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Effects of principal inservice training on teacher classroom behaviors and student academic motivation

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**EFFECTS OF PRINCIPAL INSERVICE TRAINING ON TEACHER
CLASSROOM BEHAVIORS AND STUDENT ACADEMIC MOTIVATION**

Iowa State University

PH.D. 1982

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Effects of principal inservice training on teacher
classroom behaviors and student academic motivation

by

Retia Scott Walker

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY

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Major: Education (Educational Administration)

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For the Graduate College

Iowa State University
Ames, Iowa

1982

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TABLE OF CONTENTS

	Page
CHAPTER I. INTRODUCTION	1
Statement of the Problem	4
Objectives of the Study	5
Basic Assumptions	6
Delimitation of the Study	6
Definition of Terms	7
CHAPTER II. REVIEW OF LITERATURE	10
Introduction	10
Inservice Education	10
Motivational Concepts	30
CHAPTER III. METHODS AND PROCEDURES	68
Research Design	68
The Sample	70
Research Hypotheses	74
The Treatment	74
Description of the Inservice	76
Instrumentation	79
Collection of Data	83
Statistical Analysis of Data	84
CHAPTER IV. FINDINGS OF THE STUDY	86
Descriptive Data	87
Findings - Hypotheses Testing	103
Testing of Hypothesis 1	106

	Page
Testing of Hypothesis 2	109
Testing of Hypothesis 3	110
Testing of Hypothesis 4	112
Testing of Hypothesis 5	115
Testing of Hypothesis 6	117
Testing of Hypotheses 7 and 8	120
CHAPTER V. SUMMARY, CONCLUSIONS, LIMITATIONS, DISCUSSION, RECOMMENDATIONS	124
Summary	124
Descriptive Data	125
Data Analyses	127
Conclusions	131
Limitations	133
Discussion	134
Recommendations	137
BIBLIOGRAPHY	139
ACKNOWLEDGEMENTS	146
APPENDIX A. SELECTED SAMPLES OF CORRESPONDENCES TO EXPERI- MENTAL AND CONTROL SCHOOL PRINCIPALS	147
APPENDIX B. INSERVICE WORKSHOP PLANNER	156
APPENDIX C. MOTIVATION THEORY SELF-TEST USED IN THE INSERVICE TRAINING	159
APPENDIX D. INSERVICE TRAINING EVALUATION FORM	165
APPENDIX E. INSTRUMENTS USED IN THE STUDY	168

LIST OF FIGURES

	Page
Figure 1. A schematic representation of the Principal Inservice Training on Student Academic Motivation (PITSAM) model	69
Figure 2. Nonequivalent control group pretest-posttest design	70

LIST OF TABLES

	Page
Table 1. Characteristics of schools participating in the study	71
Table 2. Distribution of principals, teachers, and students by school levels	88
Table 3. Distribution of teachers by years of teaching experience, N = 62	88
Table 4. Distribution of teachers by subjects taught, N = 62	89
Table 5. Distribution of students by gender and grade	91
Table 6. Demographic data on experimental school principals, N = 6	91
Table 7. Mean scores of experimental group principals and teachers on communicating styles survey by schools	93
Table 8. Principals and teachers communicating styles	95
Table 9. School means of pre and posttest scores for teacher's use of motivational concepts	98
Table 10. School means of pre and posttest scores for student perceptions and student motivation	99
Table 11. Experimental group teachers' use of motivational concepts after the treatment	102
Table 12. Experimental group students' motivation levels and perceptions regarding their teacher's use of motivation concepts after the treatment	102
Table 13. Pretest results for teachers in the experimental and control groups on SAMBI-B	105
Table 14. Pretest results for students in the experimental and control groups on SAMS and SAMBI-A	105
Table 15. Comparison of experimental and control groups on post-test mean scores for teachers' classroom motivational behaviors	107
Table 16. Comparison of experimental and control groups on post-test mean scores for teachers' classroom motivational behaviors	108

	Page
Table 17. Analysis of pretest and posttest mean scores for teachers' perceived use of motivational concepts after the treatment	110
Table 18. Analysis of pretest and posttest scale mean scores for teachers' perceived use of motivational concepts after the treatment	111
Table 19. Analysis of covariance on student perceptions of teacher classroom motivational behaviors	112
Table 20. Summary - analysis of covariance on the subscales for student perceptions of teachers' classroom motivational behaviors	113
Table 21. Summary - analysis of covariance on the subscales for student perceptions of teachers' classroom motivational behaviors	114
Table 22. Comparison of experimental and control groups on student motivation posttest mean scores	115
Table 23. Comparison of experimental and control groups on student motivation posttest mean scores of the subscales	116
Table 24. Comparison of pretest and posttest mean scores for student academic motivation after the treatment	118
Table 25. Comparison of pretest and posttest subscale mean scores for student academic motivation after the treatment	118
Table 26. Comparison of perceptions of experimental group teachers and students on teacher classroom motivational behaviors after treatment	119
Table 27. One-way analysis of variance on teachers' use of motivational concepts for experimental and control schools after treatment (N = 11)	121
Table 28. Mean scores of the experimental and control schools for teachers' use of motivational concepts after treatment	121

	Page
Table 29. One-way analysis of variance on student academic motivation for experimental and control schools after the treatment (N = 11)	122
Table 30. Mean scores of the experimental and control schools for student academic motivation after treatment	122

CHAPTER I. INTRODUCTION

While educational systems are faced with the dilemma of how to reach more of their students, the classroom continues to be the focal point for criticism of public education. Recent media and legislative interest in teacher competency and accountability have further intensified this criticism and focused attention on pedagogy and student learning. Concomitantly, staff development for educators appear to be experiencing a renaissance. Educators are predicting that in the 1980s, staff development will be a major priority with particular emphasis on inservice education. Although inservice education has recently suffered because of neglect and budget cuts, it is generally felt to be absolutely necessary if the educational system is to improve the performance of its most important resource, teachers. Yet, some very cogent questions regarding inservice education have been raised. Who is responsible for teacher inservice? What are the effective techniques? Does inservice training make a difference? In attempting to answer these questions, practically every aspect of inservice education has been studied in depth. Problems, trends, and techniques have been examined to find clues to improve teacher classroom behaviors as well as student motivation for learning.

Although the necessity of inservice education is generally recognized, many educators believe inservice teacher training, as it has generally been constituted, is beset by many problems. Wood and Thompson (81) summarized the major problems:

Negative attitudes held by educators toward inservice education. Prior experiences have biased the feelings of educators. The most common complaints reported are: inservice activities are unrelated to the day-to-day problems of the participants, lack of participant involvement in planning and implementation, inadequate needs assessment, unclear objectives and lack of follow-up in the classroom after training.

Inservice training has a district-wide focus, far removed from the needs of teachers and administrators. Yet, there is increasing evidence that the largest unit of successful change in education is the individual school, not the district.

Focus on informational assimilation. Information is usually presented, meaning of ideas explored, and application of concepts discussed. Participants are then expected to return to their respective positions and implement what was understood. What is known about adult learners and learning is ignored.

Lack of modeling. Sound pedagogy is not modeled in inservice training. By modeling desired classroom behaviors, inservice trainers will help participants to increase the potential of successful application in the classroom.

However, as educators seek to resolve these problems, the question of who is responsible for inservice education remains partially unanswered. In separate polls conducted in 1978, elementary and secondary principals generally perceived their role to be that of an instructional leader (29). Yet, the same surveys revealed that they appeared to be uncertain of their effectiveness as instructional leaders. Consequently, many neglected their responsibility. In addition, many indicated they lacked skills and knowledge in specific problem areas. This suggests that administrators need help in improving their instructional leadership skills, particularly in the area of inservice training. The second major concern regarding inservice education focuses on effective techniques, i.e., the level of impact,

components, nature of the adult learner, and communicating styles. While the literature is replete with reports of inservice programs, only a few studies are reported as being successful. There is virtually no empirical evidence that staff development has enhanced student academic motivation, an important variable in the learning process. A third concern regarding inservice education is efficacy. In other words, does inservice training make a difference?

This study brings focus on the effects of a structured principal-delivered inservice training program on student academic motivation. Motivating students to learn is an age-old problem which continues to baffle educators. A poll of the National Association of Secondary School Principals' membership revealed that student apathy and lack of motivation are the most serious constraints facing the secondary school principal today (16). While the public complains that children in our schools are not learning, teachers consistently respond that children in our schools are not academically motivated and lack the urge to work independently. Yet, in an analysis of reviews in educational research in the last decade, Walberg and Uguroglu (75) found that student motivation was one of six factors that predicted with law-like regularity, cognitive, affective, and behavioral learning outcomes and gains. The researchers concluded that student motivation is a necessary pre-condition for learning and that increasing other factors such as the quality and amount of instruction will be fruitless if student motivation remains at a low level. Teachers are the most influential determiners of student motivation for learning. Therefore, if the

problem of student motivation is to be resolved, teachers must be able to transform motivation theories into practical application in the classroom. The evidence suggests that it is short-sighted of teachers to be primarily concerned with subject-matter goals and ignore student motivation.

Statement of the Problem

This study was designed to investigate the effects of a structured principal-delivered inservice training on teacher classroom behaviors and student academic motivation. Attention was focused on:

1. Delivery of a structured inservice program by the building principal.
2. Teacher classroom behaviors which facilitate student academic motivation.
3. Student academic motivation.

To address this problem, the study was designed to answer the following questions:

1. Is there a difference in teacher classroom behaviors resulting from the principal-delivered inservice training designed to enhance student academic motivation?
2. Is there a difference in student academic motivation resulting from the principal-delivered inservice training designed to change teacher classroom behaviors related to student academic motivation?
3. What are the effects of the inservice training on teacher classroom behaviors and student academic motivation?

4. Is there a significant difference in the motivational level of students of teachers who had training as opposed to that of students of teachers who had not received training?
5. Is there a relationship between students' perceptions and teachers' own perceptions regarding their classroom behaviors relating to student academic motivation?
6. Is there a relationship between student motivational level and demographic variables such as years of teaching experiences, teacher prior motivational training, school level, and the subject matter?

Objectives of the Study

The objectives of the study were:

1. To identify and integrate motivational concepts relating to school learning into a student academic motivation construct.
2. To identify effective teacher classroom behaviors related to student academic motivation.
3. To develop a structured inservice training module designed to facilitate student academic motivation in the classroom.
4. To train secondary school principals in the use of the structured inservice training module on student academic motivation for the purpose of conducting workshops with their teachers, at the building level.
5. To test the effectiveness of the principal inservice training module.

Basic Assumptions

The study was predicated on the following assumptions:

1. There is a relationship between student academic motivation and learning outcome.
2. Effective teacher classroom behaviors facilitate student academic motivation.
3. Teachers are willing to learn on the job.
4. The most successful inservice training programs are those associated with school-based efforts.
5. A structured inservice training program delivered by the building principal will have a positive impact upon teacher classroom behaviors and subsequently on student academic motivation.

Delimitation of the Study

Although there is a wide range of important constructs or concepts on motivation, this study is delimited to student's motivation for learning. The magnitude of the number of studies on effective teaching made a review of all possible data impossible. Therefore, the focus is limited to those behaviors that are related to student academic motivation. The scope of this investigation was limited to 11 selected Iowa secondary schools. The sample included teachers and students randomly selected from these schools. The treatment was limited to a seven week period.

Definition of Terms

The following definitions of terms are presented to give clarity to their use and meaning in this study:

1. Academic Motivation - an umbrella concept which covers aspects of a person, other than ability, which determines a person's performance in an academic setting.
2. Academic Self-Concept - perception of ability and confidence in one's own efforts to do school tasks competently.
3. Communicating Styles - the way one processes information, gives it meaning, and sends it out to others.
4. C-Group - those who did not receive the experimental treatment (inservice training), known as the control group.
5. Enthusiasm - an intense interest in teaching and learning about a particular subject as evidenced by verbal and nonverbal behaviors when presenting lessons and working with students.
6. E-Group - those who received the experimental treatment (inservice training), known as the experimental group.
7. Feeling Tone - a verbal or nonverbal response of the teacher that affects the learner's feelings and attitudes about learning. Feeling tones may be pleasant, unpleasant, or neutral.
8. Focusing Student Attention - setting the stage for learning, building interest in and motivation for learning, gaining and holding student attention.

9. Goal-Setting - specifying an end to be attained by or for oneself at a specified future time.
10. Interest - inferred from what one does and seems to enjoy, the amount of time one spends on an activity without force, and from expressed likes and dislikes.
11. Intrinsic Motivation - motives that arise from within the individual such as the enjoyment of learning as opposed to learning for external reasons (grades, money, etc.).
12. Knowledge of Results/Feedback - information concerning the behavior or performance of an individual.
13. Level of Concern - the anxiety level created by the teacher.
14. Locus of Control - student's belief about his/her ability to initiate activities and actions or experience control over learning (internal) as opposed to seeing others, luck, or circumstances beyond his/her control being responsible for behavior and performance (external).
15. Motivation - a presumed internal or external force that energizes for action and determines the direction of that action.
16. Need for Academic Achievement (nAch) - the process of planning and striving for excellence and success in performing tasks and avoiding failure.
17. PITSAM - Principal Inservice Training on Student Academic Motivation.
18. Reward - the relationship between the learning activity and the return the learner receives from the learning experience. Reward can be intrinsic or extrinsic.

19. SAMBI-A ... Student Academic Motivation Behavior Inventory-
Student Perceptions.
20. SAMBI-B ... Student Academic Motivation Behavior Inventory-
Teacher Perceptions.
21. SAMS - Student Academic Motivation Scale.
22. Structured Inservice Training - training unit based on
theories and research, built on specific objectives, and struc-
tured to impact on four levels: awareness, cognition, skills
acquisition, and transfer of skills to the work setting.
23. Style Flex - the ability to temporarily change one's behavior
to a style different from one's own primary style.
24. Success - the level of accomplishment experienced by the
learner.
25. Teacher Expectations - teacher expectancy of students com-
municated via behaviors which affect the way students respond
(self-fulfilling prophecy).

