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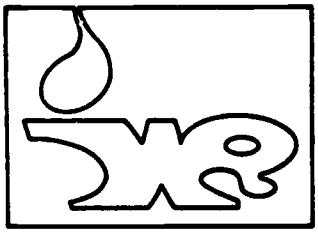
ABSTRACT

A study examined (1) whether students whose teachers possess a higher level of professional development exhibit greater time-on-task in reading than students whose teachers exhibit a lower level of professional development, and (2) if any specific aspects of teachers' professional development were related to a significantly greater amount of time-on-task in reading on the part of students. Data describing teachers' professional development were collected from 35 classroom teachers on personal data forms, while time-on-task data were collected by observing 200 individual students in four elementary schools at periodic intervals during the school year. Findings indicated there was no relationship between average student time-on-task in reading and four of the five aspects of teachers' professional development investigated. One variable, possession of a Master's degree, was negatively associated with student time-on-task at a statistically significant level. Finally, a significant negative correlation was found between years of teaching experience and student time-on-task, suggesting that as teachers acquire additional teaching experience their students exhibit a decrease in time-on-task in reading. (Tables of data and a five-page bibliography are included; among the appendixes are the classroom observation form, teacher personal data form, project guidelines, and teacher time allocation form.) (Author/HOD)



The Relationship Between Professional Development of Teachers and Student Time-On-Task

by Peter W. Lisi

June 1982

Wisconsin Center for Education Research
an institute for the study of diversity in schooling

THE RELATIONSHIP BETWEEN PROFESSIONAL DEVELOPMENT OF TEACHERS AND STUDENT TIME-ON-TASK

by

Peter Waterman Lisi

Doctoral Dissertation from
the Program on Student Diversity and School Processes

Wisconsin Center for Education Research
The University of Wisconsin
Madison, Wisconsin

June 1982

This doctoral dissertation reports research supported by the Wisconsin Center for Education Research. Since it has been approved by a University Examining Committee, it has not been reviewed by the Center. It is published by the Center as a record of some of the Center's activities and as a service to the student. The bound original is in the University of Wisconsin Memorial Library.

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> I thank you for the kindness and the times when you got tough,
> And to you both I don't think I said "I love you" near enough.

When I left for Madison it was with the words, "I hope some day you will be as proud of me as I am of you." That remains my hope.

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PWL
1982

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Abstract

THE RELATIONSHIP BETWEEN PROFESSIONAL DEVELOPMENT OF TEACHERS AND STUDENT TIME-ON-TASK

Peter Waterman Lisi

Under the Supervision of Professor Richard A. Rossmiller

The purposes of this study were twofold: (1) to determine whether students whose teachers possess a higher level of professional development exhibit greater time-on-task in reading than students whose teachers exhibit a lower level of professional development; and (2) to determine if any specific aspects of teachers' professional development were related to a significantly greater amount of time-on-task in reading on the part of students. The major hypothesis was:

H_1 There is no statistically significant relationship between the amount of time-on-task in reading displayed by students, and various aspects of teachers' professional development.

Data were collected on 35 classroom teachers and 200 students in four Wisconsin elementary schools, using two instruments. Data describing teachers' professional development were supplied by teachers on a personal data form. Student time-on-task data were collected by conducting individual student observations at periodic intervals during the school year. The data were collected during the 1979-80, 1980-81, and 1981-82 school years as part of the School Resource Utilization Project of the Wisconsin Center for

Education Research. The hypothesis was tested using stepwise multiple regression analyses with the level of statistical significance set at .05.

The major findings and conclusions were:

1. There was no relationship between average student time-on task in reading and four of the five aspects of teachers' professional development investigated in this study.

2. One variable, possession of a Master's degree, was negatively associated with student time-on-task at a statistically significant level.

3. A significant negative correlation was found between years of teaching experience and student time-on-task, suggesting that as teachers acquire additional teaching experience their students exhibit a decrease in time-on-task in reading.

Based on the findings, implications for practitioners and future researchers were suggested.

CHAPTER I

INTRODUCTION

The field of education has experienced many changes in recent years. Open classrooms, individualized instruction, programs for gifted and disadvantaged learners, and competency tests for students as well as teachers all have been instituted in at least some schools. These applications of theories have enabled researchers to study the impact of these changes on students and their learning. Each of the aforementioned innovations represents a considerably different strategy in attempting to improve student learning. However, there is one common factor. That is the element of time and how it is used by students and teachers.

It cannot be denied that time is an omnipresent function of every educational process, yet it has received relatively little attention by educational researchers (Thomas, Kemmerer, Monk, 1978). When efforts have focused on the relationship of time to student learning it has generally been examined in a larger context than the individual student's use of time (Mann, 1928; Gump, 1967; Smith, 1979). Time allocation by a group of students is an outgrowth of how the individuals comprising that group spend their time. Thus, the focus of this study is on the use of time by individual students and the factors which can influence or affect uses of time.

A common strategy used to link student outcomes to a time variable is through examining teacher time allocations. Garner (1978) reported a wide range in the amount of time spent on subject matter by teachers at the same grade level. Stallings (1980) asserted that student outcomes are not merely a function of how much teacher time is allocated, but of how effectively that time is used and managed. This notion is further supported by the work of Harnischfeger and Wiley (1978), Stallings (1975), and Stallings, Needels, and Stayrook (1979), all of whom found that student academic achievement is not solely and exclusively a function of instructional period length. Quite obviously, student learning is dependent upon how time within the instructional period is used, not merely the amount of time allocated for use.

The teacher is most directly responsible for establishing and managing instructional periods on a day-to-day basis. It has been shown that even in similar settings, quite different amounts of time may be allocated to a subject (Garner, 1978). But given situations where equal time is allocated, what affect does the teacher have on how that time is spent? In discussing teacher effectiveness in the elementary school, Good (1979) asserted that managerial abilities of teachers have been found to relate positively to student achievement in every process-product study conducted to date. At one time it was thought that curriculum materials and methods could be developed to negate differences in

individual teachers' styles and characteristics. Research results do not support this notion, and it was concluded by Chall (1967) that teachers are more important than the method, and indirectly affect a particular curriculum regardless of what learning aids are being used.

If indeed teachers do make a difference, as the research findings suggest, it is important to note those differences which can affect student learning positively. Volumes have been written concerning teacher characteristics, effectiveness, and student achievement (e.g., Rakow, Airasian, & Madius, 1978; Brophy & Evertson, 1974; McDonald & Elias, 1976). Despite the breadth and depth of research examining these variables of learning, few studies have dealt directly with the use of time by students. The importance of time and its usage cannot be taken lightly and therefore warrants serious attention by educational researchers. Of primary interest in this research were the factors which comprise teachers' professional development, and the relationships that may exist between student time allocation and such factors.

The researcher interested in student time allocation cannot be satisfied with merely a quantity measure of "how much." As noted previously, it is necessary to be aware of how time is spent. Furthermore, it is important to identify the characteristics a teacher may possess that influence positively the use of time by a student or total class. Does the teacher's level of educational

attainment significantly affect student time-on-task? Do teachers' characteristics such as inservice professional development, years of experience, or involvement with professional organizations significantly affect how their students spend time in school? Questions such as these were answered by the major question of this research: Is there a statistically significant relationship between the amount of on-task time in reading displayed by students and various aspects of teachers' professional development?

Background of the Study

The use of time by individual students is presently being examined by the Resource Utilization Project of the Wisconsin Center for Education Research. That research is designed to examine a variety of resources which may exert an affect upon the learning of students. The basis for the project is a conceptual framework for analysis of education production designed by Rossmiller and Geske (1977) (see Figure 1.1). As can be seen from the framework, inputs from the external environment, including human and material resources, establish the parameters within which resources are applied at the classroom level. From these applications are produced the outputs of the educational system.

Awareness of the fact that many social and environmental factors affect the learning of students has led Rossmiller to undertake a broad study of these factors and how they impact upon

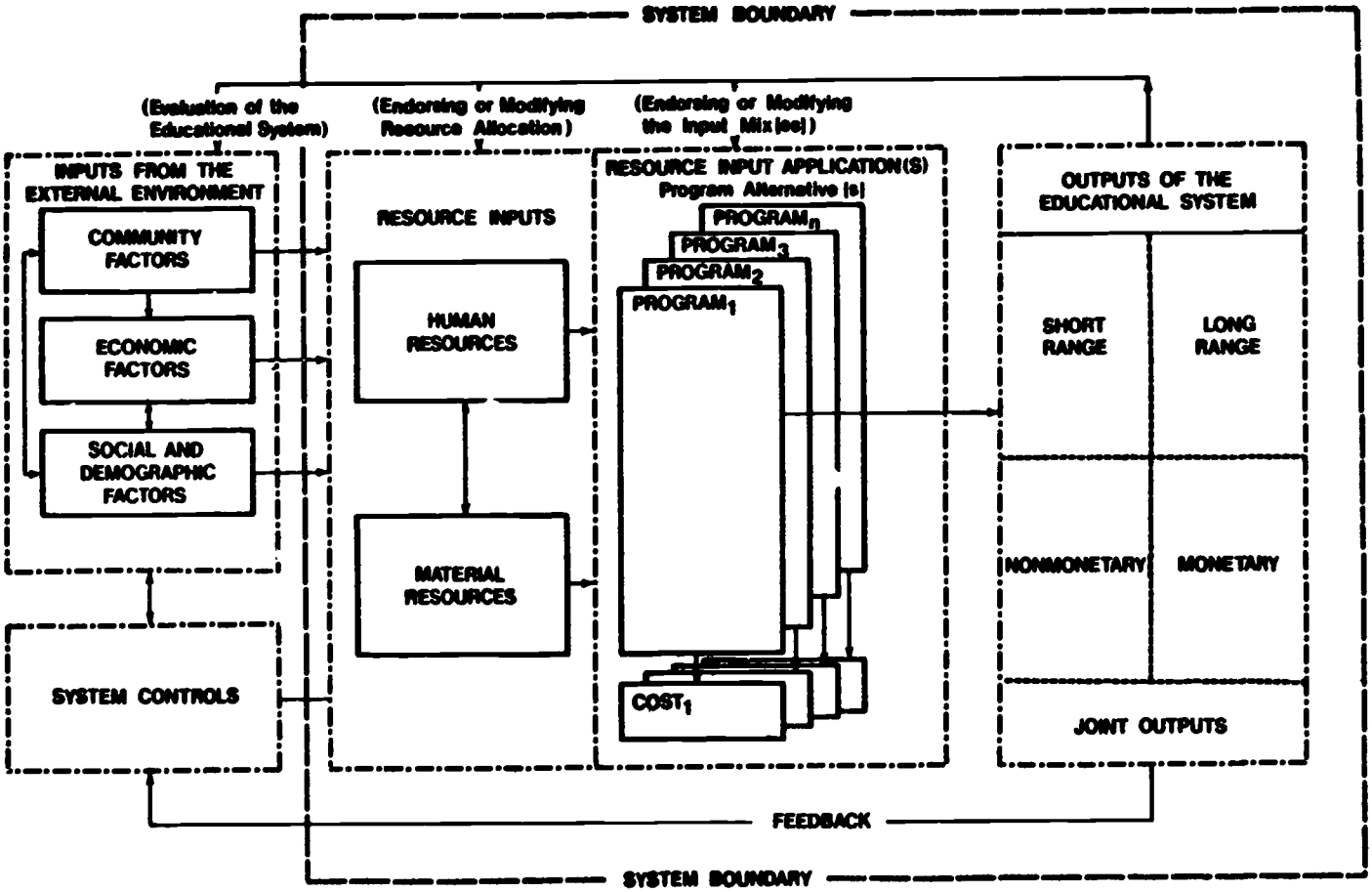

Figure 1.1. A Conceptual Framework of the Educational Production Process Under School Conditions.

Source: Rossmiller, R. A., & Geske, T. G. Economic analysis of education: A conceptual framework. Theoretical Paper No. 68. Madison, Wisconsin: Wisconsin Research and Development Center for Cognitive Learning, 1977.

the output of the educational system. Based on the conceptual framework displayed in Figure 1.1, the research is designed to identify and measure most of the resources comprising the input to the educational system and assess them in relationship to the system's output. The methodology of this research is significant because each student represents a potential unit for analysis. The vast majority of research of this type has utilized either classroom, school, or school district data. This research treats each student as an individual, and studies the effect of various inputs on the student's usage of time and other inputs.

The aforementioned research project provided the foundation for the present study in which certain characteristics of the professional training and development of teachers were examined in relation to their students' time allocation in reading.

Statement of the Problem

The purpose of this study was to ascertain the relationship between various aspects of teachers' professional development and student time-on-task. Harnischfeger (1978) asserted that most research and evaluation studies have not aided the school because of the concentration on the outcomes of schooling, rather than the teaching-learning process and the linkage of resources to resource use to student achievement. This research focused upon resources

is spent), which is considered a vital part of the teaching-learning process.

Close examination of the conceptual framework outlined by Rossmiller and Geske (1977) reveals many inputs which may impact upon a student's educational experience. The present research examined one facet of the human resource input function--the classroom teacher--and how it affected student time-on-task. The teacher is irrefutably an important variable in student learning. The simple fact that many of a student's waking hours during a school week are spent at school underscores the importance of teachers and their contribution to the outcomes of the educational system.

Recognizing the importance of teachers and their affect upon students, this researcher undertook to examine the relationship of teachers' professional development to student time-on-task. A teacher's professional development can take many forms, and students can spend their time in many ways. Thus, it was of interest to determine if a relationship existed between the two. The implications of such a finding for teacher education programs, as well as for elementary education practices, are self-evident. All educators with an interest in elementary education and/or teacher education may gain greater insight into the educational process as a result of this study.

Teachers have long been the subject of study concerning how they affect students and student learning. However, it is apparent

that students' time is an extremely valuable resource in the learning process and merits closer study.

Review of the Literature

The literature germane to this study included studies focusing on time allocation in classrooms, schools, and school districts; preparation and practice of teachers; time as an educational resource; and student time-on-task. The conclusions and implications of these studies are summarized here as they relate to the stated problem of this research.

Time Allocation

Researchers in the field of education long have sought to determine why, and the manner of how, students learn. Numerous variables have been postulated as being "key" determinants in student achievement. This is especially true in the subject of reading, which is considered by many to be the foundation for all other academic learning. Thousands of articles and reports dealing with the sociological, physiological, and psychological factors affecting the reading of normal and atypical learners, as well as teacher affects on reading performance, are among the topics covered. However, it was not until 1974 that teacher preparation and practice in the teaching of reading was thought to be important enough to warrant its own classification in the annual index by the Reading Research Quarterly. Similarly, Frohreich (1978) found that

in research on the learning process, student time largely has been neglected as a variable.

Just as reading research has focused for years on many areas other than teacher preparation, studies of resource allocation have given little attention to the use of time by the individual student. Many facets of the learning process have been examined in an attempt to ascertain why students learn at different rates. An early attempt by Mann (1928) reported that time allotments to subjects in school systems across the United States varied widely. Using data from 444 cities, Mann found that the school district allocating the most instructional time to reading in grades 1 to 6 gave 11.8 times more than the school district making the smallest time allotment. Figures for other subjects in this largest allotment/smallest allotment ratio were: literature, 109:1; arithmetic, 4.4:1; history, 22.9:1; nature study and elementary science, 144:1; and unassigned and free time, 696.7:1. Mann concluded that there was "a pressing need for a scientific study of the problem of carefully budgeting the time which the child spends in the grades of elementary school." Mann's work provided useful insights into the time allotted to subjects by schools, but it did not deal with the question of how individual students use their time. It was not until Carroll's (1963) work that the student's time was recognized as an important resource in the learning process. He defined time-on-task as "the time during which he (the learner) is 'paying attention' and

'trying to learn'" (p. 725). Carroll further demonstrated his high regard for student time by proposing a model which distinguished between elapsed time and student time-on-task. His model contained five factors--three are associated with time needed for learning, and two determine time spent in learning. Carroll asserted that time needed in learning is determined by an individual's aptitude, ability to understand instructions, and quality of instruction. Time spent in learning is a combination of opportunity (time allowed for learning) and perseverance (the time which a student is willing to spend on a learning task). Implied from Carroll's model is that with all other factors being equal, learning will be a function of student perseverance (time-on-task).

