change. However, given the small number of persons in any one category, differences would have had to have been very large to become significant.

Course evaluation forms yielded extremely positive feelings about the program. There was an interesting blend of comments regarding the theoretical process approach and the more pragmatic strategies suggested for classroom use. Teachers seemed to appreciate both aspects of the course.
CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

Chapter 1 of this dissertation outlined a growing national concern with the reading problem of secondary students. Based on current research, it was suggested that the teacher held the most promise for the solution to that problem. Inservice education which emphasizes reading as a process underlying learning in several subject areas was proposed as one strategy for helping teachers meet their students' needs.

Chapter II included a review of the literature in three major areas relevant to the topic: (1) research documenting the need for inservice reading for secondary teachers; (2) research reporting various programs of inservice reading education for secondary teachers; and (3) research on various methods of evaluating such inservice programs.

Chapter III outlined the research conducted by the author with junior and senior high school teachers during the fall of 1977. An overview of the study, the participants, the instruments used, and the data collection procedures and analysis were described. In addition, the
needs assessment procedure and an overview of the eight-week inservice course taught by the author were included.

Chapter IV presented the results of the data analysis and the anecdotal data as well as some discussion as to their significance.

This final chapter will summarize the study, draw some conclusions from it, and make some recommendations for further research.

Summary

The existence of a national reading problem confronts not only the reading professional but also the most casual reader of the daily newspaper. While the difficulties are often misrepresented and occasionally magnified out of all proportion, nevertheless, many students cannot or will not read well enough to cope with the demands of twentieth century life. Given the tremendous body of knowledge we have amassed in this century, and the scope of technological advancement, it is ironic that we have reverted to a concern with the "basic abilities" of communication. However, as the late Commissioner Allen stated:

It is inexcusable that in this day when man has achieved such great steps in the development of his potential, when many of his accomplishments approach the marvelous, there still should be those who cannot read (Allen, 1969, p. 26).
Scores of research reports grew out of that 60's concern with reading, and they all seemed to be saying clearly: to improve students' reading, look first at teachers and their training. For secondary teachers, that training in regard to reading has been at best minimal and at worst non-existent.

At least a part of the problem has been secondary teachers' traditional reluctance to view reading as a process underlying many of their subjects. To them, it is a skill to be taught by a specialist.

The problem, then, involves convincing these teachers of a need for reading instruction, and, once persuaded, giving them some strategies for including such instruction in their classes. Toward that end, this study's purpose was to design, implement, and evaluate an inservice program for a group of junior and senior high school teachers. It was assumed that such a program could positively change participants' attitudes toward incorporating reading instruction into their classes, their knowledge of how to do so, and their actual teaching behavior. In addition, it was assumed that participants' students would benefit by showing some evidence of change regarding their approach to reading tasks.

Five research questions were posed by the investigator:

1. Will the inservice program change participants'
attitudes concerning the place of reading instruction in secondary schools?

2. Will the inservice program change participants' level of knowledge of reading and of ways to incorporate reading instruction in their classes?

3. Will the inservice program change participants' teaching behavior in regard to reading instruction in their classes?

4. Will the inservice program change the behavior and attitude of participants' students in regard to reading tasks in their classes?

5. Is there a relationship between participants' years of teaching experience, prior reading course work, level of education, subjects taught, and level at which they teach with their changes in attitude, knowledge, and teaching behavior?

In order to answer these questions, the investigator developed and taught an inservice course in reading for fifteen secondary teachers in Amherst, Massachusetts, during October and November 1977. The course was based on the assessed needs and interests of the group, and was offered in eight two-hour sessions. Data were collected regarding changes in participants' attitudes, knowledge
about reading, and self-reported instructional practices regarding reading. Four instruments were used: (1) "A Scale to Measure Attitudes Toward Teaching Reading in Content Classrooms," an attitude inventory; (2) "Reading Process Survey," a scale dealing with psycholinguistic perceptions of the reading process adapted by the instructor; (3) "Secondary Reading Information," a multiple-choice test of teacher knowledge of reading developed by the investigator; and (4) "Check List of Practices Related to Reading in Content Areas," a self-report checklist of the frequency of use of various reading instructional strategies. In addition, observations were conducted in several participants' classrooms during which anecdotal data regarding teaching behavior were gathered. To collect information regarding question four, approaches to reading tasks of participants' students, the investigator conducted interviews with a sample of participants' students during the first two weeks of the course and again two months after the last session. Demographic information on participants' years of teaching experience, level taught, highest level of education completed, prior reading course work, and subjects taught was also collected at the first session. Participants additionally filled out a course evaluation form provided by the Amherst Staff Development Advisory Group.
The t-test of statistical significance, applied to participants' pre- and post-scores on the attitude inventory, process survey, knowledge test, and checklist revealed that participants had experienced significant changes in attitudes, knowledge, and teaching behavior. The Chi-square tests of significance showed no relationship between the various demographic variables and participants' changes in attitude, knowledge, and behavior. No substantial differences in the reading strategies of participants' students were noted in the pre- and post-interviews.