CHAPTER II. REVIEW OF LITERATURE

Introduction

This study investigated the effects of a structured principal-delivered inservice training program on teacher classroom behaviors and student academic motivation. While the literature is replete with references to inservice education, effective teacher behaviors and student motivation, it was necessary to limit the review to two main categories with several subtopics essential to the essence of the study.

The review of literature will focus on:

1. Inservice Education
2. Motivational Concepts

Inservice Education

Researchers and educators generally hold that teachers tend to be responsive to change and improvement via inservice training. However, inservice teacher training in the American school system has at various times been neglected, considered a disaster, and even ignored. Yet, one of the assumptions of this study is that teachers can and are willing to improve their performance on the job. This section of the literature review was limited to: (a) clarification of terms, (b) trends in inservice, (c) the principal and inservice, (d) teacher inservice, (e) the adult learner and inservice training, and (f) communicating styles.

Clarification of terms

Researchers and practitioners use an array of terms to refer to the professional growth of staff members. Among those widely used are the following: on-the-job training, continuing education, staff development, inservice training, and inservice education. Some writers have attempted to be more precise about the meanings of these terms. For example, Harris (33) differentiated the meaning of inservice education from staff development in the following manner:

Inservice education is a part of staff development which means any planned program of learning opportunities afforded staff members of schools, colleges, or other educational agencies for purposes of improving the performance of the individual in already assigned positions (p. 21)

Staff development has two distinct aspects: staffing - having the best person in the appropriate assignment at the right time, and training - inservice (described above) and, advanced preparation for new, advanced, or different job assignments (p. 24)

Continuing education is usually referred to as those educational endeavors beyond the usual sequences of school and colleges. Nadler (as cited in Harris, 33, p. 29) differentiated the meaning of training as learning, which is job related, from education, which is individual related, and development, which is organization related. Regardless of the special meanings attached to the various terms to describe professional growth, each of these conditions constitutes change in staff knowledge, attitude, and behavior.

Throughout this study, the term "inservice training" was used to denote a structured program of learning activities designed to improve on-the-job performance. During the review of literature, the term is

used interchangeably with inservice education. References are made to staff development only when it is synonymous with inservice education or training.

Inservice trends

Traditionally, teacher training institutions have devoted their energies and resources to preservice and inservice programs for teachers. However, Collins' study of trends in inservice education suggests the tide is changing (11). The most significant changes are:

There is a shift to local responsibility. Schools are now defining their own needs rather than leaving this task to the universities.

Staff development is becoming more school-based than job embedded. This means more inservice is going on while people are performing their usual jobs, in their usual places.

The school building is defined as the "critical mass". The building has become the meaningful unit for effective and efficient delivery of inservice education.

There are many who support school based inservice programs. Howey et al. (36) contended there are two primary reasons for planning inservice at the building level. First, many professional growth activities can be infused into the ongoing instructional programs and, therefore, focus more directly on the problems of the school and the teachers who need to find solutions to those problems. Second, it is less costly to provide school-based inservice in terms of time, travel, and sometimes money needed for teacher participation in inservice outside of the school building. She further contends that a cooperative and collaborative relationship between the school and higher education institutions responsible for training school-focused inservice leaders is desirable.

Additional support for school-based inservice education was found in separate reviews of the literature on inservice education as indicated in reports by McLaughlin and Marsh (54), Lawrence et al. (50), and Nicholson et al. (59). As a result of their reviews, the researchers concluded that the school seems to be a better place for inservice teacher education than the higher education institutions. For example, Lawrence et al. noted that both school-based and college-based programs affected teacher behavior, but that the school-based programs influenced more complex kinds of behaviors such as attitudes. They found that 23 of 27 school-based programs reported significant changes in attitudes. On the other hand, it appeared only one-fifth of the school-based inservice programs were directed at changing teacher cognitive behaviors and even fewer were concerned with changing classroom performance skills. Marsh and McLaughlin concurred with Lawrence and associates. They also concluded that complex changes involving attitudes and motivation were very necessary if real changes were to be made in the instructional program.

The principal and inservice education

Who then should direct those changes? Inservice education is generally felt to be the role of the principal as an instructional leader, although it is only one of the seven instructional leadership tasks. Research indicates that effective schools have principals who are strong instructional leaders, who know how to manage time and people efficiently and effectively (21,57) and who readily accept the increased emphasis on accountability (76). Many educators believe that the principal, as instructional leader of the school, has the responsibility

to support not only the learning of students but also the professional development of staff (22). Klopff (44) stated his position clearly:

The principal is the key individual in the school setting responsible for the staff development program. The establishment of the climate and the involvement of persons and resources to support staff development is the responsibility of the principal -- a competent principal initiates, facilitates, energizes and makes things happen.

Some principals do take on the responsibility for inservice education. A survey of 120 NASSP principals in 26 states, identified as having exemplary teacher inservice programs, revealed that principals appeared to be highly involved in the design and delivery of inservice activities in their buildings and seemed to accept the responsibility for modeling behaviors they wanted in their respective staffs (as cited by Elliott, 22, p. 6). These principals also described their programs and gave advice on planning and delivering successful teacher inservice training at the building level.

Most researchers, writers, and educators agreed that the principal is the critical leadership person in inservice activities (10) and the "gate-keeper" of change, a descriptor coined by the Rand Corporation in its Study of Educational Change (as cited by Elliott, 22, p. 5).

The literature provided some support for the efficacy of school-based inservice efforts. Berman and McLaughlin, investigators with the Rand Corporation Study of Educational Change (6), concluded that because of the need for ongoing assistance, local resource personnel who provided "on-call" advice were more effective than outside consultants whose advice was seen as too "general, untimely, and irrelevant". Bennett (5) concurred, contending that only the classroom teacher can

improve the learning of pupils, and only the site administrator is available on a continuous basis to give assistance in improving classroom instruction. According to Elliott (22, p. 3), a survey of 109 principals led to the conclusion that the real retraining activity occurs primarily in the schools.

There is not total agreement, however, among educators. For example, Mazzarella (53) cited two such cases in her synthesis of research on staff development. Joyce and his associates interviewed 1016 teachers and administrators and found there was less agreement on who should be responsible for inservice programs. In fact, each group questioned favored themselves as the responsible agents. In a smaller study, Johnson and Yeakey reported that teachers and administrators were not in agreement as to who should plan and conduct staff development workshops.

Principals have mixed views regarding their role in inservice education. In separate national studies, 83 percent of a sampling of secondary school principals said their most important task was working with teachers on instruction, and 86 percent of the elementary principals similarly declared that their primary responsibility was supervision and instructional improvement (29, p. 25). Yet, while principals generally perceive their role to be that of an instructional leader, they also express concerns about the overwhelmingly day-to-day managerial problems which leave little time for instructional leadership. Findings from Howell's (35) survey of "what principals do" support these concerns. It was revealed that on a given day 14 middle and junior high

school principals reported spending a cumulative of two hours on instructional leadership activities as opposed to 27 hours on paperwork.

Many educators complain that principals are not trained to be instructional leaders and, therefore, feel insecure in taking on this responsibility, particularly teacher inservice training. In the State of the Arts on Inservice Education for principals, Laplant (48) reported that a series of articles which appeared in the NAESP Principal in 1974 revealed two major concerns: the inadequacy of the preparation programs for principals and the lack of opportunities for continuing education. Laplant summarized his examination of the literature on inservice for principals in this way:

There is considerable inservice education, but the variety of purposes, processes, settings and motivations suggest little consensus regarding the processes or strategies involved, even if the goal of improving professional performance is agreed upon. Principals gain knowledge and sometimes skills through professional associations, district or regional programs sponsored by professional organizations, local districts, and funded programs. The topics of inservice generally focus on management skills or contemporary issues without addressing the larger question of how the principal can be instrumental in school improvement.

The need for more principal training was further revealed in a survey by Beckner and Foster (4) in which principals reported not only a need, but also a willingness to be trained as instructional leaders. Nearly 75 percent of 373 surveyed in West Texas identified areas of need and favored attending inservice for professional growth.

Laplant (49) is among many who have been critical of the traditional approaches to principal inservice training and has developed a program which goes beyond attendance at workshops and provides a

continuous process of professional growth. A sampling of other nontraditional but successful principal inservice training reported in the literature included: the extended-year program (10), which allows participants to engage in concentrated inservice activities over an extended period of time - 15 to 18 consecutive days; a two-track summer institute for training practicing principals to be both effective leaders and able managers through a partnership between principals' association, university and the state education departments (17); and a voluntary academy training program in the areas of supervision, evaluation, and instructional leadership for principals and other instructional leaders (37).

Teacher inservice

The fourth subsection on inservice education focuses on the impact, components, and effectiveness of inservice training in changing teacher classroom behaviors and ultimately, student performance. Researchers and educators have generally supported the theory that inservice training can improve the competency needs and classroom performance of teachers.

Lawrence et al. (50), Nicholson et al. (59), Joyce and Showers (39), and Berman and McLaughlin (6) have provided insights into the characteristics of effective inservice training. They generally found programs that achieve a balance between knowledge (theory) and performance (practice) show a high degree of success.

Those who write about inservice education have taken different approaches to identify those factors which contribute to an effective

in-service program. For example, Lawrence et al. (50) reviewed and evaluated 97 studies and reports of teacher in-service education and generalized about the characteristics of successful programs. He classified the in-service theories as the "seven dichotomous approaches" to the management of in-service activities. They are described as:

1. Individualized versus common activities.
2. Active teacher role versus receptive role in in-service design.
3. Supervised trials and feedback versus storing up information and behavior prescriptions for a future time.
4. Teacher mutual assistance and sharing versus separate individualized work.
5. Emergent design versus preplanned design.
6. Self-directed and initiated versus other-directed and initiated activities.
7. A programmatic or common approach versus a single-shot design, not linked to a general effort of the school.

Lawrence et al. (50) concluded that findings support all "seven dichotomous approaches". Education programs that report significant positive changes in teacher behavior incorporate a higher mean number of the seven desirable features than do programs reporting no significant changes. School-based programs incorporate more of the features than do college-based programs.

Joyce and Showers (39) used a slightly different approach by looking at how training components contribute to the impact of training outcome. They analyzed more than 200 studies in which researchers investigated the effectiveness of various kinds of training methods. In the studies reviewed, the major components of training were:

1. Presentation of theory - the rationale, theoretical base, approach to instructional technique and potential use.
2. Modeling or Demonstration - enactment of the teaching skill or strategy through live demonstration or media.
3. Practice in simulated or classroom settings - trying out a new skill or strategy.
4. Structured or open-ended feedback - information about performance following an observation.
5. Coaching for application - hands-on, in-classroom assistance with the transfer of skills and strategies to the classroom.

The researchers reported that no inservice effort used all training components, but provided information on many combinations. For example, programs combined modeling, practice, and feedback (ORME, 1966); presentation, practice, and feedback (Edwards, 1975; Hough, Lohman and Ober, 1969); presentation, modeling, practice, and feedback (Borg, 1975; Borg, Langer and Kelly, 1971); and presentation, modeling, and feedback (Friebel and Kallenbach, 1969) were heavily investigated with respect to skills acquisition and transfer (as cited in Joyce and Showers, 39, p. 381). They reported fewer research efforts which focused on "coaching to application".

Whether the inservice was theory-based as suggested by Lawrence or included the components discussed by Joyce and Showers, the real question concerns the level of impact. Joyce and Showers (39, p. 380) classified the outcome of training into four levels of impact:

1. Awareness - a realization of a concept or area and begin to focus on it.
2. Concepts and organized knowledge - intellectual control over relevant content.

3. Principles and skills - tools for action. Teachers learn the skills to help them adapt to differences in students.
4. Application and problem-solving - transfer of concepts, principles and skills to the classroom.

This process must be understood in terms of the interdependence of each level on the other. It is only after the awareness of the area can one think effectively about it, possess the skills to act, and finally transfer all of these into action in the classroom to impact upon the education of children. In assessing the impact of inservice training, Joyce and Showers (39, p. 384) concluded:

If the theory of a new approach is well presented, the approach is demonstrated, practice is provided under simulated conditions with careful and consistent feedback, and that practice is followed by application in the classroom with coaching and further feedback, it is likely that the vast majority of teachers will be able to expand their repertoire to the point where they can utilize a wide variety of approaches to teaching and curriculum -- if any of these components are left out, the impact of training will be weakened in the sense that fewer number of people will progress to the transfer level (which is the only level that has significant meaning for school improvement).

Berman and McLaughlin (6), researchers with the Rand Corporation Study of Educational Change Project, discovered the staff development activities which had "major positive effects" on project outcomes were "concrete, ongoing, teacher specific and hands-on". The training allowed teachers to try out new techniques and to have access to assistance when needed. They also reported that the successful principals were trained in the areas and were, therefore, prepared to coach for application and give feedback (as cited in Mazzarella, 53, p. 182).

When assessing the effectiveness of an inservice program, the relationship between the level of impact and the objectives (focus,

purpose, priorities) of inservice education must be clearly understood. Whether the objectives are tuning old skills or mastering new teaching strategies, the bottom line is changing the way teachers perform in the classroom. Lawrence et al. reported that programs directed toward improving teachers' knowledge tend to be more successful than those directed toward teachers' performance, which in turn succeeded better than those attempting to modify teachers' attitudes (50, p. 13). His research further suggested that the success rate of inservice education programs was substantially higher when change in teaching behavior was measured. The success rate was not as high when subsequent change in pupil behavior was measured, however.