Many factors influence how students spend their time. One important factor is the teacher. Reid (1975) reported the teacher "factor" accounts for a major portion of pupils' reading achievement and is a primary factor in determining whether children will be successful in learning to read. With regard to teachers' education, Hanushek (1971) found that the education of teachers within the most recent year, as opposed to five years previously, was worth .2 to .3 years of reading achievement to a third-grade student However, it did not matter whether the teacher was enrolled in a degree program or simply taking courses.

Problems inevitably arise when research on student achievement is undertaken. When classroom research is discussed with

regard to students, the method and materials used are often cited as a factor that must be controlled. However, some researchers have questioned the overall effect of methods and materials. Harris and Morrison (1969) reported that the teacher is far more important than the method. They stated that "costly procedures such as smaller classes and provision of auxiliary personnel may continue to give disappointing results if teaching skills are not improved" (p. 340). Bond and Dykstra (1967) conducted research which examined first-grade reading studies, and concluded that "no one approach is so distinctly better in all situations and respects than the others that it should be considered the one best method and used exclusively." They also asserted that to improve reading instruction, it is necessary to train better teachers of reading, rather than to expect a panacea in the form of materials.

While the effects of instructional time and how it is used is attracting more attention, the variations in time allotted to various subjects also is becoming increasingly evident. Just as Mann found an extremely wide range in the time allotted to various subjects from city to city, differences in time allotment can be found within the same grade level of the same school. Garner (1978) found it not uncommon to have two teachers of the same grade, in the same school, using the same curriculum, with one spending twice as much time on mathematics as the other. This clearly would be expected to have an effect on student achievement

Research conducted by Glaser (1968) and Atkinson (1968) supports the view that a wide range exists among students in their learning time. They suggested that learning rates of students differ by a ratio of about 5:1. That is, the slowest 5 percent of the learners require about five times as much time to complete a given task as do the fastest 5 percent. Their estimates were expressed in terms of elapsed time, not learning time. Many factors other than a student's "speed" affect how much time one spends on a task, or on-task; yet it remains true that there exists a wide variation between time allocation of students and their completion of a given task.

Utilization of student time by schools often goes beyond the actual school day. This intrusion into the after-school time of students is often in the form of homework assignments. The use of discretionary time for school work is supported by parents (Phi Delta Kappan/Gallup Poll, 1976), and can add a significant amount of time to the school day. As Garner (1978) pointed out, a half hour of homework adds 10 percent to a five-hour school day and 67 percent to a 45-minute class. There are numerous variables that may affect the amount of time a student spends on homework and thus mediate its effect on educational outcomes. The point of interest here is that homework represents a required commitment and allocation of time by students. Furthermore, after-school time of students is a resource which requires identification so that a

comprehensive analysis of educational resources and outcomes can be carried out.

When computing and analyzing the time allocations of elementary school students it may be tempting to regard it as having no economic value because foregone earnings are almost nonexistent; however, this does not lessen the importance of that time. Thomas (1977) asserted that elementary students' time may be worth more than time of students of later years, because the skills attained in the elementary years are the basis for application of skills to produce new learning later on. Foregoing skill mastery in the early school years may lower the individual's ability to produce additional "human capital" in the future.

Preparation and Practice of Teachers

A great deal has been written about the teacher as a variable in the reading process, but very little is known about the effect of the teacher's professional preparation on student usage of time. When a careful study of teacher education programs has been attempted, numerous problems have been encountered. Elias (1971) reported that the formal preparation of teachers is dictated by state certification laws and affected by university programs. Furthermore, inequalities in state requirements, and inconsistencies between instructional programs and those same requirements, make detailed analysis of professional preparation for teaching difficult, if not impossible. Perhaps this situation has discouraged

many researchers and led them to direct their efforts into specific areas of teacher education rather than treating it as a totality.

Bidwell and Kasarda (1975) researched the relationship between school district organization and student achievement (Figure 1.2). One of the four structural variables they used was a measure of staff qualifications, which was in part determined by the number of teachers who had attained at least a Master's degree. The data supported Bidwell and Kasarda's prediction that a positive relationship would exist between staff qualification and such variables as school size, available resources, percent of disadvantaged students, and parental education. All of these variables provided input into the dependent variable of average high school achievement test scores in reading and mathematics. Bidwell and Kasarda did find a positive relationship between staff qualifications and reading achievement, but not mathematics achievement. They attributed this finding to the effects of parental education and the possibility that parents have greater involvement in the reading curriculum than in mathematics.

Zais (1978), who was concerned with teacher competency as it related to reading, examined reading scores of graduating secondary education majors. The results showed that although a majority of the sample read better than incoming freshmen, a substantial minority of the seniors did not read as well as 75 percent of the freshmen and may have had a learning disability. McDonald

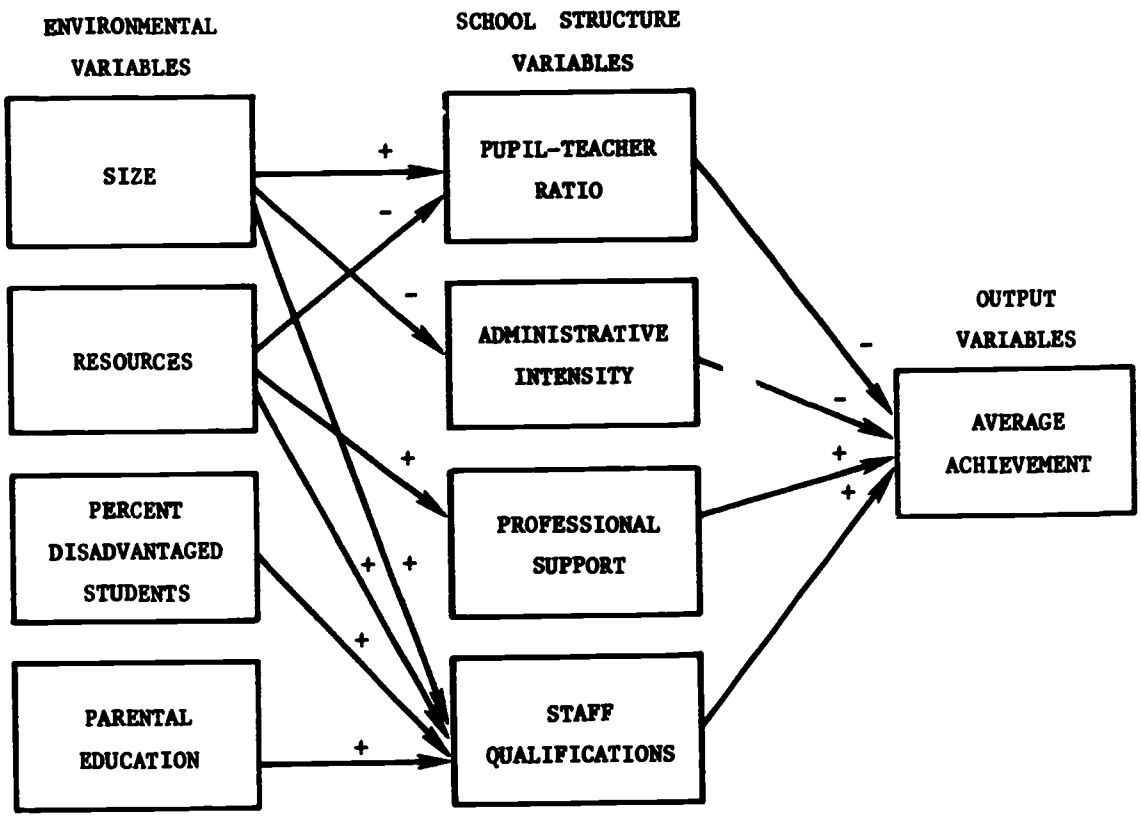

Figure 1.2. A Model of School District Effects (showing relationships observed in Colorado, 1969-70, with reading achievement as output).

Note: A '+' sign means that the variables move together.
A '-' sign means the variables move in opposite directions.

Source: Bidwell, C. E., & Kasarda, J. D. School district organization and student achievement. American Sociological Review, February 1975, 40(1), 55-70.

(1976) examined the relationship between teacher performance and pupil learning in second- and fifth-grade classrooms. Performance was evaluated through direct observations and self-reports by the teachers. This information was then related to pupil learning in reading and mathematics. McDonald concluded that at the second-grade level, direct individual instruction was the key to effective teaching, while at the fifth-grade level, instruction and interaction were most effective. These conclusions provide useful information for teacher time allocation and instructional methods, but do not lend insight into how the students spend their time within the teacher-established instructional time block.

Observations of total classes were conducted by Davidson and Holley (1979) in an effort to determine exactly how much of the school day was spent on instructional activities. They found that 20 percent of the day was spent on noninstructional activities, and when that time was added to recess and lunch time, only three hours and forty-five minutes of the six hour and ten-minute school day was available for actual instruction. Gump (1967) reported similar findings with regard to time spent in noninstructional activities. He stated that 12 percent of students' time was spent in transition in and out of classrooms. Estimates of noninstructional time by Grannis (1978) in ten nontraditional second-grade classrooms included time spent on any activity not related to a fundamental or supplemental subject area as well as transition time. His data

revealed a 9 to 13 percent range in time spent on "environmental maintenance."

While it is not feasible to think of a school day with no noninstructional time, there does exist some evidence that a relationship exists between time allotment and student achievement. After Davidson and Holley reported their findings, the schools "tightened up" their days to lessen the time spent on noninstructional activities and reported an increase in achievement test scores. Classroom observations of individual students provided Jacobson (1980) with data from which he concluded a positive relationship existed between allocated time and mathematics achievement. Fisher et al. (1979) asserted that the simultaneous occurrance of allocated time, student engagement, and student success rate resulted in "academic learning time." All three of these components of academic learning time were found to be positively associated with learning. Smith (1979), however, found only a very slight relationship between allocated time and achievement. Furthermore, in her study of fifth-grade teachers and their time allotment to social studies instruction, she concluded the usefulness of allocated time as a potent variable in planning or evaluation of instructional time was questionable.

There does exist some research findings which suggest that student involvement may be affected by, and be a function of, their perception of their own ability. Anderson (1973) has concluded that

higher ability students devoted more class time to learning than students of low ability. McDermott (1977) studied student ability as it related to student demand for teacher time and materials. In his case study he found that high-ability students obtained over one-third more time than the teacher had planned to spend with them. If time allocation of teachers is indeed affected by student ability levels, such a finding would support Kemmerer's (1979) notion that "efficiency in learning may therefore be closely related to obtaining the resources necessary for learning" (p. 4).

Decisions concerning time allotment in the classroom are ultimately the responsibility of the teacher. Despite the importance of this day-to-day responsibility, the use of teacher time is another area that has not been the subject of a great deal of research. Perhaps this is due to a long standing belief that smaller classes will undoubtedly yield "better" outcomes in the learning of students, it being assumed that the teacher will be able to spend more time with individual students when the class is smaller. Although this assertion seems logical, it is grounded in theory which makes inferences based on average class size and average class scores. Because teachers do possess decision-making authority concerning how time is spent in classrooms, it is important to study the effects not only in terms of the "class," but in terms of the individual student.

When studies have been conducted examining the ways teachers allocate their time to students, significant differences have been found. In a descriptive (rather than inferential) study, Good and Beckerman (1978) observed three classrooms in each of two schools. They concluded that student involvement was highest when the pupils were part of a group (large or small) with the teacher present. Their data also revealed that students worked independently 51 percent of the school day. There were, however, large differences in the amount of student time-on-task in each instructional setting of the classroom and school. Their data showed whole-class instruction comprising 1.6 percent of total class time in one classroom, while in another classroom the figure was 29.3 percent. Good and Beckerman provided no data on measures of educational outcomes; therefore, no conclusions were drawn regarding the consequences of this wide variation in teacher/class time and student achievement.

Teachers may have day-to-day authority over how much time is spent on subject matter, but they do not have complete autonomy. Kemmerer (1979) cited numerous factors that contribute to decisions about how time is spent. Community preferences and local philosophies affect how school time is allocated, as do parental decisions regarding school attendance. Administrative decisions in regard to number of days in the school year, length of school day, and priority of particular curriculum areas also affect use of student time. With all these sources of input affecting time allocation, Kemmerer

still found a very large variation in the time teachers allotted to a particular content area within a subject. She found the amount of time spent on creative writing in four fifth-grade language arts classes was .8, 1, 5, and 6 percent of total class time. Equally large differences were found in the time spent in second-grade reading and mathematics.

Student Time-On-Task

The function of student learning time has been expressed by researchers in several wa The terms time-on-task, involvement, overt (versus covert) involvement, and attentiveness all have been used to refer to that time during which a student can be observed fulfilling the responsibilities assigned by the teacher for that particular block of time (Barley, 1975). In reviewing the literature presented in the following paragraphs, the aforementioned terms will be used interchangeably.

Student time spent in active learning was the subject of research by Anderson (1973), Arlin (1974), and Ozcelik (1974). They found the amount of time that a student spends directly on overt or covert learning is highly predictive of the learning achievement (performance) of the student. When related to teachers and quality of instruction, the data supported the expectation that when the quality of instruction was high, students' level of achievement and time-on-task increased. Conversely, when the quality of instruction was low, student achievement and time-on-task decreased.

In a study of attentiveness of students, Shannon (1942) found a correlation of .59 between 100 eighth-grade students' attention scores and related follow-up test scores. However, the material being read (an article on parachute jumping) may have influenced a student's desire to listen, and students' actual listening comprehension abilities could affect test results. Edminston and Rhoades (1959) conducted similar research correlating the observed attention of 94 high school seniors with their California Achievement Test scores in reading, English, and mathematics. A correlation of .58 was found between attention and test scores in those same areas. A more extensive study was undertaken by Lahaderne (1967), who followed 125 sixth-grade students over a three-month period. Her attention ratings were based on observations of the students in class. These ratings were correlated with scores on the Scott-Foresman Reading Test (for reading) and the Stanford Achievement Tests (for reading, language, and mathematics). Correlations on the Scott-Foresman test were .51 for males and .59 for females; Stanford Achievement Test correlations ranged from .46 to .53 for males, and from .37 to .49 for females.

Jarvis' (1963) findings substantiated the work of previous researchers (Daughtery, 1955; Denny, 1955; Phillips, 1962) who correlated time allocation with general achievement and with specific subject achievement by students. Jarvis concluded that class periods of at least 55 minutes in length at one time in elementary

school arithmetic resulted in significant gains in arithmetic achievement for all ability levels.

While the strength of the correlations obtained in these studies vary, they all showed a positive relationship between the amount of attention (time-on-task) a student gives to a subject and the student's achievement test scores. A wide range of factors and variables can affect student time-on-task; the variable of interest in this research is the teacher and, more specifically, certain characteristics of the teacher's professional training and development which might affect student time-on-task.