Course participants rated it highly on the Staff Development Advisory Group evaluation form.

Conclusions

This study clearly demonstrates that an inservice program in reading for secondary teachers can make changes in their attitudes, knowledge, and teaching behavior. Beyond that, however, it provides insights regarding the "process" definition of reading, since this view was the basis of the inservice course taught by the investigator. Defining reading as an interaction between a reader and a message in print from an author, both of whom bring their language, concepts and experience to the act, furnishes a substantial foundation for the incorporation of reading instruction into all content fields. By removing reading
from the category of a subject, defined by a set of skills, the case for training in reading for all teachers assuredly becomes a more powerful one. Such a view enables teachers to see the relevance of reading instruction to their own disciplines, and clarifies their responsibility for teaching reading strategies which apply to those disciplines.

A beneficial corollary to this process view of reading is a "de-mystifying" of reading instruction. Teachers are more likely to incorporate reading strategies into their teaching routines when they feel that they possess the skills and knowledge to do so. An inservice course which presents reading as a conglomeration of separable and identifiable skills is liable to make the teaching of such a field seem an insurmountable task to be tackled only by a reading specialist. Thus, an important part of inservice work with secondary teachers is increasing their confidence in their abilities to include reading strategies in their instruction.

The notion of process, then, becomes an even wider one which applies not only to reading but to the way in which the inservice course itself was conducted. In many respects, it was not so much the content of the course as the process of going through it which may very well have been the crucial element in its success. After the initial session, in which a simulation of the reading process and
learning to read was experienced, teachers began to display interest and enthusiasm about reading. They discussed reading issues in the teachers lounge, became aware of newspaper and journal accounts of reading activities, and examined their own reading as they encountered varying reading materials. Discussions in the initial "sharing" section of each class became increasingly animated and thought-provoking. Since they were changing and modifying their own views of reading each week, the idea of changing their students' reading strategies did not seem so overwhelming.

Having a variety of activities in an inservice course also seems to increase its effectiveness, particularly when the course is offered during after-school hours. The inservice course taught for this study included lectures, discussion, small group work, simulations, and demonstrations. Virtually all of these facets were mentioned by one or more participants as being a strength of the course.

It should be stressed once again that the content of the course was based on the needs of secondary teachers in Amherst. To attempt an exact replication of the course with another group and assume it would be met with success would be a grave error. If there is one clear-cut message from the literature on inservice education as well as from this study, it is that such education must be centered
on the needs of the group at which it is aimed.

The three teacher variables that were examined in this study--attitudes, knowledge, and teaching behavior--all proved to be important components of change. It was teachers' attitudes which changed most markedly as a result of the inservice course. It could be assumed that a group of volunteers already might have positive attitudes about reading. To some extent this was true, however, those attitudes improved considerably after the course. In any case, the necessity for participants in an inservice course to be there by choice far out-weighs any research limitations for using volunteers. Teachers' attitudes must be the foundation for any changes they will make. In that sense, this variable was the most important one examined.

Attitudes are a necessary, but often not sufficient, base for changes in teaching behavior. Teachers may be willing to change their behavior, but have no knowledge upon which to base those changes. Particularly in regard to reading, which many teachers perceive as a complex and impossible field to master, they need a core of information to help dispel that notion. The positive changes in teacher knowledge in this study, as measured by the "Secondary Reading Information" test, surely facilitated changes in behavior.
Changing teaching practices is an important goal of inservice education. Certainly a prime aim of the investigation was to provide teachers with some instructional strategies to incorporate into their teaching. The changes were measured in two ways--through a self-report checklist and by observations in teachers' classes. Both showed evidence of change, although only the checklist was administered both before and after the class. However, teachers in this case saw the observations as helpful follow-up, rather than as checks on their behaviors. This seemed to be an important component in their acceptance of an observer.