According to Nicholson et al. (59), changing teacher performance is easier proportionately than changing student performance and changing the performance of a group is easier than changing the performance of an individual teacher. In other studies of the impact of inservice education on teacher classroom behaviors, some researchers found a significant difference between pre- and posttest measures with regards to teacher perceptions of their own classroom behaviors and practices (82), while others found that the results indicated that inservice alone had little effect upon the perceptions of behaviors of experienced teachers (30). A different conclusion was drawn in other studies such as Reinehr's study (63) on motivation training and teacher behavior-change and Pinkall's study (60b) on the effects of inservice education on teachers and their students in their knowledge of scientific processes and content. Both found no significant difference between the experimental and control groups.

Findings from research on the impact and/or effectiveness of inservice education on teacher classroom performance and subsequently student performance provide a clear message: inservice education must address the needs of the building teachers; theory and practice should be combined; and finally, participation of teachers and principals in planning and training should be included.

Adult learners and inservice training

Given the problems of designing an effective inservice program, some educators have focused attention on human relations as the key element having an influence on the substance of inservice education. The focus of this subsection on inservice education is the adult learners and their motivation for learning.

According to Joyce and Shower, a positive message is embedded in research: "teachers are wonderful learners" (39, p. 389). Furthermore, research tells us adults learn best through concrete experiences where they apply what is being learned and in informal situations where social instruction take place (81, p. 374).

It seems that when learning is based on experiences, it is easier for adults to make the transfer between this reservoir of stored knowledge and skills to the new situation. Therefore, information related to adult learning warrants consideration when planning and conducting effective inservice education. Klopff (44, p. 14), Wood and Thompson (81, p. 376) summarized the nature of adult learning and change:

1. Establishing clarity of role expectation and needed competencies.

Adults want to be the origins of their own learning; that is, involved in selection of objectives, content, activities, and assessment in inservice education.

Adults will resist learning situations which they believe are an attack on their competence, thus the resistance to imposed inservice topics and activities.

Closely related, adults reject prescriptions by others for their learning, especially when what is prescribed is viewed as an attack on what they are presently doing.

Studies have shown that adults may reject new ideas and practices which are not concretely and obviously related to their own pragmatic goals. They develop a shield of protection and feel threatened if there is a vagueness about the role expectations.

2. Gaining new knowledge, concepts, and new techniques.

Adults tend to act and believe in certain set patterns until they are convinced of the significance and practicality of some new information or techniques.

On-the-job learning is best done through analysis of actual situations and specific events. Participation is important. Adults learn more readily when feeling and cognitive responses are elicited.

A didactic approach is suitable for certain information and for contrast when working with adults.

Adults need an informal and warm atmosphere.

Adults need to use the collective intelligence of their culture and society.

Adults tend to respond when the climate of learning respects their identity, their uniqueness, their person.

3. Experiencing and practicing new competencies.

Adult learners need to see the results of their efforts and have accurate feedback about progress toward their goals.

Adults come to any learning experience (inservice) with a wide range of previous experiences, knowledge, skills, self-direction, interests, and competence. Individualization, therefore, is appropriate for adults as well as children.

Adults should be encouraged to do self-analysis.

4. Developing an awareness of self.

Adult learning is ego-involved. Learning a new skill, technique, or concept may promote a positive or negative view of self. There is always fear of external judgment that they are less than adequate, which produces anxiety during new learning situations such as those presented in inservice training programs.

Adult learning is enhanced by behaviors and inservice that demonstrates respect, trust, and concern for the learner.

The emphasis is on becoming aware of one's professional performance and how this is determined by such factors as personal goals, strengths, needs, and beliefs.

The more one feels good about one's self, the less rigid and the more open to change one may be. The person who responds in defensive self-protective ways tends to resist change.

5. Commitment to learning and growth.

Adults will commit to learning something when the goals and objectives of the inservice are considered realistic and important to the learner, that is, job related and perceived as being immediately useful.

Adults will learn, retain, and use what they perceive is relevant to their personal and professional needs.

The most difficult tasks to break through are habitual and rigid reactions.

Adults are less willing to risk failure.

Adults are less enthusiastic and curious than children. They are not prone to rush into situations.

Adults need to anticipate high probability of success before they will initiate change.

Adults benefit from longer exposure to motivating factors because their reaction time is slower.

Adults tend to solve present problems in terms of what they have done or known in the past.

These facts about adult learners lend considerable support to the work of researchers on teacher motivation such as Herzberg - the job factor approach and Vroom - the expectancy approach (as cited in Silver, 70, p. 552). Although people are primarily motivated by their own needs, others can encourage and create conditions which will nurture what already exists in the adult. Sergiovanni stated the concept clearly:

Adult motivation for learning and doing one's job has two levels. One is to participate and do an adequate job. The second level is to become deeply involved, going beyond the minimum or norm. The first level of motivation comes as the result of good salary, fringe benefits, and fair treatment. The second builds on the first, but comes from recognition, achievement, and increased responsibility - the result of our behavior and not more dollars (as cited in Wood and Thompson, 81, p. 376).

It appears that the principal who recognizes that a key component of a successful school is a motivated teaching staff will also take the responsibility for teacher motivation. This means becoming the "motivation catalyst" in the school and the "significant other" in the lives of the teachers (57). The principal who is an effective motivator of teachers indicates by action and words that she/he has high expectations for herself/himself, teachers, and students and is willing and capable of trying to meet those high levels of expectation (2); has

positive attitude toward inservice (6); displays enthusiasm for his/her work, and works at substantiating teacher and student enthusiasm (57).

The effective delivery of inservice education does not depend solely on considerations given the nature of adult learners, nor the extent to which teachers are motivated, but also on an understanding of human communications. The ease (or difficulty) with which the principal is able to facilitate improvement of instruction via inservice and assume the leadership of teacher and student motivation is all a matter of style, communicating style.

Communicating styles

Communication is a key element in the delivery of teacher inservice training. Understanding how adults (teachers) process and communicate information is as important to the delivery of inservice training as is the understanding of student learning style to good teaching. Like individual differences among people, the possible variations in communicating styles are infinite. Some people must discover why something is true, some pride themselves as being correct, others must learn things by doing, etc. Communicating style, therefore, describes the way a person approaches his or her work or play ... and the style determines how one processes information about his/her world. To say that a person differs in communicating styles means that certain approaches are more effective than others for him or her. Research is providing important clues as to how people take in and process information.

The work of a Swiss psychoanalyst, Carl Jung, provided a framework for examining learning and communicating styles. Jung emphasized four

basic mental processes used by everyone, but preferred and developed in different combinations, and to different degrees, in fairly consistent ways. These are recognizable as personality types: sensor, feeler, thinker, and intuitor. Dunn and Reckinger (20, p. 76) summarized the various approaches of those who have applied the Jung's theory of personality type to education:

(1) Research on preferred ways of perceiving the world and making decisions (Myers-Briggs); (2) use of personality types in planning instruction and understanding teaching styles (Lawrence); (3) study of personality types as learners, teachers, and managers (Keirsey and Bates); and (4) overview of personality type of the effective teacher and administrator, learning ability of students, and teaching styles (Hoffman and Betkowski).

The most important outcome of the application of Jung's theory of education has been the identification of four major communicating styles which parallel learning styles. Beginning with the learning style, Kolb (45) identified two dimensions of how people learn: perceiving and processing. He posited that:

people perceive information along a continuum from concrete to abstract - some people process by reflecting and watching while others jump right in and try it.

It is important to note that the methods of perceiving and processing are equally valuable, and when they are put side by side or close together, four learning styles emerge. Kolb described them as:

Type one learners (reflective sensor-feelers) perceive concretely with their senses and feelings, and process reflectively by watching.

Type two learners (reflective thinkers) perceive with their intellect and process reflectively, by watching.

Type three learners (thinking doers) perceive with their intellect and process by doing.

Type four learners (sensor-feelers) perceive concretely with their senses and feelings, and process actively, by doing (50).

The Communicating Style Model, based on Jung's theories and developed by Mok (cited in 56) is similar to the Learning Style Model. According to Mok and Lynch (56), there are four basic styles of human communication based on behavioral functions: intuiting, thinking, feeling, and sensing. Simon and Byram (71) translated Mok's industrial model for use in school settings. They posited that:

Everyone sees the world through the window of his/her own personality. The windows and screens people use determine how they process information about their world - how they take in what is happening, how they give it meaning and how they send out information to other people. These windows and screens are called communicating styles forming the basic way people interact with other people - one's communicating style is reflected in one's behavior.

Each of these styles is based on one of the four basic human functions:

1. Feeling - personal and emotional reactions to experience - high concern for people.
2. Intuitive - imagination and abstract thought.
3. Thinking - organizing and analyzing information in logical fashion.
4. Sensing - translating ideas and opportunities into action.

There are five basic assumptions underlying the communicating styles theory Mok and Lynch (56); Simon and Byram (71); Bledsoe (8).

Everyone uses a blend of the four communication styles.

Most people operate in one style most of the time, primary style. The next most often used style is the back-up style.

Styles are reflected in behaviors and are therefore observable and identifiable.

People are most receptive to a style that is similar to their own primary or back-up styles.

It is possible to temporarily adapt or modify one's own primary style to match that of another. This ability to shift to a style different from one's own primary style is called Style-flex.

What does this have to do with principals delivering inservice training to their teachers, or teachers teaching children? During inservice training, the principal becomes the teacher and the teachers become the learners. Therefore, if principals understand the strengths and liabilities of their predominant style(s) and master the skills to "flex" at will to a more appropriate style, they can better communicate with their teachers. Since style is the way a person approaches his/her work, teachers will be most receptive to a communication approach that is similar to their own primary style. There is obviously a need to have both the principal (teacher) and teachers (learners) on the same wavelength during inservice training if teachers are to in turn change their behaviors in the classroom. According to Simon and Byram (71, p. 63), teachers must likewise assess their styles, their students' style and change their behaviors, activities, lesson plans, and tests to more effectively communicate with all four styles of children.

Building administrators also need to know the communicating styles most natural for their staff in order to help them to find ways of expanding their repertoire to match learning and teacher styles. In fact, Simon and Byram unequivocally stated that:

differences among people can be seen either as potential sources for conflict, or by looking at the various styles, can be potential sources for human enrichment.

In summary, this section of the literature review focused on inservice education as a structured program of learning activities designed to improve on-the-job performance. Researchers tend to agree that the trends in teacher inservice education indicate a shift to local responsibility, to school-based sites, and toward active involvement of the building principal in planning and delivery. Researchers also agree that effective schools have principals who are strong instructional leaders. While most principals believe they are instructional leaders, they also feel ill-prepared for this role and, therefore, actively seek inservice training for themselves. The effectiveness of inservice training in changing teacher classroom behaviors and ultimately student learning depends upon the level of impact, components of the program, attention to the nature of adult learners, and finally, the way in which people process information and communicate it to others (communicating - teaching/learning styles).

Motivational Concepts

This section of the review of the literature focuses on student motivation to learn - the ultimate outcome of an effective teacher inservice training program delivered by the building principal. The review includes three subsections:

1. General Overview of Motivation
2. Student Motivational Concepts
3. Teacher Motivational Concepts

General overview of motivation

Motivating students to learn continues to be a major educational problem, although a considerable amount of research has been done on the subject. In assessing earlier efforts, Hilgard, 1964, pointed out that no direct relationship between theory and application had been established (as cited in Russell, 68, p. 2). It appears that this assessment made by Hilgard is no longer true because the literature is replete with a variety of studies done in the complex atmosphere of classrooms filled with human subjects. But as Ball (3, p. 189) and Keller, Kelley and Dodge (40, p. 70) pointed out, researchers have usually dealt with one or two variables at a time as opposed to an integrated approach to the study of student academic motivation. This subsection focuses on (1) definitions of terms; (2) theories of motivation; and (3) mythology and problems of motivation and learning.

Definition of terms

As one might expect, there are a variety of ways to define motivation. Each researcher or writer has his/her own definition. Hunter (38), for example, described motivation as,

the state within the learner which activates the learner to satisfy a need or desire.

Ball (3, p. 2) and Wlodkowski (80, p. 12), defined motivation as:

those processes that can arouse and instigate behavior: give direction and purpose to behavior; continue to allow behavior to persist; and had led to choosing or preferring a particular behavior.

Wlodkowski maintains there is a sequential pattern of motivation in

learning:

Energy → Volition → Direction → Involvement → Completion
Energy (capacity to act) → volition (choice) → direction (certain purposes) → involvement (when continued) → completion (finishing the learning task). For example, a student opens the book, decides to do 10 math problems in order to practice division skills, and works through the 10 problems until finished. This, he argued, is a demonstration of the continuous process that student motivation involves.

Other researchers and authors offered the following definitions. Russell (68) defined motivation as having a presumed internal force that energizes for action, and determines the direction of that action. To Hawley and Hawley (34, p. 5), motivation is two dimensional: personal-social and task. They believe while the personal-social dimension of motivation encompasses general attitudes toward learning, the task dimension refers to the specific learning to be accomplished. Furthermore, motivation towards a specific task may be the result of the intrinsic meaning which that task holds for the individual, or it may be caused by some extrinsic incentive such as a reward or punishment associated with accomplishing the task.

According to Frymier (25a, p. 16), motivation to learn in school is that which gives direction and intensity to student's behavior in a school situation. He explained that motivation is an inferred construct; direction implies selection from possible variations in purpose or goals, and intensity implies possible variations in degrees of effort or energy put forth to obtain goals.

For the purpose of this study, the term academic motivation will be used to describe an integrated approach to understanding motivation for learning.

Keller, Kelly and Dodge (40, p. 70) defined academic motivation as:

an umbrella concept which covers those aspects of a person, other than ability, which determines the person's performance in an academic setting. Some of the single variables (constructs) which form academic motivation are: attitudes, needs, curiosity, anxiety, values, and expectancies.