All of the aforementioned research has contributed knowledge that may help educators achieve their goal of increasing the amount of instruction provided to students. The studies cited here make it apparent that there are many demands which affect student time allocation. Administrative policy, teacher management of the classroom, parental decisions, and socialization processes all impact on how a student's time is spent. Perhaps it was the myriad of variables which influence student time allocation that caused Cusick (1973) to conclude that a good day would be one in which an average student spent an hour to one and one-half hours involved in the subject matter.

In summation, the review of literature presented here reveals a need for further study of student time allocation and its relation to the teacher. On the basis of previous research, it is suggested that:

1. There will be a systematic relationship between student time allocation and teachers' professional development, although the strength and degree of the relationship is uncertain.
2. There will be specific aspects of teachers' professional development that are related to greater student time-on-task.

Questions and Hypothesis

The review of literature presented here and the current state of the art regarding teacher professional development and student time-on-task gave insight into new areas to be researched. It is clear that student time is a very important resource in learning, and as Harnischfeger (1978) asserts, "To use available resources in the most beneficial way for students is a teacher as well as an administrator responsibility" (p. 19). In regard to the aforementioned research and the need for further inquiries in which student time is treated as a resource in learning, this research sought to answer the following two questions:

1. Do students whose teachers possess a higher level of professional development exhibit greater time-on-task in reading than students whose teachers exhibit a lower level of professional development?

2. Are there specific aspects of teachers' professional development that are related to a significantly greater amount of time-on-task in reading on the part of the students?

These questions were answered by testing the following null hypothesis:

1. There is no statistically significant relationship between the amount of time-on-task in reading displayed by a student, and various aspects of the teacher's professional development.

Definition of Terms

This research is designed to focus upon the relationship between student use of school time and the professional development of teachers. Because different researchers have used different terms to describe similar aspects of their work, it is important to define operationally certain words or phrases used in this study:

1. Aspects of professional development: experiences which add to a teacher's abilities and effectiveness as a teacher. Of particular interest in this research are teachers' formal course work, noncredit professional improvement courses (e.g., workshops, conferences; involvement in professional and community organizations; recency of these activities; and years of teaching experience.

2. Time-on-task: time during which the student(s) being observed is either working independently, one-to-one with a teacher or aide, in a small group, with other students, or in a large group on a specific learning task sanctioned by the teacher.

3. Working independently: the student is working alone, i.e., reading, writing, or using learning aids or materials.

4. One to one: the student is working with the teacher, an aide or a volunteer, with no other students.

5. Small group: the student is working within a group which is less than total class size and is led by an adult.

6. Large group: the student is working with the teacher and other students in a class size or larger group.

7. With student(s): the student is working with other student(s), but not with an adult. A teacher or aide may be present but is not working directly with the student being observed.

8. Off-task: the student is clearly not involved with the learning task established by the teacher for that time. This can include, but is not limited to, the student resting, staring, wandering about, leaving the room for noninstructional purposes, or exhibiting behavior which is not conducive to a learning environment in the classroom.

9. Process behavior: the student is waiting for the teacher, or for teacher direction, before proceeding.

10. Non-observable: the student has left the room or is not observable in the room.

Organization of the Study

This initial chapter has included an introduction to the study and background information relevant to the study, a statement of the problem to be addressed, a review of previous research germane to this study, identification of the questions and hypothesis to be tested, and a definition of terms which are central to this research. Chapter II deals with the design and methodology used in the study, including explanation of research design, instrumentation, data collection, and data analysis procedures. Data presentation and analysis will be found in Chapter III. The final chapter summarizes the results of the study with findings, conclusions, and implications to practice and future research.

CHAPTER II

DESIGN AND METHODOLOGY

The research design and methodology employed in this study will be described in this chapter. It includes the following sections: design of the study, population and sample, a description of the instrumentation used to collect the data, data collection procedures, and descriptions of time and teacher variables.

Design of the Study

The design for this study was an ex post facto correlational study. Two sets of data were used (teachers' professional development and student time-on-task in reading). The data were collected during the 1979-80, 1980-81, and 1981-82 school years as part of the Resource Utilization Project of the Wisconsin Center for Education Research. Student time-on-task data were collected by conducting individual student observations at periodic intervals during the school year. Consistency among observers was established through training sessions using the observation instrument (see Appendix A). Data concerning teacher professional development were obtained from an instrument completed by the teachers (see Appendix B), and from school records when necessary.

Population and Sample

This research utilized students in four Wisconsin elementary schools that contain grades K-6. The four schools, two serving urban populations and two serving small-town/rural areas, were selected according to the following considerations:

1. They had, and were expected to continue to have, relatively stable enrollment patterns.
2. They represented varying demographic characteristics.
3. They professed to have adopted Individually Guided Education (IGE) as their educational philosophy.
4. They were willing to participate for the three-year duration of the study.

Basic descriptive information on each of the four sample schools in the study is presented in Table 2.1. For each school, information is given regarding approximate community size served by the school, type of area served and geographic location, grades enrolled, and approximate enrollment.

Since the participating schools were not selected randomly, one cannot generalize the results of this research beyond the parameters of the participant schools. However, to the extent that these four schools were not uniquely different from other schools, the results obtained may be applicable to other schools in similar districts. Thus, each participant school district was compared to other similar sized school districts on nine variables: total average daily membership (ADM), total pupil/teacher ratio,

TABLE 2.1

DESCRIPTIVE CHARACTERISTICS OF SAMPLE SCHOOLS

School	Approximate community size served by school	Type of area and geographic location	Grades	Enrollment
1	50,000	Medium city/ Northwestern Wisconsin	K-6	500
2	3,700	Rural/ Southern Wisconsin	K-6	400
3	10,000	Small city/ Southern Wisconsin	K-6	520
4	50,000	Medium city/ North Central Wisconsin	K-6	465

minority enrollment, contract salary average, teacher average experience (local and total), cost per member, cost per member less transportation, and equalized valuation per member.

A mean and standard deviation were computed for each variable in each group. The groups were established as follows:

1. School District 1 was compared to other Wisconsin school districts serving community population centers of 40,000 to 60,000 persons (see Table 2.2).

2. School Districts 2 and 3 were compared to other Wisconsin school districts with an ADM of 1,500 to 3,000 students (see Table 2.3).

3. School District 4 was compared to other Wisconsin school districts with an ADM of 3,000 to 5,000 students (see Table 2.4).

The comparisons revealed that the school districts which participated in this study are generally typical of other Wisconsin school districts of similar size. Therefore, the results obtained in this study are probably indicative of what would be found in other Wisconsin school districts with similar characteristics.

Upon selection of an agreement from the schools to participate, parental consent forms (see Appendix C) were distributed to each student in the third grade during the 1979-80 school year. Parental consent was given for the participation of approximately 250 students; however, due to changes in attendance boundaries at one school and students' families moving during the three years, the sample numbered approximately 200 for this study.

TABLE 2.2

COMPARISON OF SCHOOL DISTRICT 1 WITH OTHER WISCONSIN SCHOOL DISTRICTS SERVING COMMUNITY POPULATIONS OF 40,000 TO 60,000 PERSONS

Variable	School District 1	Other Wisconsin school districts serving community populations of 40,000 to 60,000 persons (N=7)	
		Mean	S.D.
Total ADM	9,767	9,702	2,103
Total Pupil/ teacher ratio	17:1	16.76:1	1.55
Minority enrollment	203	335	271
Contract salary average	17,756	17,020	1,208
Teachers' average experience (in years)			
Local	10.4	11.4	1.22
Total	13.9	14.07	1.64
Cost/member	2,469	2,458	333
Cost/member less transportation	2,357	2,409	327
Equalized valuation/ member	93,254	117,260	39,001

TABLE 2.3

COMPARISON OF SCHOOL DISTRICTS 2 AND 3 WITH OTHER WISCONSIN SCHOOL DISTRICTS HAVING AVERAGE DAILY MEMBERSHIP (ADM) OF 1,500 TO 3,000 STUDENTS

Variable	School District 2	School District 3	Other Wisconsin school districts with ADM of 1,500 to 3,000 students (N=70)	
			Mean	S.D.
Total ADM	2,471	2,692	2,044	381
Total pupil/ teacher ratio	17.1:1	15.9:1	16.54:1	1.79
Minority enrollment	11	20	56	70.53
Contract salary average	14,591	15,034	14,551	2,582
Teachers' average experience (in years)				
Local	7.7	10.5	9.3	2.32
Total	9.3	12.3	12.0	2.73
Cost/member	2,117	2,350	2,305	226
Cost/member less transportation	1,993	2,226	2,135	201
Equalized valuation/ member	82,308	113,360	92,143	25,214

TABLE 2.4

COMPARISON OF SCHOOL DISTRICT 4 WITH OTHER WISCONSIN SCHOOL DISTRICTS HAVING AVERAGE DAILY MEMBERSHIP (ADM) OF 3,000 TO 5,000 STUDENTS

Variable	School District 4	Other Wisconsin School Districts with ADM of 3,000 to 5,000 students (N=25)	
		Mean	S.D.
Total ADM	4,621	3,699	435
Total pupil/ teacher ratio	17.3:1	16.83:1	.85
Minority enrollment	80	80	52
Contract salary average	15,035	16,581	1,127
Teachers' average experience (in years)			
Local	8.3	9.94	1.47
Total	11.2	12.65	1.55
Cost/member	2,197	2,417	191.45
Cost/member less transportation	2,048	2,314	234.07
Equalized valuation/ member	83,619	94,148	26,142.58

The teachers for this study consisted of all classroom teachers who taught reading to students in the study. They were asked to sign consent forms (see Appendix D) and complete teacher personal data forms (see Appendix B). All teachers gave written consent to participate in the study and supplied the information requested on the personal data form. The number of classroom teachers who taught reading to students in the study was 35. Background information on the teachers included in the study is presented in Table 2.5. Data on age of two teachers and years of teaching experience for one teacher were missing, therefore figures for those categories were based on a N of 33 and 34, respectively.

Instrumentation

A variety of instruments for use on the Resource Utilization Project were designed and pilot tested during the 1978-79 school year. Two of these instruments were used in this study: the Classroom Observation Form (see Appendix A), and the Teacher Personal Data Form (see Appendix B). A description of the instruments follows.

Classroom Observation Form

The Classroom Observation Form was designed by members of the Resource Utilization Project after reviewing existing instruments with a similar purpose. This instrument was designed to yield an accurate record of how individual students spent their

TABLE 2.5

BACKGROUND INFORMATION CONCERNING TEACHERS IN THE STUDY

	N	Sex		Age in years			Type of undergrad. degree		Master's degree completed?		Years of experience		
		M	F	Mean	S.D.	Range	BA	BS	Yes	No	Mean	S.D.	Range
Year 1 1979-80	7	0	7	40.6	13.5	26-62	3	4	0	7	9.1	5.4	3-18
Year 2 1980-81	16	4	12	36.8	10.0	25-58	2	14	6	10	9.3	7.3	1-29
Year 3 1981-82	12	5	7	41.4	10.8	29.62	2	10	8	4	12.9	8.6	2-29
Totals	35	9	26	39.1	10.9	25-62	7	28	14	21	10.6	7.5	1-29

time during a particular instructional period. Using training sessions, this instrument was then pilot tested for consistency among observers.

Using this instrument, information concerning individual student time allocation in school was collected by observers who sat in classrooms and observed students at two-minute intervals. The data indicate how a student spent time during the observation period. Student time usage was coded in one of nine categories: working independently, one-to-one instruction with a teacher or aide, small-group instruction, large-group instruction, working with other students, process behavior, off-task behavior, non-observable, and working independently on an activity sanctioned by the teacher but not necessarily on the same subject matter as other students. Each form accommodates up to five students; however, more than five students can be observed simultaneously by using additional forms. This instrument also yielded information describing class size, number of adults in the room, the subject of instruction, and length of class period. Additionally, the school, teacher, observer, and student(s) being observed were identified.

The Classroom Observation Form was a versatile instrument which had several advantages over existing instruments. Specifically, these advantages include the opportunity to observe more than one student at a time, the capacity to delineate between on-task and off-task behavior, the flexibility to discern different modes

of instruction, and the adaptability to be used in a variety of classroom environments.

This instrument was pilot tested by the staff of the Resource Utilization Project to assure agreement among observers in interpreting and categorizing the observable behaviors. Observation guidelines (see Appendix D) were developed and used by all observers. Interobserver agreement ranged from 76 percent to 100 percent with a mean of 90 percent.

Teacher Personal Data Form

This form was designed to collect data from teachers concerning their background, professional training and development, and current activities. The information included data of birth, educational institutions attended, duration of attendance, academic major(s), type of degree attained, graduate credits earned in the past 12 and 24 months, years of teaching experience, professional journals read regularly, recent attendance at workshops and/or conferences, and membership in community and/or professional organizations.

Data Collection

School district administrators, school principals, and staff members were contacted by the director of the Resource Utilization Project during the summer and fall of 1979 to secure their agreement to participate in the study. A list of third-grade students was obtained from each principal, and parental consent forms were

obtained from parents. This form assured parents of the anonymity of participants and guaranteed confidentiality of all data collected. The teachers and principals participating in the study also signed consent forms (see Appendix E) to assure all information gathered would be held in confidence.

Upon receiving class lists, student schedules, and teacher schedules for those involved in the study, arrangements were made to conduct the actual observations. Visits to the schools were scheduled so that weeks with holidays and/or special events were avoided. This procedure was followed so that observations were made on days when teacher and student activities, and instructional periods, would represent "typical" circumstances.

Several observations were made of each student in each academic class during the school year. The observations were spaced so that one occurred in the fall, a second was conducted in the winter, and a third was done in the spring. By spreading the three observations over the course of a full year, the data could reflect any changes in student time allocation during the course of the year. The student observations were recorded on the Classroom Observation Form.

Data on teachers' background and professional development were collected using the Teacher Personal Data Form which was completed by each teacher.

Description of Variables

It was necessary to calculate a student time allocation variable (time on-task as opposed to off-task behavior) so that the hypothesis presented in Chapter I could be tested. The method used to calculate student time-on-task in reading is described here.

Student Time-on-Task in Reading

For purposes of this study time-on-task was defined as time during which the student(s) being observed is either working independently, one to one with a teacher or aide, in a small group, with other students, or in a large group on a specific learning task sanctioned by the teacher for that particular time. The categories of student time allocation were designed to represent time in which the student(s) was actively involved with learning at school.

In practice, time-on-task was the sum of time spent by a student in each of the first five observation categories (working independently, one to one, small group, large group, with students). Categories six (process behavior) and seven (off-task behavior) were not included in calculating a student's time-on-task. Category eight (non-observable) was excluded from all calculations and analyses. To arrive at a meaningful figure for student time-on-task, a ratio was calculated. This ratio represents the amount of time a student was on-task as a percentage of total class time.

Description of Teacher Variable

Teachers' Professional Development

The data relative to teachers' professional development were taken from the teacher personal data form. The aspects of teachers' professional development employed in this research included whether a Master's degree had been attained, the number of credits completed in the past 12 months, the number of credits completed since the teacher's last degree, whether the teacher had completed some form of human relations training, and the number of noncredit courses completed in the past three years.

Data Analysis

The purpose of this data analysis was to ascertain whether or not a statistically significant relationship existed between the five aspects of a teacher's professional development considered in this research and time-on-task in reading exhibited by students.