The investigation also attempted to examine whether students of course participants had changed the ways in which they approached reading tasks. This was done by conducting a series of open-ended interviews with the sample of students before and after the inservice course. While the course did not produce substantial changes in the students' reading strategies, the changes noted in teaching behavior may eventually have some effect on them. It seems plausible that teachers need time and support to fully incorporate such strategies into their instruction, and students need even more time and practice to make such strategies part of reading habits they have been
establishing for most of their lives. The investigator will continue to argue against using achievement test scores as measures of pupil change, but encourages the development of alternative means of measuring student growth.

Another important aspect of this study was its attempt to examine a number of ways of evaluating inservice training. A wide assortment of evaluative instruments was used, including an attitude inventory, a multiple-choice test of knowledge, a self-report checklist, observations, and interviews. In terms of research design, data from the observations would have been strengthened by both pre and post occurrences. However, the inevitable conflict between stringent research and real life teaching situations necessitated the choice of conducting only post observations. Once again, it was postulated that by using multiple measurements (in terms of teaching behavior, both the self-report checklist and the observations), real changes rather than flukes would be indicated.

From this study, there does not appear to be a relationship between what grade or subject is taught, how much education one has, how long one has taught, or whether one has previously done work in reading and how much change can be effected by an inservice course of this
type. However, in a larger sample with more persons in any one of the above categories, such differences may be more pronounced. It seems possible that one or more of these variables could have some effect on teachers growth, and such information would be helpful to those planning inservice workshops.

Recommendations

The following recommendations are made for further research on secondary reading inservice education:

1. A replication of the kind of study conducted by the author with other groups of teachers. Again, caution should be used when replicating, since any inservice course should be based on the particular needs of the group it is serving.

2. Increasing and varying the type and amount of follow-up after an inservice course, and subsequent evaluation of such consultation. Teachers need continued support for classroom teaching changes they have implemented. Systematic follow-up of inservice courses or workshops which provide help on specific practices could be instituted and evaluated.

3. Since after-school inservice sessions have oft-noted disadvantages, schemes that permit staff
development within the school day need to be developed.

4. Other inservice formats for secondary teachers should be pursued—workshops centered around one particular content area; released-time, one-day sessions; full-year inservice alternating between "experts'" presentations and in-class consulting, etc.

5. Longitudinal studies of teachers involved in inservice courses should be instituted. Such studies could determine which kinds of changes are most difficult to begin and which are most difficult to sustain.

6. Alternative means of evaluating pupil change after their teachers have participated in some form of inservice education. Use of longitudinal studies which follow a small group of students through all of their reading would be one route to pursue. Use of logs, observations, and actual work on reading assignments could also be used for evaluation.

7. The possibilities of the newly-funded Teacher Centers have yet to be examined as alternative means of inservice education.
Concluding Statement

The need for secondary teachers to become teachers of reading strategies as well as their own disciplines is clear. A national concern with reading makes it even more urgent that this need be met. As this study has shown, inservice education holds a great deal of promise for helping teachers accept their responsibility for meeting their students' reading needs as well as equipping them to do so.
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APPENDICES
1. I am interested in an inservice course on "Improving Reading in Every Class."

   ______yes
   ______possibly, if I knew more about it
   ______not sure
   ______no

2. Rate the following topics as to level of interest (1 = very interested, 2 = moderately interested, 3 = not at all interested):

   ______a. How do people read?
   ______b. How are people taught to read?
   ______c. Why do some students fail to learn to read?
   ______d. What is reading comprehension and how do you develop it?
   ______e. How can you help students deal with the reading in their textbooks?
   ______f. How can you help students develop a flexible reading speed?
   ______g. How can you develop general vocabulary?
   ______h. How can you develop technical vocabulary, or vocabulary specific to a content area?
   ______i. How can you match students and reading materials?
   ______j. How do you motivate students to read?
   ______k. How important is it to read?
   ______l. How do you discuss students' reading levels or problems with parents?
   ______m. What do reading tests measure?
   ______n. How else (besides standardized reading tests) can you assess how well students are reading?
   ______o. How can you accommodate varying reading levels in the classroom?
   ______p. Is oral reading of any value?
   ______q. What is the relationship of dialect with learning to read?

3. What other issues/problems/topics would you like to see addressed in a course of this type?

4. What do you see as the main reading problem of students in your classes?
5. Would you find it helpful for the instructor to observe your classes and offer feedback on your efforts to implement strategies from the course in your classroom?

___ yes
___ possibly, if I knew more about it
___ not sure
___ no

6. Would you object to the instructor interviewing several students in your classes concerning their approaches to reading tasks?