Although there is a considerable amount of research dealing with constructs (concepts) of motivation in education, little has been done to integrate the individual variables into a single construct (55). However, as Ball (3, p. 189) reviewed the individual constructs, he noted some relationship between anxiety and curiosity, between locus of control and need for achievement, between need for achievement and social pressures in the classroom.

Theories of motivation

A natural approach to the study of motivation is to look at theories which could be used to clarify and understand previous research and to guide continuing investigation of the topic. Although many different theories of human learning have been formulated, only three types were reviewed. Klausmeier et al. (43) provided an insightful review and synthesis of these three motivational theories:

1. The Associative Theory - learning by association. Key concepts derived from this theory were: trial and error learning (Thomdike), conditioning by reinforcement (Hull) and operant conditioning (Skinner).

As Klausmeier pointed out, reinforcement was assigned a key role in

learning and motivation by the associative theorists, but they generally presented an objective, experimental orientation. Much of their early supportive research for those theories was conducted with lower organisms in simple learning situations on the assumption that the behavioral principles and processes that were discussed operated with equal significance in the behavior of humans (43, p. 130). In education today, programmed learning machines incorporate Skinner's prescriptions for positive reinforcement and no punishment.

2. The Cognitive Theory. The cognitive theorists reject the older biological model of motivation with its emphasis on primary drive. Instead, they emphasize the ability of individuals to think and initiate, direct, control, and interpret their own activities (43).

Ericksen (23, p. 17) pointed out that in cognitive theory, attention is directed to how the individual perceives the relations between the parts and the whole. He added, "cognitive theorists insist that learning be distinguished from performance: learning is the central organization of mental events such as knowledge and cognition that can be drawn upon when external conditions make it expedient to perform". Therefore, learning does not depend on motivation; performance does. Motivation is important primarily as the means of bringing centrally stored information into use.

Klausmeier discussed a range of concepts that grew out of the cognitive theory: competence motivation which focuses on the intrinsic need to learn and achieve, to cope with and master the environment (White); curiosity as an intrinsic motive (Berlyne) expectations, plans, and goals (Miller, Galanter and Rribrarn); achievement motive to attain

success and to avoid failure (Atkinson); and social-personality variables such as cognitive drive, ego enhancement, and need for affiliation (Ausubel and Robinson).

3. Humanistic Theory. These theorists stressed the value of intrinsic satisfaction. They believe that human needs start with the biological/physiological drives and carry through a hierarchy of social needs to the top level - the need for self-actualization (43).

These theorists (Maslow and Rogers) represent a far more holistic approach to understanding human behavior than most motivational theorists, affirms Klausmeier et al. (43, p. 142).

Klausmeier's review of motivational theories led him to conclude:

Teachers and school personnel must be able to relate motivational principles not only to the learning of specific subject matter but to the acquisition of appropriate values and attitudes relevant to the school environment and the larger social system as well (p. 146).

There appeared to be many differences of theoretical positions which explain motivation; therefore, only those findings having the most practical application to the classroom were exacted from research.

Wlodkowski (79, p. 7) summarized the current trends in motivation skillfully:

Probably the most significant change in motivation theory has been the general acceptance that human beings of all ages are continuously active and do not rely on external prodding or stimulation to instigate their behavior. For teachers, this implies that students are continuously motivated, if not necessarily to learn, certainly to act on a regular and constant basis. Therefore, educators may want to consider the direction and guidance of learners, as well as their volition and perseverance toward learning as the major challenges of present-day teaching.

Mythology and problems of motivation and learning

Motivation is a multi-faceted process. Basic to this process are such criteria as internal forces, need and desire, energy for action, purpose and direction. According to Ball (3), there are problems associated with the understanding of motivation. He described them as,

1. A person's motivation cannot be observed, only the behavior and the environment in which a person is active. Therefore, motivation for the person's behavior is something that's inferred.
2. People and their behaviors as they interact with their environment can only be described, not explained.
3. Motivation is one set of elements in the web of factors determining behavior. Whether a child does well in school is partly the function of motivation forces as well as partly a function of innate and learned abilities.
4. Motivation involves many processes ... no current theory can provide a full picture of motivation in education.
5. The matter of values is involved, for when teachers develop children's motivations, they affect the kinds of people they become and the society they live in.

Other researchers have also referred to the complexity of understanding motivation. For example, Wlodkowski (80, p. 13) has identified myths that are related to motivation which have negative consequences for both teachers and students:

Myth 1: When students will not involve themselves in activities or do assigned tasks, they are unmotivated.

Wlodkowski responded by suggesting that the students may not be motivated to learn, but they are motivated to do something. This condition implies that the motivational problem may have something to do with student volition or proper direction of energy or continued involvement.

Myth 2: Teachers motivate students.

Not true, countered Wlodkowski. In fact, no one motivates anyone. Students can be influenced and affected by teachers, but they cannot be directly motivated. Russell (68, p. 3) agreed. Motivation may be created from the teaching process and built upon by successful experiences.

Myth 3: Since students have to learn in order to survive, making them learn is more important than having them motivated to learn.

No doubt some students can be coerced into doing learning tasks explained Wlodkowski, but their learning has been associated with threat and coercion thus making the classroom and its associated tasks a stimulus for physical withdrawal. Thus, 'making' a student learn appears to have severe long-range effects.

Myth 4: Threat can facilitate motivation to learn.

Wlodkowski responded to this myth with reference to the teacher threat/student resentment cycle with a likely spin-off of tension and discipline.

Myth 5: Learning automatically improves with increased student motivation.

There is no conclusive evidence to support the intuitive notion that motivation enhances learning, argued Wlodkowski. Since there are many factors affecting motivation - type of learning, type of tasks, type of setting, cognitive style of the learner - at this time, motivation appears to be a necessary, but not a sufficient condition for learning.

Student motivational concepts

It is generally accepted among educators that students also play a role in motivation. They bring their attitudes, expectancies and behaviors to the learning activities. Four of the motivational concepts influencing student academic motivation were reviewed: locus of control, need for academic achievement, academic self-concept, and intrinsic motivation.

Locus of control

The concept of locus of control can be seen in many aspects of life because as Keller, Kelly and Dodge (40, p. 22) explained:

Locus of control refers to a person's expectancy regarding the controlling influences on personal successes and failures.

At one extreme (internal), individuals think of themselves as being responsible for their own behavior (24, p. 45), which means they tend to assume that good grades, friends, promotions and other reinforcements are most likely to result from personal effort and initiative, explained Keller, Kelly and Dodge (40). At the other extreme (external), individuals see others or luck or circumstances beyond their control as responsible for their behavior (24, p. 45). Keller, Kelly and Dodge stated that these externally-oriented people tend to believe that irrespective of their efforts, other forces control the beneficial consequences.

As indicated in the review of literature by Keller, Kelly and Dodge (40) and Fanelli (24), locus of control has been widely researched in several respects. The theory was postulated by Rotter, in the sixties,

as a social learning theory suggesting that a person enters a situation with expectancies concerning the probable outcomes of his possible behaviors (24, p. 46). According to Fanelli (24), the relationship between locus of control and achievement is evidenced in studies conducted by Weiner and Kukla (1970) in which they found that high need for achievement subjects, when given the choice of task with high, medium, or low probabilities of success, tended to select tasks that had a medium probability of success. It appears that a person's perception of his/her own responsibility influences the affect that might be associated with the attainment of goals. Fanelli (24, p. 56) also reported Karabenick, 1972, found that success and failure are more important to internals than to externals. deCharms noted that a significant factor in achievement motivation studies may be the student's perception of locus of control. His research in training children to develop personality responsibility and controls from within through methods which included goal-setting, self-evaluation, and competition with self-standards has led to increased motivation and academic achievement (as cited in Wlodkowski, 79, p. 14).

Fanelli (24) also reviewed studies which focused on teacher-student relationship as perceived by teachers and their internal/external students. He found that teachers tended to attribute more negative characteristics to external students and that external students described their teachers more negatively than did internal students.

Need for academic achievement

The need for achievement has been the most studied and researched area among the motivational constructs (concepts), thus providing a considerable body of knowledge that is clear and consistent.

Achievement motivation has been defined by Wlodkowski (79, p. 12) as:

the processing of planning and striving for excellence and progress; doing things better, faster, more efficiently; doing something unique - competing.

He pointed out that need for achievement is not inferred from the accomplishment per se, but from the display of achievement motivation.

As Vidler pointed out (73, p. 7), much of the research in this area sprang from the work of McClelland, who developed a highly reliable technique for analyzing and scoring measures for achievement motivation.

According to Keller, Kelly and Dodge (40, p. 11), much is known about the characteristics of persons who have high need for achievement.

They reported in their review of the literature that:

High need for achievement (nAch) - persons prefer situations where there is some risk of failure, or in other terms, there is a moderate probability of success (Atkinson, 1974).

Intrinsic reinforcement of success itself, rather than extrinsic rewards is the key factor in the motivation of these persons (Atkinson and Reitman, 1956; McClelland, 1976).

They tend to make realistic vocational choices (Mahone, 1960; Morris, 1966).

They prefer situations where they have, or perceive themselves to have, personal control over the outcomes of their efforts (Heckhauser, 1967; Weiner, 1972).

It appears, on the surface, that one can conclude from the research that achievement motivation training increased student motivation and,

thus, raised academic achievement. However, some researchers disagreed with this point, including McClelland. He argued:

It seems entirely possible that achievement motivation training is effective in the classroom without affecting much the level of achievement motivation in the students - it helps the teacher to improve classroom management techniques, and these in turn improve school learning by getting more attention, participation, and accountability from the students (as cited in Wlodkowski, 79, p. 14).

This conclusion is supported by Alschuler (1973) and deCharms (1976).

Alschuler provided a useful summary:

Since the ultimate purpose of schooling is to teach students knowledge, skills, values, and feelings that help them live more effective, mature adults lives, the general findings indicating more purposeful planning and action outside of school is most encouraging even when there is little evidence for increased grades in school (as cited in Vidler, 73, p. 85).

Academic self-concept

Students tend to act in ways that are consistent with their image of themselves. Combs and Rogers have written that the maintenance and enhancement of the perceived self are the motives behind all behaviors (as cited in Wlodkowski, 80, p. 48). The issue of academic self-concept has been addressed by Wlodkowski (80, p. 48):

when the attitude toward the self with respect to learning is positive, the student develops a success-oriented personality which looks for ways to learn. When the attitude toward the self with respect to learning is negative, the student develops a failure-oriented personality which looks for ways to fail. In both ways, the student is attempting to be consistent with his/her academic self-image.

Coopersmith agreed. He reported that a student's success in school is dramatically affected by his/her sense of self-esteem. Others have found that self-concept of having ability is a significant factor in school achievement (as cited in Wlodkowski, 79, p. 10).

Another study reviewed by Wlodkowski concerns Seligman's concept of learned helplessness, which seems to show a relationship between the negative self-esteem and low achievement and poor motivation. Seligman maintained that children can learn to be helpless in school, to believe that nothing that they do will be right. He states "Intelligence, no matter how low cannot manifest itself if the child believes that his own actions will have no effect" (as cited in Wlodkowski, 79, p. 11). It was further pointed out by Wlodkowski (79, p. 11) that students with such a mental set will view teachers as symbols of subjects and situations in which they "don't have a chance". Braun (1976) looked at the issue from the other side; he found that low students' expectations help perpetuate the low expectations of teachers (as cited in Good and Brophy, 28, p. 79).

The research, then, points to a basic assumption: teachers can do much to help students to improve their academic self-concept through successful learning experiences, thus improving their motivation to learn. It also appears that teachers must carefully monitor their expectations of students so as not to perpetuate a negative mental set.

Intrinsic motivation

Researchers and educators agree that the strongest motive for learning is the individual's inner desire to learn. After reviewing several approaches to the study of intrinsic motivation, Deci (15) postulated that:

intrinsically motivated behaviors are those which a person engages in to feel competent and self-determining in dealing with his/her environment.

He explained two types of behavior which are intrinsically motivated. The first involves seeking out situations which provides the person with challenge. This challenge will be one in which the person has the ability to deal. The second type of intrinsically motivated behaviors are ones which involves conquering challenges encountered or created. This includes behaviors which are generally said to involve dissonance reduction, reduction of uncertainty, or reduction of incongruity. Whatever the reason for the behavior, the reward is the internal state which is brought about by the behavior.

Deci's model of intrinsic motivation further suggests that energy for the behavior comes from "an awareness of potential satisfaction". Thus, when the goal has been achieved, reward follows which in turn provides satisfaction.

Hawley and Hawley (34) carried the definition further and stated that the strongest motive for learning is the intrinsic meaning of the task, its personal value for the individual. They contended that educators have become masters at dispensing information and less adept at the second half of the learning equation, the individual's recognition of the personal meaning of the information. Personal meaning develops when the information touches the learner's life in some significant way so that the information is integrated into the totality of the learner's personality. This discovery of personal meaning leads to understanding and to true knowledge.

In the mid-seventies, after a review of the literature, Deci (15) reported there was very little experimental evidence on the relative

effectiveness of intrinsic vs. extrinsic motivation in education. However, he cited findings of studies which reported:

There tends to be a negative relationship between the amount of extrinsic reward an individual receives for engaging in an activity and the amount of intrinsic motivation s/he has for the activities.

Extrinsic rewards decrease intrinsic motivation in many situations, though positive verbal feedback increased intrinsic motivation in one study.

When rewards are contingent on performance, they are more likely to decrease intrinsic motivation.

Deci (15) concluded that rewards can affect intrinsic motivation when there is a change in perceived locus of causality process and a change in feelings of competence and self-determination process.

It appears that the implications and applications of the intrinsic motivational concept to education are clear: children are intrinsically motivated to learn (15); they need opportunities to examine their environment, explore new objects/ideas, and seek new experiences (44); and finally, they need to be moved from dependence upon external reinforcements (which sometimes interfere with the learning) to intrinsic reinforcement which can lead students into a love of learning (68).

deCharms' study (14) of Personal Causation for Learning supports these implications. He found significant change in students on origin-pawn variables after the Personal Causation Training. The changes were reflected in student's internal control, goal setting, instrumental activity, reality perception, personal responsibility, and self-confidence.