Using the data concerning student time-on-task in reading and the data concerning aspects of teachers' professional development, multiple regression analysis was used to test the hypothesis posed in this study. The use of multiple regression techniques permitted the five aspects of teachers' professional development which were the focus of this study to be examined in relation to mean student time-on-task in reading. The ability to examine the combined relationship of several independent variables to a

dependent variable was important for this study. Very few outcomes are the product of a single cause; therefore, it was of interest to know the extent to which each independent variable (aspects of teachers' professional development) was related to the dependent variable (students' time-on-task in reading).

Stepwise multiple regression analysis was used to determine the relationships among each independent variable and the measure of students' time-on-task. All analyses were performed at the Academic Computing Center at the University of Wisconsin-Madison using the REGRESSION subprogram of the Statistical Package for the Social Sciences (SPSS).

The presentation and analysis of data will be presented in Chapter III.

CHAPTER III

PRESENTATION AND ANALYSIS OF THE DATA

In this chapter the data are presented and the results of the analyses are reported. The chapter consists of two main parts. In the first part the data are presented and discussed in a descriptive manner. The second part reports the results of the statistical analyses used to test the hypothesis. This chapter also provides answers to questions concerning aspects of teachers' professional development as related to student time-on-task in reading. The major research questions posed in this study were:

1. Do students whose teachers possess a higher level of professional development exhibit greater "on-task time" (in reading) than students whose teachers exhibit a lower level of professional development?
2. Are there specific aspects of teachers' professional development that are related to a significantly greater amount of "on-task time" in reading on the part of students?

These questions were answered by testing the following hypothesis:

H_1 There is no statistically significant relationship between the amount of on-task time in reading displayed by students, and various aspects of teachers' professional development.

Description of the Data

In this section, descriptive statistics are presented to facilitate the examination of the relationship between teachers' professional development and student time-on-task in reading.

Teachers' Professional Development

The descriptive data concerning teachers' professional development were calculated using information collected from the 35 classroom teachers who taught reading to students in the four elementary schools involved in the study. Table 3.1 contains the descriptive statistics with regard to the teachers' professional development. The data reveal that no teacher involved in the first year of the study had attained a Master's degree, but in the third year of the study nine of the 12 teachers had attained a Master's degree. Of the total number of teachers involved during the 3-year period of the study, 15 held a Master's degree and 20 did not have a graduate degree. The range in number of credits completed since a teacher's last degree ranged from none to 37, with a mean of 11.5 credits. The number of credits completed in the most recent 12 months ranged from zero to nine with a mean of 2.3 credits. The variable of human relations training was also of interest in this research and was included as an aspect of teachers' professional development. Thirteen teachers had completed some form of human relations training and 22 had not received training in human relations. The fifth variable which comprised teachers' professional

TABLE 3.1

DESCRIPTIVE STATISTICS CONCERNING FIVE ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

	Master's degree attained?		Credits since last degree			Credits in last 12 mos.			Human relations training?		Number of noncredit courses in past 3 yrs		
	Yes	No	Mean	S.D.	Range	Mean	S.D.	Range	Yes	No	Mean	S.D.	Range
Year 1 1979-80	0	7	8.6	6.3	2-21	1.3	1.6	0-3	2	5	2.1	1.7	0-5
Year 2 1980-81	6	10	12.7	11.5	0-32	2.3	3.2	0-9	8	8	2.0	1.8	0-5
Year 3 1981-82	9	3	11.7	11.5	0-37	2.8	2.7	0-6	3	9	1.6	1.5	0-4
Totals	15	20	11.5	10.5	0-37	2.3	2.8	0-9	13	22	1.9	1.7	0-7

development was the number of noncredit courses completed in the past three years. For all teachers in the study, an average of 1.9 noncredit courses had been completed ranging from none to seven completed.

The five aspects of teachers' professional development described above were the independent variables used in the data analysis. These variables were entered into multiple regression equations to assess the relationship between these aspects of the teachers' professional development and the observed time-on-task in reading by their students. The technique of multiple regression allowed for each independent variable to be evaluated in terms of its contribution to the variance of the dependent variable (student time-on-task in reading).

Student Time-On-Task in Reading

The dependent variable, student time-on-task in reading, consisted of five modes of student behavior operationally defined as "on-task." Student time-on-task included time spent working independently (TASK1), one-to-one with a teacher or aide (TASK2), in a small group (TASK3), in a large group TASK4), or with other students TASK5). All reading observations were analyzed to determine the amount of time spent by students in each mode of on-task behavior. Collapsing the five categories of time-on-task (ONTASK) revealed the grand mean of student time-on-task in observed reading classes. The data indicate the average number of minutes

students were on-task in reading class during the three years of the study was 36.6 minutes. The three-year average for the length of reading class observations was 49.9 minutes.

When the grand mean was examined more closely, wide variations were apparent in the five measures of on-task behavior. As shown by the data exhibited in Table 3.2, the average minutes spent by students in the various modes of on-task behavior ranged from one-half minute working with a teacher or aide to 18.4 minutes working independently. Given this wide disparity of time spent by students in each mode of instruction, it was of interest in this research to explore the relationship between each mode of on-task behavior (as well as total time-on-task) and aspects of teachers' professional development. The procedure of exploring each mode of on-task time separately, rather than only in totality, yielded a more thorough analysis of the data, thereby assisting in answering the major questions posed in this study.

The average minutes students spent in each on-task category served as the dependent variable in a multiple regression equation. Each mode of on-task behavior was entered as the dependent variable in separate multiple regression equations. Additionally, multiple regression analyses were performed using total average student time-on-task in reading as the dependent variable. The five aspects of teachers' professional development described previously were the independent variables in each equation.

TABLE 3.2

TOTAL STUDENT TIME-ON-TASK IN READING:
BY MODE OF INSTRUCTION

Mode	Average minutes	S.D.
Working independently (TASK1)	18.4437	9.0903
With teacher or aide (TASK2)	.4529	.4252
Small group (TASK3)	6.4666	6.3726
Large group (TASK4)	9.9083	9.0025
With other students (TASK5)	1.2840	2.2217
Total average minutes of observed student time-on-task in reading	36.5555	10.7709

Statistical Analysis of the Hypothesis

This section interprets the statistical analyses performed to test the following hypothesis:

H_1 There is no statistically significant relationship between the amount of on-task time in reading displayed by students, and various aspects of teachers' professional development.

Data concerning five measures of professional development were obtained for each teacher in the study: whether or not a Master's degree had been attained (TDEGREE1); number of credits since last degree (CREDITS); number of credits completed in the most recent 12 months (YEAR1); whether or not any human relations training had been completed (HRTRAIN); and the number of noncredit courses completed in the past three years (NONCRED). The dependent variable, student time-on-task in reading (ONTASK), was computed from classroom observations of the students in the study.

As discussed previously, each mode of on-task behavior and total time-on-task were entered as the dependent variable in separate multiple regression equations. Five aspects of teachers' professional development were regressed against each dependent variable. This procedure provided an estimate of the combined effect of the independent variables on the dependent variable. Discussion of the multiple regression analysis include a coefficient of multiple correlation (R), percentage of variance accounted for, and combined F-ratio. A significance level of .05 was established

for all statistical tests, which is useful for the reader to be aware of when interpreting the data.

Data indicating the average minutes students worked independently in reading (TASK1), while being observed on three separate days during the school year, is shown in Table 3.3. In this table are listed the average number of minutes students worked independently, and the number of teachers in whose reading class that average time was observed during the three years of the study. The mean for student time working independently for all reading classes was 18.4 minutes. The simple correlations found between TASK1 and aspects of teachers' professional development are shown in Table 3.4. The degree of relationship between the individual independent variables is expressed by the product-moment correlation coefficients (r). Four of the independent variables were related inversely, i.e., were negatively correlated with the dependent variable although not at a statistically significant level; only HRTRAIN was positively correlated, but also not at a significant level As shown in Table 3.5, the five independent variables produced a coefficient of multiple correlation (R) of .321 with TASK1, accounting for about 10 percent of the variance in student time spent working independently in reading. The combined F-ratio (.66 with 5 and 29 df) was not statistically significant.

Data for average time spent by students working one-to-one with a teacher or aide (TASK2) are shown in Table 3.6. The average

TABLE 3.3

AVERAGE MINUTES STUDENTS SPENT WORKING INDEPENDENTLY:
BY READING CLASS TEACHER

Minutes*	N
0	1
5	1
9	2
10	2
11	1
12	3
13	3
14	2
16	1
18	1
19	2
21	2
22	5
23	1
24	1
25	1
28	4
36	1
46	1
	35

Mean = 18.444
S.D. = 9.090

*All averages were rounded to the nearest whole integer.

Table 3.4

CORRELATIONS BETWEEN AVERAGE MINUTES STUDENTS WORKED INDEPENDENTLY AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Variable	TASK1	TDEGREE1	CREDITS	YEAR1	HRTRAIN	NONCRED
TASK1	1.000					
TDEGREE1	-.202	1.000				
CREDITS	-.022	.141	1.000			
YEAR1	-.240	.193	.191	1.000		
HRTRAIN	.044	.051	-.124	.079	1.000	
NONCRED	-.101	.170	.169	-.112	.004	1.000

TABLE 3.5

STEPWISE REGRESSION OF AVERAGE MINUTES STUDENTS WORKED INDEPENDENTLY AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Step No.	Variable	Multiple correlation coefficient R	Coefficient of determination R^2	Change in R^2	Standardized regression coefficient B	Partial F-value (1 and 33 df)
1	YEAR1	.240	.058	.058	-.805	1.74
2	TDEGREE1	.288	.083	.025	-.272	.67
3	NONCRED	.304	.093	.010	-.521	.40
4	HRTRAIN	.312	.098	.005	.151	.21
5	CREDITS	.321	.103	.005	.659	.17

Constant term = .225

ANALYSIS OF VARIANCE SUMMARY

Source of variation	Sum of squares	df	Mean square
Linear regression	288.86595	5	57.77319
Residuals from regression	2520.65735	29	86.91922
Corrected total	2809.42330	34	

F-ratio = .66 (with 5 and 29 df) not significant at the .05 level.

TABLE 3.6

AVERAGE MINUTES STUDENTS SPENT WORKING ONE-TO-ONE WITH A TEACHER OR AIDE: BY READING CLASS TEACHER

Minutes*	N
0	23
1	11
2	1
	35

Mean = .453
S.D. = .425

*All averages were rounded to the nearest whole integer.

time spent by a student in this mode was one-half minute, ranging from zero to two minutes. Correlations between TASK2 and the five independent variables (see Table 3.7) revealed no statistically significant relationships. The multiple correlation (R) was .299 (see Table 3.8), which accounted for about 9 percent of the variance in student time spent working with a teacher or aide. The associated F-value of .73 with 4 and 30 df was not statistically significant. (YEAR1 was not entered into the equation because its effect was insufficient to satisfy the criterion for entry.)

Data indicating average student time spent working in a small group (TASK3) are shown in Table 3.9. The average time spent by students in this mode of instruction was 6.5 minutes. Averages for student time spent on-task in small group reading instruction ranged from zero to 23 minutes. The correlations shown in Table 3.10 revealed no statistically significant relationships between the individual independent variables and TASK3. The multiple correlation (R) for this equation was .474, accounting for 22 percent of the variance. Two variables (CREDITS and HRTRAIN) failed to enter this equation because their effect was too small to satisfy the criterion for entry. The combined F-value (2.99 with 3 and 31 df) was found to be statistically significant at beyond the .05 level (see Table 3.11).

TABLE 3.7

CORRELATIONS BETWEEN AVERAGE MINUTES STUDENTS SPENT WORKING ONE-TO-ONE WITH A TEACHER OR AIDE AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Variable	TASK2	TDEGREE1	CREDITS	YEAR1	HRTRAIN	NONCRED
TASK2	1.000					
TDEGREE1	-.073	1.000				
CREDITS	-.054	.141	1.000			
YEAR1	-.016	.193	.191	1.000		
HRTRAIN	.272	.051	-.124	.079	1.000	
NONCRED	.070	.170	.169	-.112	.004	1.000

TABLE 3.8

STEPWISE REGRESSION OF AVERAGE MINUTES STUDENTS WORKED ONE-TO-ONE WITH A TEACHER OR AIDE AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Step No.	Variable	Multiple correlation coefficient R	Coefficient of determination R^2	Change in R^2	Standardized regression coefficient B	Partial F-value (1 and 33 df)
1	HRTRAIN	.272	.074	.074	.238	2.43
2	TDEGREE1	.286	.082	.008	-.837	.31
3	NONCRED	.298	.089	.007	.187	.25
4	CREDITS	.299	.089	.000	-.853	.01

Constant term = .216 YEAR1 failed to satisfy the criterion for inclusion.

ANALYSIS OF VARIANCE SUMMARY

Source of variation	Sum of squares	df	Mean square
Linear regression	.54857	4	.13714
Residuals from regression	5.59828	30	.18661
Corrected total	6.14685	34	

F-ratio = .73 (with 4 and 30 df) not significant at the .05 level.

TABLE 3.9

AVERAGE MINUTES STUDENTS SPENT WORKING IN A SMALL GROUP:
BY READING CLASS TEACHER

Minutes*	N
0	9
1	2
2	2
3	3
4	3
5	1
6	3
10	3
12	2
13	1
15	1
16	1
17	2
21	1
23	1
	35

Mean = 6.467
S.D. = 6.733

*All averages were rounded to the nearest whole integer.

TABLE 3.10

CORRELATIONS BETWEEN AVERAGE MINUTES STUDENTS SPENT WORKING IN A SMALL GROUP AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Variable	TASK3	TDEGREE1	CREDITS	YEAR1	HRTRAIN	NONCRED
TASK3	1.000					
TDEGREE1	-.323	1.000				
CREDITS	.029	.141	1.000			
YEAR1	.182	.193	.191	1.000		
HRTRAIN	-.010	.051	-.124	.079	1.000	
NONCRED	.142	.170	.169	-.112	.004	1.000

TABLE 3.11

STEPWISE REGRESSION OF AVERAGE MINUTES STUDENTS WORKED IN A SMALL GROUP AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Step No.	Variable	Multiple correlation coefficient R	Coefficient of determination R^2	Change in R^2	Standardized regression coefficient B	Partial F-value (1 and 33 df)
1	TDEGREE1	.323	.104	.104	-.565	6.57*
2	YEAR1	.408	.167	.062	.709	3.20
3	NONCRED	.474	.224	.058	.824	2.31

Constant term = .112

CREDITS and HRTRAIN failed to satisfy the criterion for inclusion.

*Significant at or beyond the .05 level.

ANALYSIS OF VARIANCE SUMMARY

Source of variation	Sum of squares	df	Mean square
Linear regression	345.86974	3	115.28991
Residuals from regression	1195.30046	31	38.55808
Corrected total	1541.17020	34	

F-ratio = 2.99* (with 3 and 31 df)
* Significant at or beyond the .05 level.

Table 3.12 indicates that average student time spent working in a large group ranged from zero to 37 minutes. The mean for this mode of on-task behavior was 9.9 minutes. Simple correlations between average minutes students spent working in a large group (TASK4) and teachers' professional development (see Table 3.13) revealed no statistically significant relationships. The five independent variables were all negatively correlated with TASK4, indicating that as the level of each independent variable increased student time-on-task in a large group in reading decreased. This equation produced a multiple correlation (R) of .252, while accounting for 6.4 percent of the variance associated with large-group instruction in reading. HRTRAIN did not enter the equation because it failed to satisfy the entry criterion. In Table 3.14 are displayed the results of the multiple regression analysis. The F-value obtained for this equation (.51 with 4 and 30 df) was not statistically significant.