___ yes
___ possibly
___ not sure
___ no

7. I am willing to make a tentative commitment to take this course in the fall of 1977.

___ yes
___ possibly, but I'd like more information first
___ not sure yet, but check with me in September
___ no

NAME

Subject(s) Taught
Is Reading Alive and Well and Living in Your Class?
Reading Strategies for Secondary Teachers

I. Learning to Read

How do people read?
How are they taught to read?
Why do some students fail to learn to read?

II. Reading to Learn, Part 1: Coping with Textbook Reading

How can I ascertain the reading level of my texts?
How can I prepare students for reading assignments?
How can I get students to organize their reading?

III. Reading to Learn, Part 2: Content Reading: Problems and Prospects

What particular difficulties are posed by the reading in different content areas?
What patterns of writing are employed in different content areas?
What alternatives to and supplements for textbooks can I use?

IV. Words, Words, Words —— Developing Vocabulary

How can I help students improve their general vocabulary?
How can I help students deal with technical vocabulary?

V. Motivation is the Key

How much of reading problems are "won't", not "can't"?
What are adolescents interested in reading?
How can I find out?
Are there any techniques for grabbing and holding interest in reading?
VI. Organizing for Instruction

What range of reading levels can I expect in a typical class?
How can I accommodate them?
How can I deal with the special needs reader in my classroom?

VII. Speed Reading: It's Not how Fast You Do It, But How You Do It Fast

What are reasonable expectations for speed in reading?
How can I help students develop a flexible reading rate?
How can I help students increase their rate?
Are reading machines of any value?

VIII. Assessing and Evaluating Reading

What do standardized reading test scores mean?
What informal means can I use in my class to find out where students are and how far they've come in reading?
APPENDIX C

INSTRUMENTS
Please supply the following information, by circling the appropriate response.

1. Number of years you have been teaching:
   a. First year
   b. 2 - 5 years
   c. 6 - 10 years
   d. More than 10 years

2. Level at which you teach:
   a. junior high
   b. senior high

3. Highest level of education completed:
   a. bachelor's degree
   b. master's degree
   c. master's plus 30 credits
   d. CAGS (Certificate of Advanced Graduate Study)
   e. doctoral degree

4. Prior reading course work:
   a. no previous course work in reading
   b. one university course in reading
   c. more than one university course in reading
   d. inservice course or workshop in reading

5. Subject(s) taught:
   a. English
   b. Social Studies
   c. Science
   d. Math
   e. Music
   f. Foreign Language
   g. Home Economics
   h. Industrial Arts
   i. Physical Education
   j. Special Services (Speech, IPC, etc.)
   k. Other
A SCALE TO MEASURE ATTITUDES TOWARD TEACHING READING IN CONTENT CLASSROOMS

Please indicate your feeling toward the following items by circling the appropriate number. Use the following scale:

1 = Strongly disagree
2 = Disagree
3 = Tend to disagree
4 = Neutral
5 = Tend to agree
6 = Agree
7 = Strongly agree

1. A content area teacher is obliged to help students improve their reading ability.
   
   1  2  3  4  5  6  7

2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.
   
   1  2  3  4  5  6  7

3. The primary responsibility of a content teacher should be to impart subject matter knowledge.
   
   1  2  3  4  5  6  7

4. Few students can learn all they need to know about how to read in six years of schooling.
   
   1  2  3  4  5  6  7

5. The sole responsibility for teaching students how to study should lie with reading teachers.
   
   1  2  3  4  5  6  7

6. Knowing how to teach reading in content areas should be required for secondary teaching certification.
   
   1  2  3  4  5  6  7

7. Only English teachers should be responsible for teaching reading in secondary schools.
   
   1  2  3  4  5  6  7
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.

9. Content teachers should teach content and leave reading instruction to reading teachers.

10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.

11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.

12. Content area teachers should help students learn to set purposes for reading.

13. Every content area teacher should teach students how to read material in his or her content speciality.

14. Reading instruction in secondary schools is a waste of time.

15. Content area teachers should be familiar with theoretical concepts of the reading process.
C - 3: READING PROCESS SURVEY

Please indicate whether you tend to agree or disagree with the following statements by circling either A (for agree) or D (for disagree):

A  D  1. We can recognize a proficient reader if (s)he reads well orally.

A  D  2. "Sounding it out" is not the best strategy to use to determine an unknown word.

A  D  3. If a student hesitates while reading, it is usually a sign that the student does not know the word or words which follow in the text.