Teacher motivational concepts

If the purpose of inservice training is to improve teacher classroom performance, then it stands to reason that the content of an inservice program must reflect those areas in need of improvement in order to ensure progress toward achieving goals. In the review of literature on teacher behavior, Rosenshine and Furst (65) asserted that the instructional behavior manifested by a teacher in the classroom influences student growth. Kounin's (47) study of the role of the teacher in affecting motivation found task attributes of teachers to be more solvent than their personal attributes. What teachers do in the classroom makes a difference in student motivation for learning. This section of the literature review focused on ten motivational concepts identified as the bases for teacher inservice training to facilitate student motivation for learning. The motivational concepts reviewed were: 1) Teacher Expectations, 2) Enthusiasm, 3) Interest, 4) Goal-setting, 5) Focus Student Attention, 6) Level of Concern, 7) Feeling Tone, 8) Success, 9) Knowledge of Results/Feedback, and 10) Reward.

Teacher expectations

There are two basic assumptions underlying teacher expectations: (1) one's expectations affect the way s/he behaves in situations, and the way s/he behaves affects how other people respond. (2) A human being often behaves on the basis of the expectations of significant others. The classic research of Rosenthal and Jacobson (67) followed by Good and Brophy (28) and Kerman (42) supports these assumptions. They concluded that teacher expectations are a powerful determinant of

student performance; that expectations often function as self-fulfilling prophecies.

Rosenthal and Jacobson (67) tried to manipulate teacher's expectations for student achievement to see if their expectations would be fulfilled. They concluded that the expectations teachers created for their children somehow caused them to treat students differently, so the children did do better by the end of the year. As Rosenthal (66) explained, teachers who have been led to expect good things from their students appear to:

- give more feedback to these students about their performance.

- create a warmer social-emotional mood around their "special" students.

- teach more material and more difficult material to their special students.

- give their special students more opportunities to respond and question.

According to Wlodkowski (79, p. 16), high teacher expectations are related to increased student motivation for learning. But, Good and Brophy (28) found that appropriate teacher expectations, rather than necessarily high expectations, followed by appropriate behavior are more effective. For example, planning learning experiences that take students at their present levels and move them along at a pace they can handle is the preferred teacher strategy.

The model for relationship between teacher expectations and student behavior posited by Good and Brophy (28) takes on a slightly different flavor from that of Rosenthal and Jacobson. Good writes:

teacher expectations are translated into teacher behaviors which are then communicated to students. The impact shapes student behavior which affects student self-concept, academic motivation and level of aspiration.

Classroom life is an uneven affair - some students receive much more teacher contact than others, concluded Good and Brophy (27). Their research indicates different students regularly receive differential treatment from their teachers, and at times such teacher behavior is inappropriate. They discovered that students perceived as high achievers were being given response opportunities three to four times more frequently than those perceived as low achievers.

According to Kerman (42), extensive research shows that teacher interaction with students perceived as low achievers is less motivating and less supportive than interaction with students perceived as high achievers. The message is clear, teacher attitudes and expectations lead to treatment of students differently which leads to self-fulfilling prophecy. Good and Brophy explained that:

low expectations and an attitude of futility communicated lead to erosion of student's confidence and motivation for school learning which confirms student's sense of hopelessness and cause them to fail. High expectations and an attitude of productiveness communicated lead to building of student's confidence and motivation for learning which confirms student's sense of pride and worth and cause them to succeed (28).

Kerman (42) conducted a three year experimental study which dealt with the effects of teacher expectations on student achievement. Approximately 742 teachers participated in the study. Inservice training for the experimental groups focused on the use of the Equal Opportunity in the Classroom Interaction Model which identified fifteen separate

interactions recognized as supporting and motivating, yet teachers practiced them in the classroom with high achievers more frequently than lows. Kerman concluded that inservice training made a difference in teacher behaviors because low achievers in the experimental class showed statistically significant academic gain over their counterparts in the control classes. Other changes were significant reduction in absenteeism and discipline referral.

Although there has been criticism raised regarding the expectancy in the classroom theory, there appears to be sufficient supporting research to accept the notion that students will be more highly motivated when teachers have appropriate expectations about individual students.

Enthusiasm

Since much human behavior is learned by watching others, teachers who model enthusiasm for the subject matter and convey an excitement about teaching stand the chance of having students model that behavior. Collins (13) reported that a considerable body of evidence has been accumulated supporting the role of enthusiasm in quality teaching. She cited several studies reviewed by Rosenshine, 1970, which supported the following conclusions about teacher enthusiasm:

It is related to learning at all levels; it produced comprehension gains, increases recall, improves anxiety, and increases divergent thinking (Solomon, Bezdek and Rosenberg, 1963; Coat and Smidehens, 1966; Mastin, 1963; and Wallen, 1966).

In studies subsequently reviewed by Rosenshine and Furst (65), the enthusiastic teacher was described as one with a great sense of commit-

ment, excitement, and involvement with the subject matter. They presented lessons in imaginative and stimulating ways; and their students seemed responsive and appeared to enjoy the learning.

The research clearly indicates a strong relationship between teacher enthusiasm and student achievement. The intervening variable is motivation. The question, then, is can teacher enthusiasm be developed? Research by Collins (13) supports the theory that it can. She identified eight teaching behaviors from earlier studies that comprise teacher enthusiasm, then developed and tested a training program for them. Collins concluded that the experimental group demonstrated a significant increase in enthusiasm measured by vocal delivery, eye contact, gestures, body movements, facial expression, word selection, acceptance of ideas and feelings, and overall energy level.

Good and Brophy (28) suggested two major aspects of enthusiasm: (1) the ability to convey sincere interest in the subject, which involves modeling enthusiasm in the process of teaching, and (2) vigor or dynamics through voice and manner.

Other researchers, Bettencourt (7), Gillett (26), and Allen (1) have extended Collins' work. Bettencourt found no difference in achievement between the experimental and control groups. Both learned equally well, as measured by their gains on an achievement test administered before and after. On the other hand, Gillett's study provided clear evidence that enthusiasm training for teachers had an immediate effect on students by increasing their attentiveness to instruction 86% of the time after teachers were trained as opposed to

75% of the time prior to training. Allen's study took a slightly different focus. He used Collins' descriptors for rating teacher enthusiasm and five student factors known to influence student achievement. Teacher enthusiasm rating was correlated with the score from the five student factors: interest in school, interest in subject, achievement motivation, student attendance, and how students feel about their vocational instructors. Allen reported finding only one factor, the students' rating of their vocational instructor, exhibiting a small but significant relationship to teaching enthusiasm.

Cruickshank findings supported the research of others and was summarized in this manner:

It has been found that all things being equal, a teacher who presents materials with appropriate gestures, animation, and eye contact will have students who achieve better on tests than will the teacher who does not gesture, reads in a monotone, and generally behaves in an unenthusiastic manner (as cited in PAR, 61, p. 1).

Interests

Getting students interested in their work is one of the most common problems of teaching. So, over and over again teachers ask the same question, how can this lesson be presented to interest the students? A helpful way to begin answering this question is to define interests. The term is used in many ways; however, its use in relation to motivation has been defined in the following ways:

Interest is the student's mental and emotional willingness to get involved in the learning process (Włodkowski, 80), and the cultivation of enthusiasm for a lesson or task (Hunter, 38).

In his definition of interests, Russell (68) discusses how interests are assessed. He wrote, interests are:

inferred from what a person does and seems to enjoy (manifest interest);

assessed from questions asking what activities are liked and disliked (expressed interests); and

measured by placing various activities against each other and asking persons to select one or the other (inventoried interests).

As one might expect, a person's interests may vary considerably, depending upon which method is used to determine the interest at a given time in one's life. Rust (69, p. 132) shared yet another definition of interests. He contended:

Interests refer to the patterns of choice among alternatives - patterns that demonstrate some stability over time and that do not appear to result from external pressures.

Rust carried the definition further by suggesting that interests are constructs that permit a variety of predictions about people's behaviors. Teachers, according to Rust, can determine what students' interests are and predict which items or activities they will favor among a set of alternatives, how long they will spend with them, how frequently the behaviors will occur, and how much (if any) external reinforcement will be necessary to sustain a particular activity. In view of these definitions, what are the implications for teachers using interests as a motivational concept in the classroom? People are motivated to do the things that interest them. If teachers can increase a child's interest, his/her motivation will increase.

Researchers such as Hunter (38), Rust (69), Wlodkowski (79), and Good and Brophy (28) noted their perceptions of effective teacher behaviors for influencing the interests of students in the following manner:

Teacher Behaviors	
Hunter (p. 21)	<p>Uses a novel approach to the lesson.</p> <p>Makes the learning more meaningful by including something about the learner in the content being taught.</p>
Rust (p. 143)	<p>Associates student existing interest with the individual one.</p> <p>Shapes student's interest through identification and modeling.</p> <p>Selects materials of appropriate interest to students.</p>
Wlodkowski (p. 95)	<p>Guarantees success and pleasure at the beginning of any new learning experience.</p> <p>Finds out what student interests are and relates learning to them.</p> <p>Uses humor, examples, analogies, stories, and questions to facilitate the active participation of each student in the class.</p> <p>Makes student reaction and involvement an essential part of the learning process, when possible.</p>
Good and Brophy (p. 143)	<p>Shows interest in the student but avoids inappropriate or over-dramatized praise of student work.</p> <p>Adapts materials to student interest/ability.</p>

Therefore, the teacher who is interested in the subject taught and has a sound knowledge of students' interests will be able to plan activities to heighten interest, thus facilitating student motivation for learning.

Goal-setting

The motivational principles underlying the goal-setting concept have been advocated by the cognitive theorists who put great stock in the ability of individuals to think about and initiate, direct, control and interpret their own activities. Thus, goal-setting has become fairly well-accepted among educators, as an effective motivating factor in learning (18). Klausmeier et al. (43, p. 5) defined goal-setting as:

first identifying and then intending to attain some state of affairs at a specific future time.

Simply stated, goal-setting is specifying an end to be attained by or for oneself at a specified future time. This means having a say in changing one's environment. White, a cognitive theorist, postulated that the feeling of competence and mastery over one's environment serves as a potent human motivator (77). An intrinsic satisfaction is the result of having successfully dealt with, and perhaps changed some environmental event. Similar motivational principles have been highly acclaimed by researchers such as deCharms in his "Personal Causation Study" (14) and Klausmeier et al. in their study of "Individually Guided Motivation through Goal-Setting Conferences" (43).

The underlying objective of deCharms' work was to train children to cope with external forces in the environment and to convert the fate

control held at first by others (Pawn - externally motivated) into personal fate control (Origin - internally motivated) -- thus, a personal causation for learning. In short, teachers were trained in motivation enhancing techniques, with special emphasis on treating students as "origins". A group of their students were followed from the end of the fifth grade until they completed eighth grade. At the conclusion of this longitudinal study, deCharms reported:

realistic goal-setting behavior, a variable that is thought to be an integral part of the Origin - Pawn concept, was enhanced by the training, especially in the external locus of control students who without the training showed the greatest propensity to be unrealistic (deCharms, 14, p. 104).

The Individual Goal-Setting Conference construct developed by Klausmeier et al. (43) includes the use of four motivational principles: focusing attention, goal-setting, feedback and reinforcement. Quilling et al. (62, p. 23) conducted a field-test study of this concept. The two phases focused on: (1) training teachers in motivational techniques, planning and organizational procedures related to a goal-setting conference, and (2) application of motivational principles in goal-setting conferences during a 20-week period. They found that children who participated in goal-setting conferences with their teachers showed, in most cases, positive and rather dramatic gains in skill attainment during the periods when conferences were held. Rate of attainment during the periods when conferences were discontinued after eight weeks remained high in relation to the preconference or baseline period. The evidence clearly showed that these procedures are effective techniques for improving student motivation to learn, and ultimately for enhancing student achievement.

Like Klausmeier and others, Hannafin (31) has inferred from his research that individually-set goals were attained more often by students than those set by their teachers. His research showed that students who set their own goals also had better attitudes and higher evaluations. Kennedy (41) agreed. She found that middle- and high-achieving students who set their own goals in arithmetic, learned and remembered more arithmetic than did children of the same achievement level who did not set goals. They surpassed children whose objectives had been set by the teacher. On the other hand, low-achieving children did better when the teacher did the selecting and suggesting.

Wlodkowski's (79, p. 54) research ties the goal-setting teaching strategy to the expectancy of success theory. He saw goal-setting as a method of bringing the future into the present which allows the student to become aware of what is necessary to do in order to have a successful learning experience. But certain criteria are to be met and planned with students prior to goal-setting according to Wlodkowski (79, p. 55). The teacher begins this process by modeling goal-setting behavior when she/he sets objectives and standards of excellence for themselves and the class, and then communicates this information to the students. According to Russell (68, p. 85), the act of goal-setting should be made to stand out in the awareness of the student. When teachers model goal-setting behaviors in the classroom, students can see the importance of this activity. Thus, the process of involving students begins with class participation in developing goals for each unit of learning. Later, the teacher can work with individual students in setting goals.

Those who advocate goal-setting as a motivational concept also point out that in order for goal-setting to work well for all children in a school, many instructional conditions and criteria are required. The conditions and criteria were summarized by Klausmeier and Wlodowski:

teacher willingness to structure learning tasks to include goal-setting.

a variety of instructional materials.

learning activities of varying levels of difficulties.

easily accessible assistance.

frequent monitoring of progress.