The fifth mode of on-task behavior comprising total time-on-task was time students spent working with other students (TASK5). The average time spent in this mode by students was 1.3 minutes (see Table 3.15). This mode was used infrequently. In fact, 21 teachers averaged zero minutes spent by their students in this mode. The highest observed average was 10 minutes which occurred in one reading class. No simple correlations between TASK5 and the independent variables were statistically significant (see Table 3.16).

TABLE 3.12

AVERAGE MINUTES STUDENTS SPENT WORKING IN A LARGE GROUP:
BY READING CLASS TEACHER

Minutes*	N
0	4
1	3
2	1
3	1
4	2
5	2
6	2
8	3
9	2
10	1
11	2
13	1
14	2
15	3
16	1
17	1
20	2
36	1
37	1
	35

Mean = 9.908
S.D. = 9.002

*All averages were rounded to the nearest whole integer.

TABLE 3.13

CORRELATIONS BETWEEN AVERAGE MINUTES STUDENTS SPENT WORKING IN A LARGE GROUP AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Variable	TASK4	TDEGREE1	CREDITS	YEAR1	HRTRAIN	NONCRED
TASK4	1.000					
TDEGREE1	-.138	1.000				
CREDITS	-.146	.141	1.000			
YEAR1	-.200	.193	.191	1.000		
HRTRAIN	-.011	.051	-.124	.079	1.000	
NONCRED	-.069	.170	.169	-.112	.004	1.000

TABLE 3.14

STEPWISE REGRESSION OF AVERAGE MINUTES STUDENTS WORKED IN A LARGE GROUP AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Step No.	Variable	Multiple correlation coefficient R	Coefficient of determination R^2	Change in R^2	Standardized regression coefficient B	Partial F-value (1 and 33 df)
1	YEAR1	.200	.040	.040	-.565	.88
2	CREDITS	.229	.052	.012	-.785	.25
3	TDEGREE1	.246	.060	.008	-.146	.19
4	NONCRED	.252	.064	.003	-.265	.10

Constant term = .147

HRTRAIN failed to satisfy the criterion for inclusion.

ANALYSIS OF VARIANCE SUMMARY

Source of variation	Sum of squares	df	Mean square
Linear regression	175.06270	4	43.76568
Residuals from regression	2580.45857	30	85.01529
Corrected total	2755.52127	34	

F-ratio = .51 (with 4 and 30 df) not significant at the .05 level.

TABLE 3.15

AVERAGE MINUTES STUDENTS SPENT WORKING WITH OTHER STUDENTS: BY READING CLASS TEACHER

Minutes*	N
0	21
1	4
2	4
3	3
6	2
10	1
	35

Mean = 1.284
S.D. = 2.222

*All averages were rounded to the nearest whole integer.

TABLE 3.16

CORRELATIONS BETWEEN AVERAGE MINUTES STUDENTS WORKED WITH OTHER STUDENTS AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Variable	TASK5	TDEGREE1	CREDITS	YEAR1	HRTRAIN	NONCRED
TASK5	1.000					
TDEGREE1	.265	1.000				
CREDITS	-.150	.141	1.000			
YEAR1	.070	.193	.191	1.000		
HRTRAIN	-.263	.051	-.124	.079	1.000	
NONCRED	.078	.170	.169	-.112	.004	1.000

Table 3.17 reveals that a coefficient of multiple correlation (R) of 460 was obtained, accounting for 21 percent of the variance associated with student time spent working with other students in reading class. The combined F-value of 1.56 was not statistically significant.

The statistical analyses performed on each of the five modes of on-task behavior provided detailed analysis of the categories which comprise the overall dependent variable of average student time-on-task in reading. For the following two regression equations, the five individual categories of time-on-task were collapsed into a single overall measure. As shown earlier in Table 3.2, the grand mean for student time-on-task in all reading classes observed over the three-year period was 36.6 minutes. The average number of minutes that students were on-task in reading, 36.6 minutes, was entered as the dependent variable in a multiple regression equation in which the same five aspects of teachers' professional development were the independent variables. The subsequent data analysis measured the relationship between the independent variables (aspects of teachers' professional development) and the three-year average for student total time-on-task in reading in all modes of instruction.

Hypothesis 1 was tested by regressing five aspects of teachers' professional development against average student time-on-task in reading to obtain an estimate of the effect of the independent variables on the dependent variable. The product-moment

TABLE 3.17

STEPWISE REGRESSION OF AVERAGE MINUTES STUDENTS WORKED WITH OTHER STUDENTS AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Step No.	Variable	Multiple correlation coefficient R	Coefficient of determination R^2	Change in R^2	Standardized regression coefficient B	Partial F-value (1 and 33 df)
1	TDEGREE1	.265	.070	.070	.126	2.72
2	HRTRAIN	.383	.147	.077	-.144	3.61
3	CREDITS	.445	.198	.052	-.556	2.30
4	YEAR1	.453	.205	.007	.808	.33
5	NONCRED	.460	.212	.007	.956	.25

Constant term = .172

ANALYSIS OF VARIANCE SUMMARY

Source of variation	Sum of squares	df	Mean square
Linear regression	35.56660	5	7.11332
Residuals from regression	132.26151	29	4.56074
Corrected total	167.82811	34	

F-ratio = 1.56 (with 5 and 29 df) not significant at the .05 level.

correlations shown in Table 3.18 indicate the degree of relationship between each variable. Four of the variables showed nonsignificant negative correlations with the dependent variable; the fifth variable, TDEGREE1, had a correlation of -.436 which was significant at beyond the .05 level. As shown in Table 3.19, the four independent variables which entered the multiple regression equation produced a coefficient of multiple correlation (R) of .471, thus accounting for 22 percent of the variance in average observed student time-on-task in reading. The variable HRTRAIN was not entered into the equation because the effect of it did not meet the criterion for entry. The variable TDEGREE1 was found to be statistically significant at or beyond the .05 level. However, the F-ratio for the four variables combined, 2.14, was not statistically significant.

In the final regression equation, HRTRAIN and NONCRED were replaced by two additional independent variables in the data concerning the teachers in the study. Data on teachers' age (AGE) and years of teaching experience (TCHREXP) were collected as part of the teacher personal data form (see Appendix B). As discussed in Chapter II and presented in Table 2.5, the mean age for 33 teachers in the study was 39.1 years. The average for teaching experience was 10.6 years with a range from one to 29 years. Data were not available from two teachers for the age variable, and from one teacher for experience. Therefore, the final regression equation included data for 32 teachers.

TABLE 3.18

CORRELATIONS BETWEEN TOTAL AVERAGE STUDENT TIME-ON-TASK IN READING AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Variable	ONTASK	TDEGREE1	CREDITS	YEAR1	HRTRAIN	NONCRED
ONTASK	1.000					
TDEGREE1	-.436	1.000				
CREDITS	-.155	.141	1.000			
YEAR1	-.242	.193	.191	1.000		
HRTRAIN	-.021	.051	-.124	.079	1.000	
NONCRED	-.035	.170	.169	-.112	.004	1.000

*Significant at or beyond the .05 level.

TABLE 3.19

STEPWISE REGRESSION OF AVERAGE STUDENT TIME-ON-TASK IN READING AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT

Step No.	Variable	Multiple correlation coefficient R	Coefficient of determination R^2	Change in R^2	Standardized regression coefficient B	Partial F-value (1 and 33 df)
1	TDEGREE1	.436	.190	.190	-.863	5.74*
2	YEAR1	.465	.216	.026	-.570	.75
3	CREDITS	.470	.221	.005	-.775	.20
4	NONCRED	.471	.222	.001	.160	.03

Constant term = .507
*Significant at or beyond the .05 level.
HRTRAIN failed to satisfy the criterion for inclusion.

ANALYSIS OF VARIANCE SUMMARY

Source of variation	Sum of squares	df	Mean square
Linear regresssion	874.14704	4	218.53676
Residuals from regression	3070.24522	30	102.34151
Corrected total	3944.39226	34	

F-ratio = 2.14 (with 4 and 30 df) not significant at the .05 level.

The statistical significance of TDEGREE1 suggested a need for further analysis of data that might be associated with having attained or not attained a Master's degree (TDEGREE1). Since it is conceivable that attainment of a Master's degree is a function of age and/or teaching experience, AGE and TCHREXP were entered as independent variables together with YEAR1, CREDITS, and TDEGREE1. The product-moment correlations of these variables are shown in Table 3.20. The five independent variables all had negative correlations with ONTASK; TDEGREE1 and TCHREXP had correlations with ONTASK of -.492 and -.378, respectively, both of which were statistically significant at beyond the .05 level. Regression of these variables against total time-on-task yielded a coefficient of multiple correlation (R) of .570 (see Table 3.21). The four variables which entered the equation accounted for 33 percent of the variance in total average student time-on-task in reading. The independent variable AGE did not enter the equation because its effect was too small to satisfy the criterion for entry. The associated F-value, 3.25, was significant at beyond the .05 level.

Summary

In this chapter, the data were presented and the statistical techniques used to analyze the data were described. The hypothesis was tested using a stepwise multiple regression procedure, and the results of the analyses were presented. In the

TABLE 3.20

CORRELATIONS BETWEEN TOTAL AVERAGE STUDENT TIME-ON-TASK IN READING AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT**

Variable	ONTASK	TDEGREE1	CREDITS	YEAR1	AGE	TCHREXP
ONTASK	1.000					
TDEGREE1	-.492*	1.000				
CREDITS	-.135	.217	1.000			
YEAR1	-.283	.152	.245	1.000		
AGE	-.265	.324	.265	-.118	1.000	
TCHREXP	-.378*	.507*	.242	-.071	.862*	1.000

*Significant at or beyond the .05 level.

**Age of teachers (AGE) and years of teaching experience TCHREXP replaced human relations training (HRTRAIN) and number of noncredit courses completed in the past three years (NONCRED).

TABLE 3:21

STEPWISE REGRESSION OF AVERAGE STUDENT TIME-ON-TASK IN READING AND ASPECTS OF TEACHERS' PROFESSIONAL DEVELOPMENT**

Step No.	Variable	Multiple correlation coefficient R	Coefficient of determination R^2	Change in R^2	Standardized regression coefficient B	Partial F-value (1 and 30 df)
1	TDEGREE1	.492	.242	.242	-.765	3.39
2	YEAR1	.535	.287	.044	-.102	2.42
3	TCHREXP	.567	.322	.035	-.388	1.53
4	CREDITS	.570	.325	.003	.672	.13

Constant term = .536
AGE failed to satisfy the criterion for inclusion.
**Age of teachers (AGE) and years of teaching experience (TCHREXP) were substituted for human relations training (HRTRAIN) and number of noncredit courses completed in the past three years (NONCRED).

ANALYSIS OF VARIANCE SUMMARY

Source of variation	Sum of squares	df	Mean square
Linear regression	1248.81268	4	312.20317
Residuals from regression	2592.08469	27	96.00314
Corrected total	3840.89737	31	

F-ratio = 3.25* (with 4 and 27 df)
*Significant at or beyond the .05 level.

following chapter conclusions drawn from the research, implications for practice and future research, and a summary of findings derived from this study will be set forth.

CHAPTER IV

SUMMARY AND CONCLUSIONS

This chapter is comprised of three sections. The first section contains a review of the study as it was presented in the first three chapters. In the second section the findings and conclusions are summarized. In section three implications for practice and future research are discussed.

Summary of the Study

This research examined the relationship between certain aspects of teachers' professional development and student time-on-task in reading. The foundation for this research was twofold: first, student time allocation is attracting increased attention in research efforts aimed at determining why children learn in the manner they do; and second, the teacher is an undeniably important variable in the learning process due in part to the control teachers exercise over student time allocation. The study was designed to answer two questions: (1) Do students whose teachers possess a higher level of professional development exhibit greater "on-task time" (in reading) than students whose teachers exhibit a lower level of professional development? (2) Are there specific aspects of teachers' professional development that are related to a significantly greater amount of "on-task time" in reading on the part of

students? These questions were answered by testing the following hypothesis:

H_1 There is no statistically significant relationship between the amount of on-task time in reading displayed by students, and various aspects of teachers' professional development.

The conceptual and theoretical background of the study were based on views found in the literature and the findings of previous research dealing with student time allocation and the effect of teachers in the learning process. Chapter I contained descriptions of major studies which examined time allocation by students and teachers. The literature review supported the fact that there is wide disparity in the amount of time allocated to various activities in the schools, whether it be due to an administrative, teacher, or student decision. Several researchers have concluded that a relationship exists between on-task time (i.e., attentiveness, engaged time, involvement) and academic achievement of students. The strength of this relationship, however, has varied among the different studies.

The first chapter also set forth some conclusions regarding the teacher variable in student learning. The results of previous research suggested that decisions regarding time allotment in the classroom are ultimately the responsibility of the teacher, and accordingly, wide variances exist in how teachers allocate time. From these results, one can suggest that teachers make a difference in student time allocation which, in turn, affects student learning.

Therefore, it was important to examine aspects of teachers' professional development which might impact upon student time allocation. This was the focus of the present study.

Two instruments were used to obtain information concerning allocation of time by students and personal data relating to the teachers. Specifically, the classroom observation form identified how individual students spent their time during an instructional period. Data describing the professional development of the teachers were available from instruments they completed. These instruments were used to collect data on the participants in this study: 200 students and 35 reading teachers in four Wisconsin elementary schools. This study was part of, and used the data base from, the School Resource U ·ization Project which was being conducted through the Wisconsin Center for Education Research.

The major hypothesis was tested through the use of multiple regression analysis. The results of the analyses estimated the extent to which selected independent variables (aspects of teachers' professional development) accounted for a significant portion of the variance in the dependent variable (student time-on-task in reading). A significance level of .05 was established for all statistical tests.

Findings and Conclusions

In this section the findings of the study are discussed and conclusions based on the findings are set forth.

Findings Regarding Student Time-On-Task in Reading

The amount of time spent by students in the five modes of behavior comprising time-on-task was found to differ widely. The wide range of time spent by students in each mode of instruction demonstrated the difference in instructional modes employed by individual teachers. These differences provided a basis for examination of the data by mode of instruction as well as analyses in which the dependent variable (time-on-task) was treated as a totality.

Each mode of on-task behavior served as the dependent variable against which aspects of teachers' professional development were regressed. Findings are expressed using correlation coefficients and F-ratios which tested for statistical significance.

No statistically significant relationships were found between the five aspects of teachers' professional development and average minutes students worked independently in reading. Attainment of a Master's degree, credits earned since last degree, credits earned in the past year, and number of noncredit courses completed in the past three years were all nonsignificant and related inversely to the dependent variable. Completion of some form

of human relations training had a positive relationship with student time spent working independently in reading, but not at a statistically significant level.

Nonsignificant negative correlations also were found to exist between attainment of a Master's degree, credits earned in the past three years, number of credits completed in the past year, and the average minutes students spent working one-to-one with a teacher or aide. Human relations training and noncredit courses exhibited positive relationships with the dependent variable, but not at a statistically significant level. Correlations between average minutes students spent working in a small group and aspects of teachers' professional development revealed no statistically significant relationships.

Two independent variables, attainment of a Master's degree and human relations training, were nonsignificant and inversely associated with average minutes students spent working in a small group. The three other independent variables had positive correlations, but not at a statistically significant level.

All relationships between average minutes students spent working in a large group and the five aspects of teachers' professional development were negative and nonsignificant.

Correlations between average minutes students spent working with other students in reading and aspects of teachers' professional development revealed no statistically significant relationships.

Attainment of a Master's degree, number of noncredit courses completed in the past three years, and number of credits completed in the past year were nonsignificant and positive, while number of credits earned since last degree and human relations training were negative and not statistically significant.