A  D  4. The more mistakes a reader makes the worse is his/her reading.

A  D  5. It is not necessary to know the meaning of every word in a text to understand it.

A  D  6. Regression (that is, eye movements returning to a prior place in the text) is a sign of careless reading.

A  D  7. It is possible to read a word if you cannot pronounce it.

A  D  8. When you encounter an unknown word, the best procedure is to look it up in the dictionary.

A  D  9. Good readers do not look at every letter or word; they guess to fill in what they don't see.

A  D  10. Printed words must be identified (that is, associated with their oral forms) before comprehension can take place.
Directions: The items listed below are designed to test your knowledge about reading at the secondary level. Please read each item and circle the best response in each case.

1. The passage becomes meaningful to a reader if he/she:
   A. increases his/her vocabulary
   B. differentiates between fact and opinion
   C. brings appropriate background experiences to it
   D. reads for the main ideas

2. A class was told that they were going to read an article entitled "Life After Death." Before they were given the article the teacher asked them to anticipate what the article was about. This activity was intended to:
   A. motivate the class to read the article
   B. encourage them to think in an abstract manner
   C. suggest that the title represents the main idea
   D. help them set their purpose for reading

3. You've just looked up Mary Q.'s eighth grade CTBS scores in her cumulative folder and found that her total reading grade level score is 5.4. This means that:
   A. Mary answered as many items correctly as the average fifth grader who took the test
   B. Mary should read fifth grade material
   C. Mary has a definite reading disability
   D. None of the above

4. A student was given two selections of approximately equal length and difficulty and was told to be prepared to (a) carefully paraphrase the first selection and (b) tell how many characters were mentioned in the second selection. The student took about equal time in reading both selections. From the above you would conclude that this student was:
   A. a fast reader
   B. a slow reader
   C. an inflexible reader
   D. a consistent reader

5. You plan to introduce a unit on the "Mysteries of the Brain" to your class in a day or two. This unit, from the textbook, contains several technical terms and concepts. In order to prepare your class for this unit the best thing to do would be:
   A. to prepare a study guide so that they can get a reasonable understanding of the assigned material
   B. to ask them to read the unit the evening before so that they can ask questions
   C. to ask them to read a brief selection on this topic from the encyclopedia
   D. to prepare a summary of the unit to hand out to the class
6. A student could best improve his/her reading rate by:
   A. using a tachistoscope
   B. using a Controlled REader
   C. practicing with light, popular fiction
   D. trying to double the amount of assigned materials read each night

7. When students come to a word they don't know, they should be encouraged to initially:
   A. look it up in the dictionary
   B. use context clues
   C. sound it out
   D. use structural analysis

8. Which of the following is the least desirable way of meeting individual differences in the classroom:
   A. assigning the same material for reading to all and accepting a similar quality of responses to each question
   B. assigning materials of different levels of reading ability and accepting varying quality of responses to each question
   C. assigning the same reading material to all and accepting varying quality of responses to each question
   D. providing the same material in written and taped format and accepting a similar quality of responses to each question

9. According to the information obtained by the use of an Informal Reading Inventory (IRI), students should be taught at the level:
   A. independent
   B. instructional
   C. frustration
   D. capacity

(Questions 10, 11, and 12 are all based on the following situation)
You're teaching a class of eighth graders a course in social studies. Your school district has an established curriculum which requires a single text written at an eighth grade level.

10. Items in the text likely to cause your students difficulties would not include which of the following:
    A. maps, graphs, and charts
    B. following a sequence of events
    C. following directions
    D. abstract terms

11. The typical range of reading levels you may expect in your class would be:
    A. 6th to 8th grade
    B. 6th to 12th grade
    C. 4th to 11th grade
    D. 7th to 9th grade

12. Which of the following would be the best way to deal with a single text for a variety of reading levels:
    A. use differentiated study guides with the text
    B. have faster students read to slower students
    C. let accelerated students do research in the library
    D. provide extra practice
13. One major reason why students do not do well in the content areas is that:
   A. they lack the basic reading skills
   B. they are not prepared for reading the content areas
   C. they are not interested in the content areas
   D. the textbooks used are generally difficult

14. To informally assess a student's reading in her/his subject, a teacher could:
   A. observe students during reading tasks
   B. interview students
   C. give an IRI (Informal Reading Inventory)
   D. all of the above

15. What contributes least to the difficulty of the material?
   A. vocabulary
   B. ideas
   C. style
   D. length

16. Authorities in reading generally agree that speed in reading is dependent upon:
   A. mechanical devices
   B. efficient eye-movement
   C. the purpose of the reader
   D. the physical environment of the reader