What is the payoff? Russell (68, p. 85) says teachers who have directed their own behavior to shape student goal-setting are likely to observe that:

students enjoy helping to decide what they are to achieve.

there is consistent improvement in goal-setting effectiveness as more opportunities are provided.

students tend to become more realistic in assessing their own potentials for success.

work intensifies in the pursuit of self-selected goals.

students improve in their ability to evaluate their own accomplishments.

Russell carries his analysis further and sums the issue clearly (68, p. 98):

setting goals and standards of excellence for themselves increases students' motivation for achievement.

Focusing student attention

The motivational principle underlying the teacher behavior of focusing student attention on desired objectives was described by Klausmeier et al. (43, p. 3) as:

attending to a learning task is essential for initiating a learning sequence.

In short, teachers must use various sensory appeals as well as manipulate things in the school environment in order to focus and hold student attention. The teacher must behave in ways that make students attend at all times. Kounin's (47) research suggested that the most successful way to handle situational inattention and distraction is to prevent it from happening, or if it does occur, check it before it spreads and becomes more serious (as cited in Good and Brophy, 28, p. 185).

Wlodkowski (79), Klausmeier et al. (43), and Good and Brophy (28) agreed that focusing and maintaining student attention are basic classroom management skills that teachers use to facilitate student motivation to learn. Appropriate teacher behaviors are stated in this manner:

The teacher expects each student's full attention, employs basic attraction techniques, creates an expectancy for the idea, experience or information, relates the new topic or learning activity to current student interests, and involves students in the learning process.

An examination of specific studies on focusing attention revealed that the use of student interests to develop "learning starters" (52), as well as "surprise" and conceptual conflict (74) were both effective techniques for facilitating student motivation to learn. As Hunter (38) noted, setting the stage for learning is an essential teacher behavior at the beginning of the lesson, but monitoring attention during the

lesson is equally important, both to see if students are paying attention and to note signs of confusion or difficulty (28).

Level of concern

The level of concern is the anxiety level created by the teacher (38), and anxiety, as defined by Keller, Kelly and Dodge (40, p. 53), is an unpleasant feeling resulting from a perceived threat in the environment.

Many educators and researchers have raised the question of whether anxiety is helpful or hurtful. Some people seem to think that raising student level of concern is an undesirable teaching behavior, while others argue that a certain amount of tension or concern is essential to motivation. Hunter is one of those researchers/educators who argued that learners are motivated to do something they are concerned about, no tension or concern - no motivation. According to Hunter, teachers can use this motivating concept effectively when they understand that:

each of us has an optimal level of concern that motivates us to greater effort or higher performance. If the tension is too high, it interferes with motivation. The learner is likely to be frustrated and unwilling to try. If the level of concern is too low, the learner is likely to be unconcerned. Finally, there is no one correct level, the optimal level of concern varies with each learner.

In a study conducted by Alpert and Haber, 1960, evidence indicated that many people work best under the pressure of deadlines or testing situations; for them the anxiety felt is facilitating. However, for others, the effect is debilitating, and they don't do well in those situations (as cited in Keller, Kelly and Dodge, 40, p. 54). Hunter (38) argued that tension increases motivation up to a point and beyond

that point, the learner must use some of his/her energy to handle the tension. Consequently, there is less energy devoted to the learning tasks. Hansen (32, p. 106) has argued that since it is the experience of failure within the school that is often associated with increased anxiety, the school should be organized to minimize the opportunities for failure and to give each child opportunities for feelings of success.

There is some evidence that a child who is anxious will not do his/her best in school. Keller, Kelly and Dodge (40, p. 55) summarized major findings from studies by Hansen (1977), Gaudry and Spielberger (1971), and Spielberger et al. (1972). They reported:

There is a negative relationship between anxiety and self-esteem in children. Their classmates also have a low opinion of these children.

Measures of anxiety are negatively related to school performance as indicated by their grade average.

There is a complex relationship between anxiety and learning. The state of anxiety is likely to limit performance on high order tasks while aiding learning in simple tasks.

There is no doubt anxiety (fear of failure) has a place in the motivational system; the important task is for teachers to recognize it and learn to deal with situations as they arise in the classroom. Many techniques are offered in the literature to aid teachers in dealing with anxiety in the classroom.

Feeling tone

Another teacher motivational concept is feeling tone. Hunter (38, p. 15) described feeling tone as a verbal or nonverbal response of the teacher that affects the learner's feelings and atti-

tudes about learning. She further contended that pleasant feeling tones will increase motivation to a high degree. Unpleasant feeling tones may also increase motivation, but to a lesser degree (sometimes resulting in undesirable side effects). Finally, the neutral or absence of feeling tone won't do a thing, but sometimes it is best to just let the situation alone.

Other researchers and educators interested in humanizing education agreed with Hunter. Encouragement is the term used by Wlodkowski (79, p. 49) to describe teacher behaviors which show confidence and personal regard for student effort and learning. He summed the concept in this manner. The teacher:

gives recognition for real effort; shows appreciation for student progress; minimizes mistakes while the student is still struggling; shows faith in the student as a general learner, works with the student at the beginning of difficult tasks; asks the student for help; emphasizes learning from mistakes; and reduces praise and increases encouragement.

Success

Educators who believe that "nothing breeds success like success" apply this principle in the classroom settings. Hunter (38) defined success as:

The level of accomplishment experienced by the learner -- a student is more likely to be successful once some degree of success has been experienced.

Research findings on success and failures have been rather consistent. According to Russell (68), as early as 1940 Sears reported that student levels of aspiration were raised following success in previous tasks. Conversely, Ausubel and Schiff, 1965, found that failure to

achieve brought about a decrease in level of aspiration. Findings reported by Russell (68, p. 45) in his review of the research on the effects of success and failure also revealed that a child remains sensitive to his early success and failures and sets his/her goals accordingly far into life.

The implications of these findings are: teachers have a major responsibility in helping students to experience success in learning at an early age, and to create an expectancy for success throughout life.

Hunter (38, p. 24) stated it succinctly:

A teacher can increase the probability of success by setting the task at the right level of difficulty for the learner. The skilled teacher diagnoses the learner's level of knowledge and provides different degrees of difficulty for different students. Working on the right level of difficulty will enable each learner to become more successful.

It appears that this attention to degree of difficulty can affect students in one of two ways: if the assignment is too easy, the student will quit from boredom or if the assignment is too difficult, the student is likely to become frustrated and quit trying. Russell agreed that success-oriented individuals, given the opportunity to set their goals, make their selections on the probability of achieving success. They are also persistent when tasks are difficult. On the other hand, failure-oriented individuals set their goals on the likelihood of avoiding failure in a situation. They also tend to waste time - take less direct action, and yet feel more confined to the task.

Research also shows that success relates closely with the preferences students have for certain topics. (Inskeep and Rowland, 1965, as reported in Russell, 68, p. 65). This finding is supported by Hunter

(38, p. 24), who explained that degree of success becomes an important variable in motivation because people are usually more successful in activities that interest them; and their success in turn tends to stimulate increased interest. Russell (68, p. 98) added that

successful experience intensifies the anticipation and expectancy of future success, and this constitutes a major thrust into and through new learning experiences.

Knowledge of results/feedback

Another teacher behavior that appears to have a facilitating effect on student motivation and subsequent performance is providing informative feedback to the student argues Wlodkowski (80, p. 18). He maintains this allows students to evaluate their progress, enhance their effort toward realistic goals, and correct their errors without delay. He also reported that the student's accurate assessment of the feedback becomes the basis for her or his motivation to continue or retreat from further challenges in their learnings. Hunter and Klausmeier et al. agreed. Hunter (38, p. 27) wrote:

Knowledge of results (the psychological term for feedback) lets the learner know how well (s)he is doing or what needs to be changed.

Klausmeier et al. (43, p. 7) built upon this concept:

feedback from the teacher helps the student ascertain which of his or her performances are correct or adequate. Equally important, feedback should enable the student to correct or improve performance.

This principle was affirmed in a study conducted by Page (as cited in Wlodkowski, 80, p. 18). More than 2000 students participated in an experimental study where each student was given a letter grade (A,B,C,

D, or F) as appropriate for an objective test. In addition, the papers of one-third were returned with no written teacher comments, the papers of another third were returned with natural and appropriate comments for the particular student concerned, and the papers of the other third were returned with prespecified but encouraging teacher comments such as (all B papers) "Good work, keep at it", or (all F papers) "Let's raise this grade". On the next exam, students who had previously received teacher comments, both natural and specified, out performed the students who had received no comments. The study has been replicated several times with similar results.

Stalling (72) and Draper (19) provided important information regarding teacher use of feedback. Stalling reported that the treatment group had higher grade gain in a study where teachers were trained to provide immediate and supportive feedback to responses. In Draper's study, grade school boys worked on a discrimination task under one of five conditions: no feedback, positive feedback following success, positive feedback following failure, negative feedback following success, and negative feedback following failure. He reported that the boys persisted longer on the task when they received either positive or negative feedback following success.

Results concerning teacher use of feedback are also inconsistent. For example, after observing teacher interaction with students perceived as high achievers and students perceived as low achievers, Good and Brophy (28) reported that teachers were not only less apt to call on lows, but were also less apt to react to the low student's response.

The teachers failed to react in any way to responses from the highs in only 3 percent of such interactions. The low received no feedback after 18% of their responses. It is only natural to expect teachers to be more concerned with helping the low achievers to evaluate their performance and to give appropriate praise and criticism as a means of reinforcement. Yet, Good and Brophy (28) observed that children perceived as high achievers received the most teacher praise - and when lows gave a right answer they were less apt to be praised than highs giving a right answer.

Reward

The final motivational concept reviewed is the reward one experiences from learning. Hunter (38, p. 30) described reward as:

the relationship between the learning activity and the return the learner receives from the learning experience. Reward can be intrinsic or extrinsic.

While both types of rewards are effective, Hunter (38) asserted, intrinsically motivated activity will always be rewarded because it is a feeling of satisfaction that comes from within the learner. On the other hand, extrinsic reward is a tangible result of good performance which comes from another source (good grade or graduation). Consequently, the power of extrinsic motivation is controlled by the environmental circumstances and changes with the environment. Wlodkowski (79, p. 153) basically agreed and simply stated it this way:

learning for the love of learning is essentially intrinsic motivation, while extrinsic motivation emphasizes the value a student places on the ends (reinforcement) of an action.

There appears to be much controversy among educators and researchers regarding the use of extrinsic rewards in the teaching - learning process. As Wlodkowski (80, p. 8) pointed out, although making valued extrinsic rewards contingent on learning, behavior can be a generally effective motivational strategy, many educators question this practice. They believe not only is "bribing" students to learn inherently wrong, but extrinsic reward system may interfere with and decrease intrinsic motivational properties within the learning behavior itself. Deci (15, p. 210) has asserted that children are intrinsically motivated to learn, yet these curious children often turn into uninterested students who are bored and angry about school. The question is (and remains), what happened? There has been considerable research on the issue of intrinsic and extrinsic reward. For example, Wlodkowski (80, p. 8) reported in his review of the literature, that researchers Lepper, Green and Nisbett showed that the introduction of an extrinsic reward for performing an already interesting activity caused a significant decrease in intrinsic motivation. However, he added:

in those instances where the behavior is not relatively interesting or stimulating, the addition of an external reward increases task satisfaction (p. 9).

After discussing the ills of the token reinforcement programs used in education to administer extrinsic rewards, Deci (15, p. 219) concluded that:

token reinforcement seem quite effective in controlling children's behaviors, but they will not increase intrinsic motivation - they will interfere with the goals of helping children to think creatively, to develop lasting cognitive structure and to be intrinsically motivated.

As the controversy continues, however, there is agreement among Hunter, Deci and Wlodkowski that extrinsic reward can be appropriately used by teachers. Wlodkowski stated it unequivocally:

only when the learning task appears too devoid of intrinsic value should the application of extrinsic systems of facilitating motivation be considered.

However, the research seems to place emphasis on teaching behaviors and strategies designed to encourage intrinsic motivation.

Summary

The review of literature chapter has focused on two areas: inservice education and motivational concepts which served as the basis for identifying a research problem and eventually formulating the question, can building principals deliver an effective inservice training program designed to improve teacher behaviors in facilitating student academic motivation? A significant body of research clearly supports the notion that principals can make a difference in their role as instructional leaders; that teachers are effective in facilitating student motivation to learn; and that students bring certain motives, behaviors, and expectancies to the learning situation that educators should be aware of when providing guidance for learning.

Wlodkowski (78) has pointed out that researchers investigating the area of motivation have typically looked at motivation from one of two perspectives: either as an individual trait of the learner which affects learning outcome or as a teaching technique or strategy which affects the learning outcomes of a class. Rarely have researchers investigated both perspectives.

This study examines a third perspective - the delivery of a structured inservice training by the building principal and the effects on the classroom behavior of teachers and the motivational level of students.

CHAPTER III. METHODS AND PROCEDURES

The purpose of this chapter is to discuss the methods and procedures used to investigate the effectiveness of a structured principal inservice training program designed to improve teacher classroom behaviors and student academic motivation. The chapter is divided into seven sections: (1) the research design; (2) the sample; (3) research hypotheses; (4) the treatment; (5) instrumentation; (6) collection of the data; and (7) statistical analysis of data.

Research Design

The model for enhancing student motivation to learn is shown in Fig. 1. The Principal Inservice Training on Student Academic Motivation (PITSAM) model assumes that the principal is the motivational catalyst in the school. Therefore, inservice training on student academic motivation begins with the principals who then train the teaching staff in their buildings in the use of motivational concepts in the classroom.

Several variables and their relationships are also represented in the model.

The independent variables. The primary independent variable is the structured inservice training program on student academic motivation delivered to and by the principal. The secondary independent variables are the demographics: school and grade level, gender, years of teaching experience, subject taught and prior motivational training.

The dependent variables. The three dependent variables are student motivational level, student perceptions, and teacher perceptions of teacher classroom behaviors related to student academic motivation.