The five stepwise regression analyses for each mode of instruction comprising total student time-on-task revealed only one to be statistically significant. The third equation, average minutes students spent working in a small group, yielded an F-ratio significant beyond the .05 level. This relationship--of attainment of a Master's degree, credits completed in the past year, and number of noncredit courses completed in the past three years--accounted for 22 percent of the variance associated with time students spent working in a small group. Four other regression equations in which the dependent variable was on-task behavior in a single mode of instruction produced no statistically significant relationships.

Conclusions Regarding Student Time-On-Task in Reading

1. Wide differences existed in the amount of time students were on-task in each mode of instruction in reading. Large contrasts between time spent in different modes of instruction, as well as differences within each mode by teacher, support the assertions of several researchers (Mann, 1928; Garner, 1978; Kemmerer, 1978) that wide variations exist in time allocation of students.

2. The amount of time spent on-task by students working independently, one-to-one with a teacher or aide, in a large group, or with other students was not related to five aspects of teachers' professional development at a statically significant level. The recency of attention to time-on-task as a variable in student learning does not allow this finding to be contrasted to previous research findings.
3. The number of minutes students spent on-task when working in a small group was related to teachers' professional development as measured in this study.

Findings Regarding Aspects of Teachers' Professional Development

This section contains the findings of analyses used to assess the relationship between total average student time-on-task in reading and five aspects of teachers' professional development. The initial analysis was used to test the hypothesis of the study.

The five independent variables, reflecting various aspects of teachers' professional development, were correlated negatively with average student time-on-task in reading. Of these correlations, only possession of a Master's degree was found to be significant at the .05 level. This was a dichotomous variable which reflected whether or not the teacher had attained a Master's degree. A response of "no" was assigned a value of 1; a "yes" response was coded as a 2. Therefore, the statistically significant

correlation coefficient (-.436) indicated that attaining a Master's degree was associated with a decreased amount of student time-on-task in reading.

When the independent variables were regressed against the dependent variable (total average student time-on-task in reading), only the variable measuring whether a Master's degree had been attained reached statistical significance at the .05 level. The F-ratio of the final equation was not significant at the .05 level. The hypothesis could not be rejected.

The statistical significance of the negative correlation coefficient associated with holding a Master's degree suggested the need for further exploration of this variable. Of the many circumstances which could affect whether a Master's degree had been attained, it was of interest here to ascertain if age and years of teaching experience had similar relationships with student time-on-task in reading. Therefore, an additional set of analyses were performed in which age and years of teaching experience were substituted in the regression analysis for human relations training and number of noncredit courses completed in the past three years.

The five independent variables in this new set all correlated negatively with student time-on-task in reading and two of the correlations were statistically significant. Possession of a Master's degree had a correlation coefficient of -.492 and years of teaching experience produced a coefficient of - ›.3 with student

time-on-task. The results of these analyses indicate that possession of a Master's degree was not a perfect proxy for age of the teachers and that increased teaching experience was associated with a decline in student time-on-task in reading.

When the independent variables were regressed against total student time-on-task in reading, none were found to be statistically significant in the final equation. This equation produced an F-ratio significant at the .05 level, although no individual variables were statistically significant. The independent variables accounted for almost 33 percent of the variance in total average student time-on-task in reading. It should be noted, however, that there was little change in the variance accounted for after the possession of a Master's degree was entered into the equation.

Conclusions Regarding Aspects of Teachers' Professional Development

1. There is no relationship between total average student time-on-task in reading and four of the five aspects of teachers' professional development investigated in this study.
2. Only one variable, possession of a Master's degree, was associated with student time-on-task at a statistically significant level.
3. The significant negative correlation between years of teaching experience and student time-on-task suggests

that as teachers acquire more teaching experience their students exhibit a decrease in time-on-task in reading.

Implications

The findings reported in the preceding section suggest additional issues which warrant attention. These issues are discussed in the following section which contains implications for practice and for future research.

Implications for Practice

1. The negative correlation between attainment of a Master's degree and student time-on-task in reading indicates that additional graduate study alone could possibly be expected to decrease student time-on-task. Accordingly, one should not expect that student time-on-task will increase merely because teachers are encouraged to acquire additional academic preparation and rewarded for doing so. Furthermore, this finding suggests that if practitioners wish to increase student time-on-task, experiences and training which stress this task need to be designed and implemented rather than simply the attainment of a Master's degree.
2. Professionals in the field of teacher education should examine closely the preparation received by prospective teachers. Time management, classroom management, and

use of curriculum materials all impact on the use made of time by students. If teachers were more adept at managing the resources at their disposal, they might be able to create an environment more conducive to on-task behavior by students.

3. School administrators should communicate their interests in and concern for the way time is used by teachers and students. Classroom supervisors should pay attention to how time is spent during instructional periods and the total school day. Teachers should be given advice and counsel concerning how to use their own time, and that of their students, more effectively.
4. Given the large disparity in the amount of on-task time spent in each mode of instruction by students in this study, it would be useful for teachers to consider carefully the learning mode most likely to be effective for a particular topic or task. Self-examination of instructional practices in this context could lead to a greater variety of instructional techniques being used with students, and allow teachers to investigate their own capabilities in using various modes of instruction.

Implications for Future Research

The limited amount of research involving time as a variable of interest permits one to identify several areas which merit

additional research effort. Among the topics which could serve as the focal point of future research are the following:

1. The emergence of attainment of a Master's degree as a factor which serves to depress student time-on-task should encourage future researchers to focus more closely on this aspect of teachers' professional development. One approach would be to review the specific content of the graduate program which culminated in the award of a Master's degree. Emphasis on a particular area (curriculum, research, theory, etc.) could offer further insight into the contribution of particular areas of study to improved classroom practice. Another approach would be to examine more closely the extent to which attainment of a Master's degree is a proxy for other confounding variables. Completion of a Master's degree program may be affected by many circumstances. Therefore, it is important to gain additional knowledge about how the specific content of a graduate degree program affects the professional performance of teachers.
2. As stated previously, this research drew upon the data base of the larger School Resource Utilization Project, in which a vast array of data concerning teachers, parents, and students has been gathered. These data offer future researchers several possibilities. One

possibility involves the use of information supplied by teachers on their own allocation of time (see Appendix F). This instrument represents a log kept by each teacher describing three "typical" weeks during the school year. Research focusing on the amount of time teachers devoted to planning, supervising, performing clerical duties, and various other duties could yield insight concerning how teachers allocate their own time among a wide range of alternative activities. Another instrument, the Teacher Background, Preferences, and Opinion Questionnaire (See Appendix G), sought teachers' personal responses to questions regarding educational matters. It would be of interest to relate teachers' personal beliefs and philosophies regarding education to their actual behavior in the classroom. Both of these data sets would aid future researchers who wish to explore the teacher's role in the educational process. It would be of interest to determine whether any relationships exist between teachers' professional development, their allocation of time to various activities, and their background, preferences, and opinions.

3. This research focused on the relationship between certain aspects of teachers' professional development and the time-on-task in reading exhibited by their students.

Similar research should be undertaken in other academic subjects to either strengthen the conclusions put forth here or offer contrasting findings.

The research study reported in this work offers data, findings, conclusions, and implications concerning teachers and student time-on-task. As the study is read and the results interpreted, it is important to reiterate several limitations. They include (1) the four participating schools were not a random sample (although comparative statistics suggest they were not atypical of schools of similar size in Wisconsin); (2) a high percentage of student time-on-task should not be regarded as the sole objective of instruction; rather, time-on-task should be viewed as a means to an end; and (3) different reading textbooks and materials were used in the four schools; hence findings may be due in part to the use of different instructional methods and materials.

The findings add to the existing body of knowledge, but at the same time underline the need for additional research which focuses on how teachers impact on students in the learning process. One cannot stress too heavily the important role that teachers play in shaping the educational experiences of their students. Thus, it is hoped that future researchers will strive to further clarify those aspects of teachers' skills, habits, and attitudes which contribute most prominently in making students' education a productive, enlightening, and enjoyable experience.

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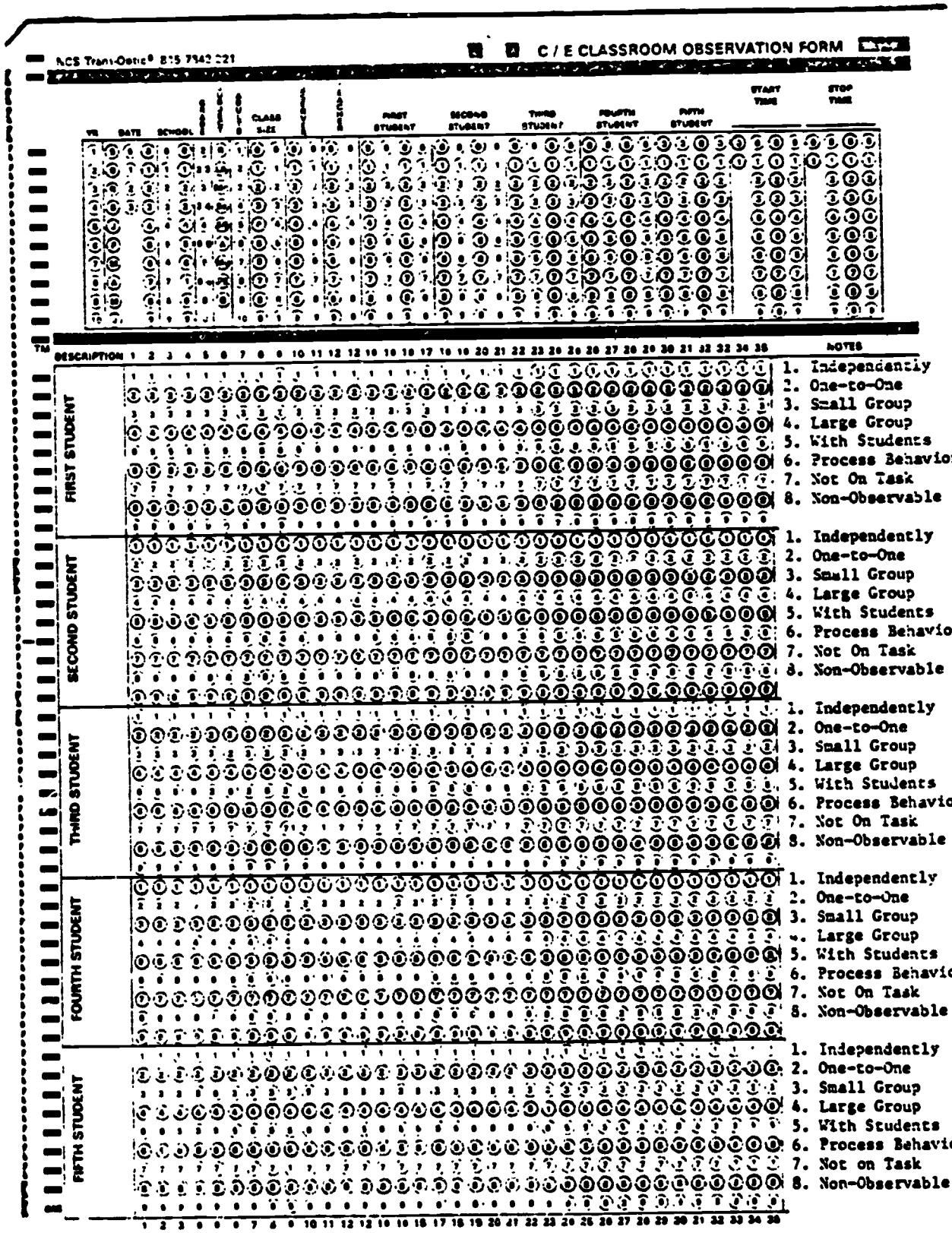
APPENDIX A

CLASSROOM OBSERVATION FORM


NCS Trans-Optic® 8:5 7142 221
C / E CLASSROOM OBSERVATION FORM
YR
DATE
SCHOOL
CLASS SIZE
FIRST STUDENT
SECOND STUDENT
THIRD STUDENT
FOURTH STUDENT
FIFTH STUDENT
START TIME
STOP TIME
DESCRIPTION
NOTES
FIRST STUDENT
SECOND STUDENT
THIRD STUDENT
FOURTH STUDENT
FIFTH STUDENT
1. Independently
2. One-to-One
3. Small Group
4. Large Group
5. With Students
6. Process Behavior
7. Not On Task
8. Non-Observable

APPENDIX B

TEACHER PERSONAL DATA FORM

Teacher number _____

School number _____

TEACHER PERSONAL DATA

1. Name Mr. Miss Ms. Mrs. _____

2. Address _____

_____ 3. Phone No. ( )- _____

4. Birthdate _____ 5. Sex (circle one): M F

6. Race/National origin (circle one):

a. Native American
b. Black
c. White
d. Asian/Pacific Islander
e. Hispanic
f. Other (specify) _____

7. Undergraduate institutions:

Name	Dates	Major(s)	Degrees

8. Graduate Institutions:

Name	Dates	Major(s)	Degrees

9. Total number of university credits earned since last degree: _____

10. Number of graduate credits earned in past 12 months: _____

11. Number of graduate credits earned in past 24 months: _____

12. Are you currently enrolled in a degree program? _____

If yes, please give name of institution, major, and degree:

_____

13. Have you had any training designed to help you deal effectively with persons of other racial or cultural backgrounds, i.e., human relations training? _____

If yes, describe briefly. _____

_____

_____

_____

14. List any articles on education that you have published in the past 3 years. (Include title and publication.)

_____

_____

_____

15. List any presentations on education you have given in the past 3 years. (Include topic and audience.)

_____

_____

_____

_____

16. List the professional organizations in which you hold membership.

_____

_____

_____

_____

17. List the magazines and professional journals which you read regularly.

_____

_____

_____

_____

18. Teaching experience:

	Primary	Upper Elem. or Intermediate	Middle or Jr. High	Sr. High
Total number of years				
Number of years in present district				
Number of years in present school				

19. By what method were you placed at this school? (Circle one.)

a. personal choice b. assignment

If a, why did you choose this school? _____

_____

_____

If b, how was your assignment determined? (Circle one.)

a. seniority
b. racial balance of faculty
c. random selection
d. principal's request
e. enrollment changes
f. don't know
g. other (specify) _____

20. By what method were you placed in this grade or subject? (Circle one.)

a. personal choice b. assignment

If a, why did you choose this grade or subject? _____

_____

_____

If b, describe how your assignment was determined. _____

_____

_____

_____

21. List any school-related duties for which you receive additional compensation during the school year (e.g., coaching, club sponsorship, supervision of extracurricular activities, curriculum committees, etc.).

22. List any school-related duties for which you do not receive additional compensation during the school year (e.g., PTA meeting attendance, lunchroom supervision, etc.).

23. List community organizations of which you are a member.

24. List volunteer services performed in past 3 years (e.g., hospital volunteer, collecting for charitable organizations, transportation of handicapped, etc.).

25. List part-time and/or summer jobs held within the past 3 years. (Include summer school teaching and curriculum committee work.)

Job	Dates Held	No. Hours per Week

26. List any non-credit professional improvement courses, workshops, or conferences attended in past 3 years.

_____

_____

_____

_____

27. List any additional activities for which salary schedule credit has been earned in past 3 years (e.g., continuing education units (CEU's), travel, etc.)