17. The purpose of teaching the use of context clues is to:
   A. increase student's independence in reading
   B. encourage critical thinking ability
   C. identify key terms in assigned reading
   D. improve study techniques

18. Your class of Phase 2 students won't read anything. "We don't like to read," they tell you. Some of the reasons they won't read would include which of the following:
   A. they may equate reading with ridicule, failure, or exclusively school-related tasks
   B. they may not like to sit still for prolonged periods
   C. they may experience pressure at home as well as in school to read, read, read
   D. all of the above

19. The best approach for motivating the above Phase 2 class would not include which of the following:
   A. linking the reading to their interests and experience
   B. using brief readings following by comprehension questions
   C. using books base on or adapted from movies the students have seen
   D. using U.S.S. R. (Uninterrupted Sustained Silent Reading)

20. The SQ3R technique is particularly useful for:
   A. building vocabulary
   B. increasing rate
   C. increasing retention
   D. improving spelling
21. A student can read every word in a given paragraph yet he/she says he/she does not understand the meaning of the paragraph. It is likely that his/her problem is:

A. short attention span
B. inability to use context clues
C. vocalization during silent reading
D. inability to see relationships between ideas

22. Which of the following is not used to determine readability of the materials:

A. Flesch formula
B. Fry Formula
C. IRI
D. cloze
CHECK LIST OF PRACTICES RELATED TO READING IN CONTENT AREAS

Please circle 1, 2, 3, or 4 to indicate the frequency with which you use each of the given practices:

1. seldom or never 2. sometimes 3. most of the time 4. almost always

1. I know the reading ability of my students from standardized tests, other evaluative materials and/or cumulative records.  1 2 3 4
2. I know the reading level of the textbook(s) being used.  1 2 3 4
3. The materials used are suited in difficulty to the reading levels of my students.  1 2 3 4
4. Students are sometimes grouped within my classroom for differentiated instruction.  1 2 3 4
5. The course content is broader in scope than a single textbook.  1 2 3 4
6. Adequate reference materials are available.  1 2 3 4
7. Students are taught to use appropriate reference materials.  1 2 3 4
8. An adequate quantity of related informational books and other materials are available for students who read below grade level, at grade level, and above grade level.  1 2 3 4
9. I teach students study skills to use in my course.  1 2 3 4
10. I encourage students through assignments to read widely in related materials.  1 2 3 4
11. At the beginning of the year, adequate time is taken to introduce the text(s) and to discuss how it (they) may be read effectively.  1 2 3 4
12. I am aware of the special vocabulary and concepts introduced in the various units.  1 2 3 4
13. Adequate time is given to vocabulary and concept development.  1 2 3 4
14. I know the special reading skills involved in my subject.  1 2 3 4
15. I teach adequately the special reading skills in my subject.  1 2 3 4
16. Provisions are made for checking the extent to which vocabulary, concepts, and other skills are learned, and re-teaching is done when needed.

17. I attempt to prepare students for reading material for which their background is limited.

18. I either give students a purpose when assigning reading material or have them state their own.

19. I help students adapt their reading speed to the type of material being read and their purpose for reading it.

20. I attempt to find out the reading interests of my students and key at least some of my instruction to those interests.
C - 6
AMHERST-PELHAM REGIONAL SCHOOL DISTRICT
STAFF DEVELOPMENT COMMENT SHEET

PROGRAM TITLE

Please check the appropriate space to identify your instructional level:

- Elementary
- Junior High
- Senior High

Please respond to the statements below by checking the appropriate column:

<table>
<thead>
<tr>
<th></th>
<th>strongly agree</th>
<th>agree</th>
<th>disagree</th>
<th>strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>This program met my expectations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>It will have value for me in the classroom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>The arrangements (preliminary information, physical facilities, etc.) were satisfactory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>The program had adequate, clearly identifiable goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The resource people were appropriate for meeting the program's goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>The program provided sufficient variety to maintain my interest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>I would recommend this program to a colleague next year</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. What did you find most helpful in this program?

9. If this program were offered again, what changes would you suggest?
1. What do you do when you're given a chapter to read in _________? How do you read it?

2. What do you do when you don't understand what you've read?

3. What do you do when you come to a word you don't know?

4. Does it take you longer to read some things in _________ than others?
   Which ones?
   Do you read slower/faster than most of the kids in your _________ class?

5. Do you like to do the reading in _________? Why or why not?