The paradigm suggests that the interaction between principals and teachers via inservice training will result in changes in teacher classroom behaviors. It further presumes that those changes impact upon students through teacher-pupil interactions in the classroom, thus influencing change in student academic motivation level and ultimately, improving learning.

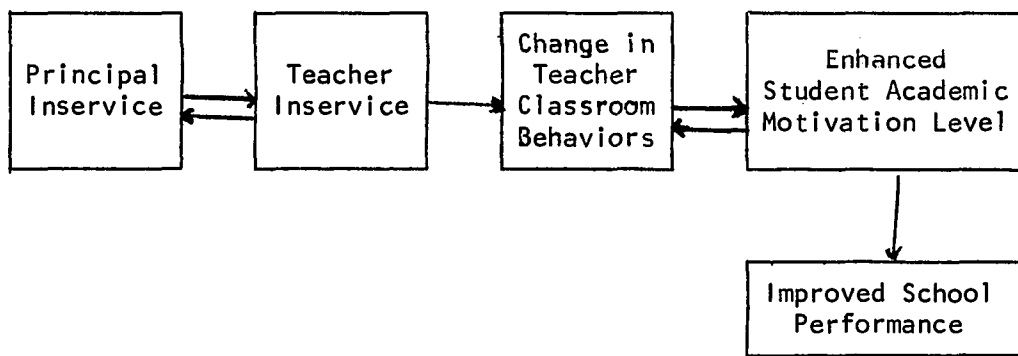


Figure 1. A schematic representation of the Principal Inservice Training on Student Academic Motivation (PITSAM) model

Quasi-experimental design

This study used the nonequivalent control group pretest-posttest design shown in Figure 2. This design was chosen because randomization of schools was not possible. Although schools were not randomly assigned to the experimental and control groups, teachers and students within those schools were randomly selected to participate in the study. It was impossible to obtain both experimental and control groups from within the same school. Therefore, an effort was made at the beginning of the study to make the groups as equivalent as possible. As a result, the schools are similar on relevant extraneous factors such as size,

level, and socio-economic status of the students. The researcher, aided by the principals, took the following steps to implement this design:

- (1) identified schools to participate in the experimental group;
- (2) identified schools to participate in the control group; (3) collected information about ways the two groups are alike and different; (4) randomly selected teachers and students in each school; (5) administered the pretest to both groups; (6) administered the treatment (inservice training) to the experimental group; and (7) administered the posttest to both groups.

	Time	
	1 (pre)	2 (post)
Experimental Group	0	X
Control Group	0	0

Source: Campbell and Stanley (9)

Figure 2. Nonequivalent control group pretest-posttest design

The Sample

The data for this investigation were gathered from eleven secondary schools in central Iowa. The socio-economic status of the school population ranged from lower middle class to upper class. The schools are located in small rural and agricultural towns with one exception, a resort town (see Table 1). The enrollment in the schools ranged from

Table 1. Characteristics of schools participating in the study

	School Level	Enrollment	Sample		Students	Community Type and Socio-Economics Data
			Prin.	Teachers		
School E-1	Sr. High	525	1	6	60	Rural; agricultural; blue collar; lower to middle income
School C-7	Sr. High	400	1	6	60	Agricultural; middle to upper income
School E-2	Jr./Sr. High	230	1	6	60	Middle to upper income
School C-8	Jr./Sr. High	130	1	3	30	Upper middle income
School E-3	Jr./Sr. High	285	1	6	60	Agricultural; middle to upper income
School C-9	Jr./Sr. High	220	1	6	60	Resort area; mixed incomes
School E-4	Sr. High	130	1	6	60	Rural; blue collar; middle income
School C-10 ^a	Sr. High	136	0	0	0	Agricultural & rural; middle income
School E-5 ^b	Jr. High	600	1	6	60	Middle income
School C-11 ^b	Jr. High	556	1	6	60	Upper middle income

School E-6	Sr. High	197	1	5	50	Agricultural; middle income
School C-12	Sr. High	259	1	6	57	Rural and agricultural; lower middle to upper income

^aDid not participate in the study.

^bLocated in the same town.

130 to 600 students per school. School levels were labeled junior high (grades 7-9), senior high (grade 10-12), and combination of junior and senior high (grade 7-12). The subjects were:

Principals

The experimental group consisted of six principals who received the Principal Inservice Training on Student Academic Motivation (PITSAM) at Iowa State University. The control group consisted of five principals who received no training.

Teachers

The experimental group consisted of thirty-five teachers randomly selected from among those who teach first or second period classes in the six schools. The control group consisted of twenty-seven teachers, also, randomly selected from among those who teach first or second period classes in the five schools.

Students

The experimental group consisted of 350 students randomly selected from the first or second period classes of the teachers in the experimental group. The control group consisted of 267 students randomly selected from the classes of those teachers selected to participate in the study. Table 1 also shows the distribution of the sample by groups and school levels. The average school size had an enrollment of 322 students. The largest percentage of students (58%) were in senior high school (grades 10-12). Fifty-one percent of the students were female.

Research Hypotheses

The study was designed to gather data to test the following research hypotheses which have been logically deduced from the rationale and objectives:

1. Teachers who participated in the structured inservice (PITSAM) will use motivational concepts significantly more frequently than teachers in the control schools.
2. Teachers who participated in the structured inservice (PITSAM) will increase their use of motivational concepts in the teaching/learning process after training.
3. Students of teachers who participated in the PITSAM will perceive their teachers to use motivational concepts significantly more frequently than students of teachers in the control schools.
4. Students of teachers who participated in PITSAM will be more highly motivated as a result of the training than those students taught by teachers in the control schools.
5. Students of teachers who participated in PITSAM will show an increase in academic motivation after the treatment.
6. Students' perceptions of the teacher's classroom motivational behaviors will differ significantly from their teachers' perceived use of motivational concepts after the treatment.
7. The experimental schools will differ significantly on teachers' perceived use of motivational concepts after the treatment.
8. The experimental schools will differ significantly on student academic motivation after the treatment.

The Treatment

In February 1982, forty secondary school principals in central Iowa were presented the research plan and the objectives of the study.

Although 85 percent of these principals expressed interest, only six were able to participate in the study. Several reasons were given for not participating in the study. Among them: inservice time used; inservice topic already planned; teacher contract related problems; and not enough time. Three of the principals expressed interest in being a part of the control group.

After the experimental schools had been identified, several other schools were contacted and asked to serve in the control group. Five schools were selected based on relevant demographic data that approximated those of the experimental schools.

The experimental treatment for this study was a structured inservice training unit on student academic motivation delivered by the building principal. In March 1982, the six principals in the experimental schools received the student academic motivation inservice training, plus a resource manual during a 3-hour workshop at Iowa State University. The inservice unit was developed by the researcher and made available to the participating principals in the form of a manual. The training was conducted by the researcher and her major professor, Dr. Jim Sweeney.

Teachers and students in both the experimental and control groups were administered the pretest during the week following the principal's inservice training at Iowa State University. The principals in the experimental group then conducted a series (3) of 1-hour inservice sessions with all teachers in their buildings within two weeks of their own

training. During the seven weeks following the teacher inservice training, teachers under the supervision of the building principals were expected to infuse the motivational concepts into the teacher/learning process. At the end of the experiment period, students and teachers were administered the same instruments as a posttest.

Description of the Inservice

Principal Inservice Training on Student Academic Motivation (PITSAM)

The major thrust of PITSAM was to enable principals to help teachers take personal responsibility for planning concrete actions for facilitating student academic motivation. More specifically, the PITSAM Unit was designed to present different ways of enhancing student motivation for learning. The ideas and strategies were intended to affirm and strengthen current teaching behaviors which relate to and influence student motivation to learn. The objectives were to help teachers:

Increase their awareness of what facilitates student academic motivation.

Choose realistic goals for themselves in dealing with students.

Develop concrete plans/strategies for facilitating student academic motivation.

Implement motivational plans/strategies in the classroom.

Monitor and evaluate their classroom behaviors as they relate to student academic motivation.

Make revisions in their plans/strategies when necessary.

Examine student behaviors as they relate to academic motivation.

Instructional content

There is a considerable amount of research dealing with "effective teaching behavior" in the classroom and on constructs of student motivation, but the researcher chose ten motivational concepts to serve as the basis for the PITSAM Unit. These were concepts which appeared best supported by the literature. These concepts can be infused into all subjects via teaching strategies outlined in the unit. They are:

1. Teacher Expectations
2. Enthusiasm (teachers and students)
3. Interest (teachers and students)
4. Goal-Setting (modeled by teachers, set by students)
5. Focusing Student Attention
6. Level of Concern
7. Feeling Tone
8. Success
9. Knowledge of Results/Feedback
10. Reward (intrinsic/extrinsic)

The PITSAM Unit was designed to impact on teachers at four levels resulting in: (1) awareness of the motivational concepts influencing student academic motivation; (2) intellectual control over relevant content; (3) acquisition of skills for action; and (4) transfer of concepts, principles, and skills to the classrooms.

Workshop components

The PITSAM workshop had four components: 1) presentation of theory, 2) modeling/demonstration, 3) coaching for application, and 4) test on knowledge of content.

Presentation of theory The rationale, theoretical base, research, and description of the academic motivation unit were presented. This aspect of the workshop was designed primarily to raise awareness, establish a conceptual base, and enhance application of motivation theory in the classroom.

Modeling/demonstration The workshop trainers modeled several teaching strategies illustrating each of the ten motivational concepts identified earlier.

Coaching for application The role of the principal in motivation was discussed. Principals were assisted in developing an understanding of their role as the motivational catalyst in the school, one who sets the tone for a total positive school climate in which motivation of both teachers and students is enhanced. The principals were also trained to help teachers transfer motivational concepts, skills, and strategies to the classroom as well as to observe and give feedback to the teachers.

Test on knowledge of content The principals were given a quiz to test their knowledge and understanding of the motivational concepts at the end of the inservice session. They used the same quiz with their teachers at the end of the teacher inservice sessions.

The PITSAM training module developed for principals to use in training teachers contained the following items:

The introduction, definitions, motivational theories, research, objectives, role of the principal in motivation, teaching strategies using the ten motivational concepts, summary, and a list of references

Case studies, activities, readings, exercises for checking participant's understanding of concepts

Thirty-two masters for transparencies

Training evaluation forms

Instruments and answer sheets for measuring student motivational level (SAMS), teacher classroom behaviors - self-report - (SAMBI-B) and student perceptions of teacher classroom behaviors (SAMBI-A)

Communicating Styles Instrument

Self-quiz for knowledge content on the motivation unit,

Answer key for Quiz

Guide for using the PITSAM Manual

PITSAM workshop planner

Instrumentation

Instruments were designed specifically for this study and field-tested at Iowa State University. They were developed after a thorough examination of the literature pertinent to teacher and student motivational concepts including Moen and Doyle's (55) conceptual review of measures of student academic motivation. The researcher used the following procedures: (1) developed a bank of items to be used in the field test; (2) consulted with a panel of judges consisting of secondary school teachers, faculty members in education, testing and psychology, and

secondary school students to assess the validity of the items; (3) administered the SAMBI-A and SAMS instruments to secondary students in the Ames public schools and the SAMBI-B instrument to students enrolled in education administration graduate classes at Iowa State University; (4) coded the data and computed reliability scores using the Cronbach's Alpha; (5) refined the instruments after an item analysis by selecting items with the highest correlations for use in the study and deleting others; and (6) modified several items for clarity and finalized the instruments.

The alpha reliability coefficient scores for the composite scales resulting from the field test were: SAMS 0.87, SAMBI-A 0.91, and SAMBI-B 0.61. The reliability results from the sample data are reported at the end of the discussion for each instrument.

The Student Academic Motivation Scale (SAMS)

SAMS was designed to measure student motivation level on four variables under the umbrella concept of student academic motivation. The variables (student motivational concepts) are: (1) Locus of Control (8 items) - the student's belief about his/her ability to initiate activities and actions or experience control over learning (internal) as opposed to seeing others, luck, or circumstances beyond his/her control being responsible for behavior and performance (external). (2) Need for Academic Achievement (6 items) - the process of planning and striving for excellence and success in performing task and avoiding failure. (3) Academic Self-concept (8 items) - student's perception of his/her ability and confidence in his/her own efforts to do school tasks competently. (4) Intrinsic Motivation (6 items) - motives that

arise from within the individual such as the enjoyment of learning as opposed to learning for external reasons (grades, money, etc.).

The five point Likert Scale was used to provide students the opportunity to report the frequency of their behaviors corollary to student motivational concepts discussed earlier. There are twenty-eight (28) items requiring a choice of one of five responses: (1) Always, (2) Often, (3) Sometimes, (4) Rarely, and (5) Never. Reliability scores were computed on the sample data (N = 617) using the Cronbach's Alpha. The reliability coefficient score was 0.87 for the total instrument. Reliabilities for the subscales were: need for achievement 0.76, academic self-concept 0.60, locus of control 0.44, and intrinsic motivation 0.77.

The Student Academic Motivation Behavior Inventory (SAMBI)

SAMBI-Part A was designed to measure students' perception of teacher classroom behaviors which influence their motivation to learn.

SAMBI-Part B (teacher self-report) was designed to measure teachers' perceptions of their teaching behaviors which influence student motivation to learn. The ten teacher motivational concepts make up the subscale of the SAMBI (Parts A and B) instruments. They are: (1) Teacher Expectations; (2) Enthusiasm; (3) Interests; (4) Goal-Setting; (5) Focusing Student Attention; (6) Level of Concern; (7) Feeling Tone; (8) Success; (9) Knowledge of Results/Feedback; and (10) Reward.