_____

_____

_____

APPENDIX C

PARENT CONSENT FORM

Student Name: _____

Wisconsin Research and Development Center
for Individualized Schooling

SCHOOL RESOURCE UTILIZATION STUDY

Parental Consent Form

The study in which you and your child are invited and requested to participate is designed to examine the ways in which a variety of resources, such as money and time, are used in the educational process and how various resources affect the progress of individual students. The study will cover a three-year time period. Students who are in the third grade during the 1979-80 school year will be the focus of the study, which will be completed during your child's fifth grade year. In conducting the study, the researchers will observe students in school, review pertinent school records, and interview selected teachers and parents.

All participants will remain anonymous, and no individual or school will be identified in any reports of the research.

Any questions you may have concerning the procedures to be used in the study will be answered. You are free to withdraw your consent and discontinue participation in the study at any time.

Please sign below to indicate your consent to participate in the study and return this form in the enclosed envelope. Thank you for your willingness to participate.

_____ _____

Parent or Guardian Date

11/15/79

APPENDIX D

PROJECT GUIDELINES

THE UNIVERSITY OF WISCONSIN-MADISON
Research and Development Center for Individualized Schooling
Resource Utilization Project

GUIDELINES FOR THE USE OF THE C/E CLASSROOM OBSERVATION FORM
(Revised, September, 1980)

Pre-Observation Activities

- Enter the date, school, grade, subject, and the number of adults in the classroom at the beginning of the observation period.
- From the master list of code numbers, enter the observer and teacher number. If more than one adult is present in the room, the code number of the teacher who is primarily responsible for the classroom activity being observed should be entered. Make a note as to the status of any other adult involved in the classroom activities, e.g., older student, student teacher, aide, intern, parent volunteer, etc.
- Note one or any identifying characteristics of each of the five students being observed (e.g., red shirt, blond hair, wears glasses, etc.) and the student's code number in the space provided on the form.
- Enter the starting time when the first observation is made.

Observation Procedures

- Record one observation of each student at two-minute intervals during the entire course of the activity being observed. Use your best judgment in coding the type of activity in which the student is engaged.
- Use a No. 1 black lead pencil.
- Observation Category Description:

  On Task Time:

  1. Independently: student is reading or studying, writing, working with learning aid, etc., alone.
  2. One-to-One: student is working with teacher, aide or volunteer, with no other students.
  3. Small Group: student is working with adult in a less-than-class-size work group.
  4. Large Group: student is working with teacher and other students in class-size or larger group.
  5. With student(s): student is working with other student(s), but not with an adult. A teacher or an aide is present but is not working with the student being observed.

Off Task Time

6. Process Behavior: student is waiting for teacher before proceeding, getting directions, correcting tests, etc.

7. Not on Task: student is resting, staring, wandering around, leaving room for noninstructional purposes, sharpening pencils, etc.

8. Non-Observable: student has left room or is not able to be seen by observer (make note explaining reason student was non-observable).

Procedural Problems and Questions

1. Insofar as possible, the same students should be followed throughout the school day, since ideally our observations will portray the way each student spent his/her time throughout the course of a "typical" school day. It may be necessary to exchange a student with another observer if students are regrouped, move to another room, etc. If a student originally selected for observation cannot be observed throughout the day it will be necessary to complete the "day" of observation at a later date.

2. If the class period being observed extends beyond 70 minutes, continue recording the observations on a second form until the period ends. The entire top of the second form should be coded exactly the same as the first form. The "stop time" on the first form should be left blank. The "start time" on the second form should show the same "start time" as appears on the first form. The "stop time" on the second form is used to indicate when the class terminates. Example:

	Start	Stop
Form 1	9:00	blank
Form 2	9:00	10:30

3. At the outset, it is not generally feasible to observe more than five students at two-minute intervals. As observers gain experience and familiarity with the form, it will often be feasible to observe from 7 to 10 students at two-minute intervals.

4. It is generally desirable to limit the number of observers in a classroom at any time to not more than two persons. In large-group instruction, however, it may be possible and desirable to have more than two observers in the classroom at the same time.

5. Any questions as to whether a class should be coded as reading or language arts should be resolved in favor of language arts. Thus library time, book fairs, and the like should be coded as language arts. The category "reading" is intended to cover formal instruction in reading, and does not include activities in which the student is engaged in reading as a part of the activity. Use a marginal notation concerning the activity if you are in doubt so that it may be recoded later if necessary.

6. When does a class period start? This obviously will require the exercise of judgment on the part of the observer. As a general rule, you should be guided by the teacher's behavior. Thus a class period starts when the teacher begins his/her effort to bring the group to order, to begin a presentation, to initiate structure for the tasks to be done. It is possible, indeed likely, that some students will be off-task at the start of a class period and others will be on-task. You should determine the beginning of a class period by the teacher's behavior, not by the student's behavior. The same rule should be followed in determining when a class period ends, although in this case an individual student might continue to be on-task in a given subject (e.g., finishing a math assignment or a reading assignment) after the teacher has stopped the lesson and started to prepare for the next subject or class period.

7. What if an aide, volunteer, or another teacher enters the classroom during a class period? Do not start a new form. Instead, note the time the additional person(s) entered the room in the right hand column and include the aide in the "adults" column at the top of the observation form. The number coded in the "adult" column should represent the total number of adults who worked with students during the class period. Note in the right hand column the aides who were involved and their times of involvement.

8. What if the teacher primarily responsible for directing the instruction changes, or the class size changes drastically (e.g., half the class leaves with a special teacher), during the class period? If this occurs, start a new observation form immediately.

9. How should the size of the class be determined? The class size should reflect the total number of students who were involved in the work of the class during the class period. For example, students who miss a portion of the class because they were in the IMC, library, rest room, etc. should be counted. However, a student who is in the room only for a few moments, e.g., to get something from his/her desk, should not be counted.

10. When a student being observed is working in a small group, the number of persons in the small group should always be recorded in the right hand column of the observation form.

11. What if a movie is being shown and it is too dark to tell what the subjects are doing? If you cannot see one of the students being observed clearly enough to determine whether or not she/he is on-task or off-task, the proper entry is "non-observable." If you can't see, don't guess!

12. What if a student is on-task during a class period but is obviously working on something other than the subject matter of the class--for example, a student who is working on math during reading class, or reading a library book, etc.? There are two obvious alternatives: code the student as off-task because s/he is not engaged in reading, or code the student as "on-task" even though s/he is not engaged in reading. However, a possible solution would be to use category 9,

which is currently unassigned, together with the appropriate group size descriptor (Categories 1-5), to indicate that the student is on-task but not on the subject the rest of the class is working on. Thus, one would code both the appropriate category of (1-5) and also category 9. Note in the right-hand column the subject in which the student is engaged, if this information can be determined.

13. When the student under observation is engaged in one-to-one instruction, note the adult--teacher, aide, volunteer, etc--with whom the student is working. For example, if on the 10th observation the student is working with the teacher, code a "2" indicating one-to-one instruction and note "teacher (2)" in the right-hand column.

14. What constitutes process behavior? Process behavior is primarily found in situations where the student cannot proceed without some action on the part of the teacher. Thus process behavior is teacher-initiated. Examples would include situations in which the teacher is giving directions, when a student is waiting for the teacher to answer a question or to review the student's work before the student can proceed. Correcting a test would be classified as process behavior unless the teacher uses the activity as an instructional vehicle--for example, the teacher points out the reasons for a particular answer and helps students to understand the rationale or basis for an answer. In general, process behavior is teacher-initiated, or at least is dependent on some action by the teacher. Observers must use their best judgment in determining whether the giving of directions by a teacher is best viewed as instructional or process behavior. A good general rule is if the directions are accompanied by statements telling why or giving a rationale it should be considered instructional; if not, it should be considered process behavior.

15. Coding an activity in one of the on-task categories (1-5) means that the student is working on an activity sanctioned by the teacher either explicitly or implicitly. An implicit sanction exists when a student is obviously working on a subject or activity different from the rest of the class and the teacher makes no attempt to disturb or alter what the student is doing.

16. When the entire class starts a new subject, start a new observation form. The primary cue as to when a new subject is started is the teacher's behavior.

17. If a student is supposed/assigned to be working in group, but obviously working alone rather than within the group to which s/he is assigned, code his/her behavior as working independently.

18. How should giving a test be coded? Testing students will be considered part of instruction whether given orally (e.g., spelling) or given as a written test. It should be coded just as any other instructional activity, since assessing pupil progress is an integral part of any instructional program. (For coding the correcting of a test, see No. 14.) Code according to the size of the group involved as for other instructional activities.

19. It is possible, indeed likely, that one or two students could be working individually while the remainder of a class is involved in large-group instruction. It is possible to have one student you are observing coded in instructional mode #1 (independent) and others coded in instructional mode #4 (large group), or even in #3 (small group).

20. What priority should be established when it is necessary to make choices as to which subjects to observe? The highest priority should be accorded the basic academic subjects--reading, mathematics, language arts, social studies, and science. If possible, it is desirable to observe students in the "special subjects" such as art, music, and physical education, but they rank below the basic academic subjects in priority for observation.

21. What about students who are in special programs, e.g. handicapped, bi-lingual, disadvantaged, etc.? All students in the regular fourth grade classes should be observed, including mainstreamed handicapped students who may be in the regular class for part of the day or for only certain subjects. Students who are "pulled out" of the regular classroom to participate in a special program (for example, for special help in reading, math, or perhaps speech correction) should be observed in those classes or activities. If you are unable to follow a student in such an activity, it is sometimes possible to talk with the teacher involved and find out the nature of the instructional mode (e.g., one-to-one, small-group, etc.). In such cases, the mode could be identified if appropriate, but if the student cannot be observed, code as category #8 (non-observable) and then try to pick up an observation of the activity at some other time, perhaps on a later date. We will not attempt to observe handicapped students who may nominally be fourth graders but who are in self-contained special classrooms. We will observe handicapped students who are being mainstreamed in the regular classroom for at least part of the day.

22. How should library time, i.e., the entire class goes to the library, be coded? As a general rule, library time should be coded as language arts. The only exception would be when the time was used for formal instruction in specific reading skills.

23. How should one code the activity when a child is looking for a book in the library or IMC? Coding this type of activity will require discretion on the part of the observer. For example, if the child is actively seeking a reference book to answer a question as part of an assignment, it might be coded as part of the instructional activity or it might be coded as process behavior. The observer will have to make a judgment based on the situation. If the child is just browsing, it generally should be coded as off-task behavior, but if the browsing is teacher-initiated or directed it could be considered process behavior. Of course, if the student is looking for a book as part of specific instruction in how to find material in the IMC, it would be coded as on-task behavior in the appropriate instructional mode.

24. How should classroom activities such as "guidance" at Eau Claire or "skills" at Milton be handled? They should be observed, if possible, but are not as high in priority as the basic academic subjects. They would be coded as "other" in the subject category with a marginal notation to indicate the type of activity. Another activity of this type is "milk and story time" in some of the schools. Although it might be viewed as a part of language arts, it is preferable to code it under the "other" category in the subject column and use a marginal notation to indicate the type of activity.

25. What if one of the students you are observing goes to the IMC and the others remain in the classroom? Stay with those in the classroom. Code the student who leaves to go to the IMC (or the office, rest room, etc.) as non-observable (Category #8) and make a marginal notation if you know where the student went.

26. How should an educational television program be coded? It depends on the subject matter and whether the program is an integral part of the instructional activity. If it is used to provide formal instruction in one of the basic academic subjects, it should be coded accordingly. If the television program appears virtually unrelated to the instruction in one of the basic curricular areas, e.g., a TV program on "Bicycle Safety," code it as "other" in the subject matter category and code the instructional mode in the usual manner.

27. How should an activity such as current events or Weekly Reader be coded? In most cases such activities would be coded as either language arts or social studies depending on the emphasis given them by the teacher. It is possible that they could be considered to be reading instruction if the emphasis is placed on reading rather than current happenings or general communication skills. The observer will have to use discretion in coding these activities.

Post Observation Activities

- Check the time the activity ended and fill in the "Stop Time" column. The day consists of 24 hours. Thus, 9:15 a.m. = 0915; 1:25 p.m. = 1325.
- Be sure that all information is coded on the observation form.
- If you made erasures, be sure that all wrong entries are erased completely. The sheet scanner will reject the form if the erasures are not complete.
- Be sure that your entries do not "slop over" into another circle. If they extend beyond the circle the scanner is likely to reject them.

APPENDIX E

STAFF CONSENT FORM

School Name _____

RESOURCE UTILIZATION STUDY

Staff Consent Form

The research in which you are asked to participate is designed to study the ways in which a variety of resources are used in the educational process and how they affect individual students. The study will cover a three-year time period beginning with the 1979-80 school year. In conducting the study, the researchers will observe students in school, analyze pertinent school documents, and interview selected teachers, parents, and administrators.

All participants will remain anonymous, and no individuals or school will be identified in any reports of the research.

Any questions you may have concerning the procedures to be used in the study will be answered. You are free to withdraw your consent and discontinue participation in the study at any time.

Please sign below to indicate your consent to participate in the study. Thank you.

_____ _____

Name Date

APPENDIX F

TEACHER TIME ALLOCATION FORM

Wisconsin Research and Development Center
School Resource Utilization Study

Directions for Completing the Teacher Time Allocation Chart

This chart attempts to obtain a close approximation of your school-related activities for a typical week, including all of your activities during the school day and any carried on before or after school. A page is included for Saturday and Sunday in the event that you do school-related work on either of those days. Please be as specific as you can. Fill out one page at the end of each day for one week. Try to record every school-related activity in which you participate during the week. Remember to be as specific as possible about times and activities.

Two types of school-related activities are identified: time spent in direct instruction and time spent in other professional activities. Use the following examples and guidelines to assist you in filling in the chart.

Time Spent in Direct Instruction

For those time blocks during which you are engaged in direct instructional activities, please specify:

1. Name of Subject Area 2. Number of Students
3. Work Group Size -- Are the students working independently, one-to-one with a teacher or aide, in small groups (3-10), or in large groups (11+)?
4. Names of Aides and type (aide, parent volunteer, intern, etc.)

Example

Time Block 8:30-9:15
1. Reading 2. 25 students
3. 50% large group; 50% independent
4. Mrs. Smith (aide); Ms. Jones (intern)

Time Spent in Other Professional Activities

For those time blocks in which you are engaged in other school-related activities, specify:

1. Type of Activity -- supervision, planning, tutoring, clerical, testing/assessing/evaluating, socializing, parent-teacher conference, record-keeping, etc.
2. Number of students, if the activity involves students; if not, leave blank.

3.-4. For planning time, give the subject area and the percentage of time devoted to planning for each subject. (Also, note if it is joint planning time.)
For supervision time, note where the supervision takes place (playground, lunch, hallway, study hall, etc.).
For testing/assessing/evaluating, give the subject area(s).
For tutoring, tell which students.

Examples

Time Block 12:00-12:30
1. Tutoring 2. 2 Students
3. John Johns, Roberta.
4. Rowe

Time Block 12:30-1:05
1. Supervision 2. 35 students
3. Study Hall
4. _____

Time Block 1:05-1:50
1. Planning 2. _____
3. Math 50%, Science 50%
4. Math is joint planning

When you are finished, look the chart over and make sure it accurately describes your activities for each day of the week.

TEACHER TIME ALLOCATION CHART

NAME ______________________________ DATE __________

TIME BLOCK ☐ ☐ DIRECT INSTRUCTION ☐ OTHER PROFESSIONAL ACTIVITY 1 ______ 2 ______ 3 ______ 4 ______	TIME BLOCK ☐ ☐ DIRECT INSTRUCTION ☐ OTHER PROFESSIONAL ACTIVITY 1 ______ 2 ______ 3 ______ 4 ______
TIME BLOCK ☐ ☐ DIRECT INSTRUCTION ☐ OTHER PROFESSIONAL ACTIVITY 1 ______ ______ 3 ______ 4 ______	TIME BLOCK ☐ ☐ DIRECT INSTRUCTION ☐ OTHER PROFESSIONAL ACTIVITY 1 ______ 2 ______ 3 ______ 4 ______
TIME BLOCK ☐ ☐ DIRECT INSTRUCTION ☐ OTHER PROFESSIONAL ACTIVITY 1 ______ 2 ______ 3 ______ 4 ______	TIME BLOCK ☐ ☐ DIRECT INSTRUCTION ☐ OTHER PROFESSIONAL ACTIVITY 1 ______ 2 ______ 3 ______ 4 ______
TIME BLOCK ☐ ☐ DIRECT INSTRUCTION ☐ OTHER PROFESSIONAL ACTIVITY 1 ______ ______ 3 ______ 4 ______	TIME BLOCK ☐ ☐ DIRECT INSTRUCTION ☐ OTHER PROFESSIONAL ACTIVITY 1 ______ 2 ______ 3 ______ 4 ______
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APPENDIX G

TEACHER BACKGROU PREFERENCES, AND OPINION FORM

THE UNIVERSITY OF WISCONSIN-MADISON
Wisconsin Center for Education Research
School Resource Utilization Project

Teacher Background, Preferences, and Opinions

Part I. Personal Background

(Please circle the response which applies on multiple-choice answers.)

1. In what type of community have you spent most of your life? (Give your best estimate.)

   a. In the open country or a farming community.

   b. In a small town (less than 10,000 people).

   c. Inside a medium city (10,000 to 100,000 people).

   d. In a suburb of a medium city.

   e. Inside a large city (100,000 to 500,000 people).

   f. In a suburb of a large city.

   g. In a very large city (over 500,000 people).

   h. In a suburb of a very large city.

2. In what state have you spent most of your life?

   _____
   State

3. During your childhood did you live most of the time with:

   a. Mother and father.

   b. Mother only.

   c. Father only.

   d. Mother and male guardian.

   e. Father and female guardian.

   f. Other (specify) _____

4. During the time when you were growing up, what type of work did your father (male guardian) normally do? You probably will not find his exact job listed, but circle the number corresponding to the one that is closest.

   a. Technical--such as draftsman, surveyor, medical or dental technician, etc.

   b. Official--such as manufacturer, officer in a large company, banker, official or inspector, etc.

   c. Manager--such as sales manager, store manager, office manager, factory supervisor, etc.

   d. Proprietor or owner--such as owner of a small business, wholesaler, retailer, contractor, restaurant owner, etc.

   e. Semiskilled worker--such as machine operator, bus or cab driver, meat cutter, etc.

   f. Clerical worker--such as bank teller, bookkeeper, sales clerk, office clerk, mail carrier, messenger, etc.

   g. Service worker--such as barber, waiter, etc.

   h. Protective worker--such as policeman, detective, sheriff, fireman, etc.

   i. Salesman--such as real estate or insurance salesman, factory representative, etc.

   j. Farm or ranch manager or owner.

   k. Farm worker on one or more than one farm.

   l. Workman or laborer--such as factory or mine worker, fisherman, filling station attendant, longshoreman, etc.

   m. Professional--such as accountant, artist, clergyman, dentist, doctor, engineer, lawyer, librarian, teacher, college professor, social worker, etc.

   n. Skilled worker or foreman--such as baker, carpenter, electrician, enlisted man in the armed forces, mechanic, plumber, plasterer, tailor, foreman in a factory or mine, etc.

   o. Don't know.

   p. Does not apply.

5. How many years of school did your father (or male guardian) complete?

   a. None, or some grade school.

   b. Finished grade school.

   c. Some high school.

   d. Finished high school.

   e. Technical or business school after high school.

   f. Some college, but less than 4-year college.

   g. Graduated from a regular 4-year college.

   h. Attended graduate or professional school.

   i. Don't know.

   j. Does not apply (no father or male guardian present).

6. How many years of school did your mother (or female guardian) complete?

   a. None, or some grade school.

   b. Finished grade school.

   c. Some high school.

   d. Finished high school.

   e. Technical or business school after high school.

   f. Some college, but less than 4 years.

   g. Graduated from a regular 4-year college.

   h. Attended graduate or professional school.

   i. Don't know.

   j. Does not apply (no mother or female guardian present).

7. During the time when you were growing up, what type of work did your mother (or female guardian) normally do? You probably will not find her exact job listed, but circle the number corresponding to the one that is closest.

a. Housewife.

b. Technical--such as medical or dental technician, designer, editor or reporter, etc.

c. Official--such as officer in a large company, banker, official or inspector, etc.

d. Manager--such as sales manager, store manager, office manager, etc.

e. Proprietor or owner--such as owner of a small business, wholesaler, retailer, restaurant owner, etc.

f. Semiskilled worker--such as a factory machine operator, bus or cab driver, meat cutter, seamstress, etc.

g. Clerical worker--such as bank teller, bookkeeper, sales clerk, mail carrier, messenger, etc.

h. Service worker--such as hair dresser, waitress, etc.

i. Protective worker--such as detective, sheriff, etc.

j. Sales person--such as real estate or insurance sales person, factory representative, etc.

k. Farm or ranch manager or owner.

l. Farm worker on one or more than one farm.

m. Worker or laborer--such as cleaning woman, factory or mine worker, etc.

n. Professional--such as a teacher, accountant, artist, dentist, doctor, engineer, lawyer, librarian, teacher, college professor, social worker, etc.

o. Skilled worker or foreman--such as baker, upholsterer, tailor, foreman in a factor or mine, etc.

p. Don't know.

q. Does not apply.

8. If you have held other teaching positions, in what type of school was your first full-time teaching position?

   a. A school in the open country or a farming community.
   b. A school in a small town (less than 10,000 people).
   c. A school in a medium city (10,000 to 100,000 people).
   d. A school in a suburb of a medium city.
   e. A school inside a large city (100,000 to 500,000 people).
   f. A school in a suburb of a large city.
   g. A school in a very large city (over 500,000 people).
   h. A school in a suburb of a very large city.

9. Why did you leave your first teaching position?

   a. I moved to another city for reasons not related to my job preferences.
   b. Family obligations led me to leave teaching temporarily.
   c. There was an opening in another school which was more attractive to me.
   d. I was transferred to another school.
   e. Other (Specify) _____

10. If you have taught in more than one school previously, in what type of school was your second full-time teaching job?

   a. A school in the open country or a farming community.
   b. A school in a small town (less than 10,000 people).
   c. A school in a medium city (10,000 to 100,000 people).
   d. A school in a suburb of a medium city.
   e. A school inside a large city (100,000 to 500,000 people).
   f. A school in a suburb of a large city.
   g. A school in a very large city (over 500,000 people).
   h. A school in a suburb of a very large city.

Part II. Personal Preferences and Opinions

11. If you could take your choice of school settings, which would you choose?

    a. All children of professional and white-collar workers.
    b. Mostly children of professional and white-collar workers.
    c. Children from a general cross-section of the community.
    d. Mostly children of factory and other blue-collar workers.
    e. Children of rural families.
    f. I have no preference.

12. What type of class do you most like to teach?

    a. A high-ability group.
    b. An average-ability group.
    c. A low-ability group.
    d. A mixed-ability group.
    e. I have no preference.

13. Overall, how would you rate the academic ability level of the students in this school?

    a. Excellent
    b. Good
    c. Average
    d. Fair
    e. Poor

14. Overall, how would you rate students in your school on how hard they try in school?

    a. Excellent
    b. Good
    c. Average
    d. Fair
    e. Poor

15. Overall, how would you rate students in (most of) your class(es) on how hard they try in school?

    a. Excellent
    b. Good
    c. Average
    d. Fair
    e. Poor

16. Overall, how would you rate the academic ability level of students in (most of) your class(es)?

    a. Excellent
    b. Good
    c. Average
    d. Fair
    e. Poor

Please estimate the percentage you feel is correct for the following item.

17. It would be ideal if every student mastered the curriculum. Realistically, however, we know that some do and some do not. In general, what percent of your students do you expect to master the curriculum?

    _____% students master the curriculum.

18. Some teachers like to give a test to their students before beginning instruction to find out how much the students know about the subject. Other teachers do not like to do this. Before you began instructing your class(es) this year, did you administer a test to assess your students?

    a. No.
    b. Yes

19. Do you allow students to call out comments or questions without first raising their hands to get permission?

    a. Often
    b. Seldom
    c. Never

20. How strict do you feel that you are in class?

    a. Very strict.
    b. Somewhat strict.
    c. Not strict at all.

21. On the average, how much homework do you assign per day?

    a. None.
    b. Less than 1/2 hour.
    c. Between 1/2 hour and 1 hour.
    d. Between 1 hour and 1 1/2 hours.
    e. Between 1 1/2 hours and 2 hours.
    f. More than 2 hours.

22. Generally, do you feel that a student's receiving a lower grade than usual

    a. encourages effort by making the student work harder to improve, or
    b. discourages him/her and provides negative reinforcement?

23. Think about this school year. In a typical month, how often do you have severe disruptions (fights, loud and boisterous play, running or pushing) in your classroom?

    a. Never.
    b. Once or twice.
    c. 3 to 5 times.
    d. 6 to 10 times.
    e. More than 10 times.

24. Most teachers pitch their level of instruction to the high, the middle, or the low achievers when planning a lesson for the entire class. Which group do you pitch your instruction toward?

    a. High
    b. Middle
    c. Low

25. Would stricter enforcement of rules be very likely, somewhat likely, or not very likely to eliminate discipline problems?

    a. Very likely.

    b. Somewhat likely.

    c. Not very likely.

26. What kinds of competition do you use most often as classroom motivation devices:

    a. None. I never use competition.

    b. Individual competition (for prizes, recognition, etc.).

    c. Group competition (teams).

    d. Individual and group competition about equally.

27. A child may be graded differently depending on what the teacher emphasizes. Several factors may be examined in assigning grades. Circle the number in the column that most nearly represents the degree to which each of the 5 factors below is used by you in assigning grades.

	Not Used	Minor Influence	Some Influence	Major Influence
a. IQ or general ability	1	2	3	4
b. Obedience to classroom rules	1	2	3	4
c. Personal qualities of the student	1	2	3	4
d. Effort	1	2	3	4
e. Success or failure in doing assigned work	1	2	3	4
f. Other (specify)	1	2	3	4

Part III. Professional Beliefs and Opinions

The following statements are designed to elicit opinions about teaching and its methods and goals. There is considerable disagreement about these and thus no "correct" answers. CONSIDERING THE GRADE LEVEL AND SUBJECT MATTER YOU TEACH, please give your own opinion about each statement. Read each statement and decide how YOU feel about it. Then circle the appropriate response. Please respond to every item.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
28. It is better to avoid word games and similar exercises in which students compete with one another in front of the whole class.	1	2	3	4	5
29. Students' questions are usually quite thoughtful.	1	2	3	4	5
30. The main purpose of education should be to teach people what to think.	1	2	3	4	5
31. A good teacher should feel free to admit that he/she does not know the answer to a question.	1	2	3	4	5
32. The most useful manner of dealing with poor work on the part of a student is to require repetition of the work done badly.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
33. The teacher's personality is far more important to student learning than the metnods used to teach subject matter.	1	2	3	4	5
34. Effective teaching requires that the teacher know the personal characteristics and background of his/her individual students thoroughly.	1	2	3	4	5
35. Students will think for themselves if permitted.	1	2	3	4	5
36. Teachers should usually begin an explanation with an illustration in terms of some everyday object or event.	1	2	3	4	5
37. The primary function of examinations is to help students evaluate their own learning.	1	2	3	4	5
38. Whether or not students are happy in the classroom is much less important than whether or not they are learning what they should be learning.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
39. Nowadays, schools too often develop everything about the student but his mind.	1	2	3	4	5
40. A good teacher is one who is careful to avoid doing the students' work for them.	1	2	3	4	5
41. Making a lesson dramatic often results in students missing the point of the lesson.	1	2	3	4	5
42. Teachers should talk to students just as they would to an adult.	1	2	3	4	5
43. Textbooks should be the primary focus of most of the teaching-learning activity in the classroom.	1	2	3	4	5
44. A teacher need spend only a little time with bright students since they can usually learn by themselves.	1	2	3	4	5
45. Students learn much from interaction with other students; therefore the teacher should provide abundant opportunity for small-group discussions in the classroom.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
46. Unless explanations are short, students tend to lose interest and ability to follow.	1	2	3	4	5
47. A teacher generally ought to engage in a considerable amount of sheer repetition.	1	2	3	4	5
48. Teachers should frequently ask students, "Is that clear?" or "Do you understand?" and the like.	1	2	3	4	5
49. A teacher should discourage students from moving around the room freely.	1	2	3	4	5
50. During actual instruction, one should seldom let more than a few minutes go by without asking a student to do something, such as answer a question.	1	2	3	4	5
51. A teacher's job is primarily one of communicating and explaining subject matter.	1	2	3	4	5
52. Within most classrooms, students should be divided into fast, slow, and average ability groups.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
53. The use of a wide variety of curricular materials very often leads to confusion.	1	2	3	4	5
54. Objective type examinations are undesirable because they force the student to produce original ideas or to organize them.	1	2	3	4	5
55. Even at the risk of boring some students, the teacher should take pains to explain things thoroughly.	1	2	3	4	5
56. Schoolwork should never be assigned as a punishment.	1	2	3	4	5
57. Knowledge is frequently emphasized as an educational objective out of all proportion to its usefulness or relevance for the development of the individual.	1	2	3	4	5
58. Good teaching and genuine affection for students are two separate things and have little if anything to do with each other.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
59. The best way to teach mathematics is to demonstrate the operations (letting principles take care of themselves) and then assign good concrete problems of varying degrees of difficulty.	1	2	3	4	5
60. If some students don't understand what the teacher is saying while most of the students do understand, then it is unfair to the class to take time out to answer their questions.	1	2	3	4	5
61. Nonachieving students should be failed.	1	2	3	4	3
62. One should use the blackboard a great deal, even if only to emphasize a verbal description.	1	2	3	4	5
63. An active discussion in which students are involved is educationally worthwhile regardless of what it is about.	1	2	3	4	5
64. We do not know enough about teaching to make possible the formulation of definite rules and procedures for good teaching.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
65. Teachers should reward effort and penalize lack of effort regardless of the amount of mastery achieved.	1	2	3	4	5
66. The lecture method (i.e., talking continuously for 15 minutes or more on a given subject) is seldom desirable.	1	2	3	4	5

67. Suppose a student were to do a project for extra credit. In this situation, would you be very likely, somewhat likely, or not very likely to give the student a better grade if:

	Very likely	Somewhat likely	Not very likely
a. You knew that the student cancelled all his/her plans so that he/she could spend most of his/her evenings and weekends for a couple of weeks working on the project?	1	2	3
b. You knew that the student worked on the project in his/her spare time?	1	2	3
c. You knew that the student missed a favorite T.V. program to work on the project?	1	2	3

68. Suppose you knew that a student had studied especially hard or tried especially hard during a particular marking period, but scored no better than usual on tests, would you be very likely, somewhat likely, or not very likely to:

	Very likely	Somewhat likely	Not very likely
a. Give the student the grade he/she had scored on tests during the marking period?	1	2	3
b. Give the student a higher grade than he/she had scored on tests during the marking period?	1	2	3
c. Give the student one of the best grades in the class?	1	2	3

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