Each instrument has a five point scale. SAMBI-A represents the intensity of a student's perceptions regarding a particular teacher's use of the ten motivational concepts during the teaching/learning

process. There are thirty (30) items requiring a choice of one of five responses: (1) Strongly Agree; (2) Agree; (3) Undecided; (4) Disagree; and (5) Strongly Disagree. Reliability scores were computed on the sample data (N = 617) using the Cronbach's Alpha. The reliability coefficient score was 0.93 for the total instrument. The score for each subscale was: enthusiasm 0.75, teacher expectations 0.66, feedback 0.42, goal setting 0.57, focusing attention 0.55, feeling tone 0.45, interests 0.75, level of concern 0.65, reward 0.59, and success 0.65.

SAMBI-B represents the frequency in which teachers feel they used the ten motivational concepts during the teaching/learning process. There are fifty (50) items requiring a choice of one of five responses: (1) Always; (2) Often; (3) Sometimes; (4) Rarely; and (5) Never. Reliability scores were computed on the sample data (N = 62) using Cronbach's Alpha. The reliability coefficient score was 0.95 for the total instrument. The score for each subscale was: enthusiasm 0.71, level of concern 0.65, focusing student attention 0.69, reward 0.71, teacher expectations 0.57, goal setting 0.67, interest 0.67, feedback 0.78, success 0.71, and feeling tone 0.78.

The instruments yield a single score that indicates both the direction and intensity of the respondent's attitudes and perceptions. Subscale scores were also obtained from the instruments.

Separate answer sheets were developed for recording responses to the questions and demographic data. Students were asked to indicate their grade and sex. Teachers were asked to indicate: school level;

subject(s) and grade level(s) taught; years of teaching experience; prior training on student motivation, and source of training.

The Communicating Styles Instrument

The instrument was administered only to teachers and principals in the experimental group. The instrument was developed by Mok (cited in 56) based on Carl Jung's theories of personality types and behavioral functions. Simon and Byram (71) translated the industrial model for use in school settings. Communicating styles determines the way one processes information, gives it meaning, and sends it out to others. In other words, communicating styles form the basic way people interact with other people. There are four styles:

1. Sensor: active, competitive, reacts quickly to surroundings.
2. Feeler: sensitive, caring, artistic.
3. Thinker: logical, orderly, accurate.
4. Intuitor: imaginative, innovative, expresses far-reaching ideas.

The Communicating Styles Instrument was used in this study for the purpose of comparing "styles" of principals who conducted inservice training and their teachers. Primary, back-up, and short-suit styles were identified in each person to determine congruence between the principal and teachers within each school. There is no reliability data on this instrument available at this time.

Collection of Data

Inservice training for principals

Six principals were trained to use the PITSAM Unit with their teachers. Demographic data on the principals were collected during the inservice training. The principals were given a package containing the following: student and teacher instruments and answer sheets; instructions for administering the questionnaire; Modified Informed Consent for Human Subjects Letters for teachers and students; plain envelopes for individual answer sheets to ensure confidentiality; and large self-addressed, stamped envelopes for the return of all answer sheets. The principals in the control schools were mailed packages containing the same type of information two days following the inservice training for principals in the experimental group.

Pretest administration

Principals in the experimental and control groups were asked to randomly select six teachers from the first or second period classes to participate in the study. Those teachers selected were then asked to randomly select ten students from their first or second period classes to participate in the study. The experimental group consisted of ten students selected from each teacher's class, totaling 60 students per school. One school, however, inadvertently selected only 5 teachers and 50 students. The control group consisted of ten students selected from each class, totaling 60 students per school. However, one school selected 57 students, and because of incomplete data, only 30 students and 3 teachers were considered in another school.

Pretest administration

At the end of the seven-week period, teachers and students in both the experimental and control groups were administered the posttest. Answer sheets were returned to the researchers promptly with the exception of two schools. Follow up telephone calls were placed to each school as a reminder. The Communicating Styles Instrument was used only with the teachers and principals in the experimental group and were also returned at this time.

The principals in the control schools were offered the opportunity to receive PITSAM workshop and/or PITSAM Manual. One principal requested the manual.

After the completed questionnaires were received, the data were coded and prepared for transfer to key-punched cards for computer analysis at the Iowa State University Computation Center.

Use of human subjects

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected, that risks were outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data was assured, and that informed consent was obtained by appropriate procedures.

Statistical Analysis of Data

Statistical treatment of the data was performed by the Iowa State University Computation Center, using the Statistical Package for the Social Science (SPSS) computer program.

Frequencies, condescriptive, and breakdown procedures were used on the data for the purpose of reporting specific descriptive information on the individual schools participating in the study.

To test hypotheses one through five, a pooled t-test was initially used to statistically test the difference between mean scores of the two groups on the pretest. An analysis of covariance procedure was used to statistically equate the experimental and control groups on the pretest scores when there was an initial difference between the groups. This procedure increased the precision of the analysis and thus permitted conclusions to be made from the posttest scores. A test of treatment effects was made on the experimental group data using the paired t-test technique. The following procedures were used to test the other hypotheses: chi-square for hypothesis six, and one-way analysis of variance for hypotheses seven and eight. The one-way analysis of variance examined the difference among school means on teacher and student instruments. The Scheffé test was used to compare the pairs of school means. The asterisk (*) was used in the tables to denote significant difference at the 0.05 level, the double asterisks (**) were used to denote significant difference at the 0.01 level, and the triple asterisks (***) were used to denote significant difference at the 0.001 level.

CHAPTER IV. FINDINGS OF THE STUDY

The purpose of this chapter is to report the results of the investigation of a principal inservice training program on teacher classroom behaviors and student academic motivation. The chapter is divided into two sections: (1) Descriptive Data - frequencies, means, and standard deviations. (2) Findings - hypotheses testing using the following statistical tools to analyze the data: pooled t-test and analysis of covariance to test mean differences between groups; paired or correlated t-test to test treatment effects on the experimental group; chi-square to test relationships between student and teacher perceptions; and one-way analysis of variance to determine difference among schools.

The data were collected from a sample of 62 teachers and 617 students in eleven secondary schools located in central Iowa. The subjects were randomly selected for the experimental and control groups. Four instruments were used to collect the data: (1) SAMS - to measure student academic motivation level; (2) SAMBI-A - to measure student perceptions of their teachers' classroom motivational behaviors; (3) SAMBI-B - to measure teachers' perceptions of their own classroom motivational behaviors; and (4) Communicating Styles Instrument - to determine the degree of congruence between teachers and principals in the experimental group regarding the way in which they process information and communicate it to others. The data analysis was based on both composite and subscale mean scores for each instrument.

Descriptive Data

Characteristics of the sample

Table 2 presents the distribution of principals, teachers, and students by school levels. There was an equal number of schools at the junior high and junior/senior high levels. One of the senior high control schools dropped out of the study which partly accounted for the smaller size of the control group. The second reason for the smaller number of subjects in the control group was because data from two teachers and 23 students were incomplete. More than half of all students and teachers were at the senior high level (grades 10-12).

Teachers' characteristics selected were school level, years of teaching experience, subject(s) taught, prior motivational training, and type of motivational training. Table 3 presents the distribution of 62 teachers by years of teaching experience. The number of years ranged from one to thirty-six. While the largest number of teachers in both groups averaged 6 to 10 years of teaching experience, some differences were found between the groups. For example, 41% of the control group teachers compared to 31% of the experimental group teachers were in that 6 to 10 years range. Further analysis of Table 3 reveals that 25% of the experimental teachers had less than five years experience compared to 6% of the control group teachers, and 23% of the control group teachers had over 21 years of experience compared to 15% for teachers in the experimental group.

Table 4 presents a distribution of teachers by subjects taught. Nearly all secondary school subjects were represented in the study.

Table 2. Distribution of principals, teachers, and students by school levels

School Levels	Principals N = 11		Teachers N = 62		Students N = 617	
	E-Group	C-Group	E-Group	C-Group	E-Group	C-Group
	N = 6	N = 5	N = 35	N = 27	N = 350	N = 267
Jr. High (Grades 7-9)	1	1	6	6	60	60
Sr. High (Grades 10-12)	3	2	17	12	180	120
Jr./Sr. High (Grades 7-12)	2	2	12	9	110	87

Table 3. Distribution of teachers by years of teaching experience, N = 62

Range in Years of Teaching Experience	Teachers			
	Experimental Group N = 35		Control Group N = 27	
	Number	Percent	Number	Percent
Under 5 years	9	25	2	6
6 to 10 years	11	31	11	41
11 to 15 years	5	14.5	4	15
16 to 20 years	5	14.5	4	15
21 to 25 years	2	6	3	11.5
Over 25 years	3	9	3	11.5

Table 4. Distribution of teachers by subjects taught, N = 62

Subjects	Teachers	
	Experimental Group N = 35	Control Group N = 27
Art	0	1
Business Education	1	2
English	7	5
Home Economics	1	0
Math	6	5
Music	1	1
Science	4	1
Social Studies	5	6
Industrial Arts	3	1
Reading	0	1
Career Guidance	0	1
Media/Library	0	1
Literature/Reading	1	1
Journalism/Photography	1	0
Combinations (3 or more different subjects)	5	1

However, English, social studies, and math were the dominant subjects taught in each group. There were more science and industrial arts teachers in the experimental group than the control group, but both groups had the same number of music and literature/reading teachers.

All teachers were asked to indicate whether they had prior training in student motivational strategies. Seventy-one percent of the experimental group teachers replied in the affirmative compared to fifty-nine percent of the control group teachers. When asked where they had received prior training, the largest percentage of the experimental group teachers (25%) reported inservice, while the control group teachers (30%) reported a combination of college and inservice.

Students' demographic characteristics selected were gender and grade level. Table 5 presents the distribution of 617 students by gender and grade. Females made up 51% of the sample. A majority of the students were in either ninth or tenth grades.

Table 6 shows the demographic data on the principals. They averaged 7 1/2 years of administrative experience and ten years of teaching experience. All principals reported they had experience in conducting inservice training.

Communicating styles survey

The six principals in the experimental group and their thirty-five teachers were asked to complete a Communicating Styles Instrument. The purpose was to determine the degree of congruence between principals' and teachers' styles of processing information and communicating it to others. While the styles were identified, the size of the N (6)

Table 5. Distribution of students by gender and grade

	Experimental Group N = 350 Percent	Control Group N = 267 Percent
Gender:		
Female	47.4	56.6
Male	52.6	43.4
Grade:		
7	6.0	18.7
8	16.9	19.1
9	25.4	20.6
10	27.7	17.2
11	11.1	10.5
12	12.9	13.9

Table 6. Demographic data on experimental school principals,
N = 6

School	School Level	Years of Admin. Experience	Years of Teaching Experience	Conducted Prior Inservice
1	Senior High	8	15	Yes
2	Jr./Sr. High	3	13	Yes
3	Jr./Sr. High	6	13	Yes
4	Senior High	7	4	Yes
5	Junior High	15	5	Yes
6	Senior High	6	10	Yes

precluded the use of statistical analysis on the data. However, the information can be of practical use to the principals and teachers in the six schools. The mean scores of principals and their teachers on the Communicating Style Survey are shown in Table 7 by schools, and their styles are described in Table 8. Since the mean scores were used to determine the style category, it is necessary to refer to both Tables 7 and 8 simultaneously in analyzing the communicating styles data.

The highest mean score represents the primary or most used style, the second highest mean score represents the "back-up" or next most often used style; and the lowest mean score represents the short-suit style or the style used the least in processing information and interacting with people. A difference of more than seven points in spread between one's primary and back-up style score clearly suggests a greater reliance on the higher scores style, but if the difference between the styles is less than seven points, the person is likely to move between styles.

The data in Tables 7 and 8 show congruency between teachers' and principals' primary communicating styles in Schools 2, 3 and 5. Sensor is the primary style for the principals and teachers in School 2 (means 20.00 and 20.50) and School 5 (means 20.00 and 17.17), while thinker was identified as the primary style for principals and teachers in School 3 (means 15.00 and 16.33). While principals and teachers in Schools 4 and 6 appeared to be incongruent in their styles of communicating (primary styles are different), further examination of the mean scores revealed a congruence because those persons operating between their primary and

Table 7. Mean scores of experimental group principals and teachers on communicating styles survey by schools

Styles	School 1		School 2		School 3	
	Principal	Teachers	Principal	Teachers	Principal	Teachers
Sensor	18.00	18.17	20.00	20.50	15.00	16.33
Feeler	6.00	15.00	10.00	16.50	11.00	15.17
Thinker	17.00	13.67	19.00	13.33	19.00	17.33
Intuit or	19.00	13.17	11.00	12.33	15.00	11.17

School 4		School 5		School 6	
Principal	Teachers	Principal	Teachers	Principal	Teachers
17.00	19.33	20.00	17.17	19.00	15.80
10.00	13.50	13.00	17.00	18.00	16.80
19.00	16.67	16.00	15.50	13.00	15.00
14.00	10.50	11.00	10.33	10.00	12.40

Table 8. Principals and teachers communicating styles

Styles	School 1		School 2		School 3	
	Principal	Teachers	Principal	Teachers	Principal	Teachers
Sensor	B ^a	P ^b	P	P	B	B
Feeler	S ^c	B	S	B	S	-
Thinker	-	-	B	-	P	P
Intuitior	P	S	-	S	B	S

^aB = Back up style (second highest mean score).

^bP = Primary style (highest mean score).

^cS = Short-suit (lowest mean score).

School 4		School 5		School 6	
Principal	Teachers	Principal	Teachers	Principal	Teachers
B	P	P	P	P	B
S	-	-	B	B	P
P	B	B	-	-	-
-	S	S	S	S	S

back-up styles. For example, in School 4, the principal was identified as a thinker with a sensor back-up style, while the teachers were primarily sensors with a thinker back-up style. The most variation in styles was found in School 1. The principal was an intuitor with sensor/thinker back-up styles and the teachers were primarily sensors with a feeler back-up style. Furthermore, the data show less than a seven point spread between the primary and back-up styles which indicates that both principals and their teachers operate between the two styles as opposed to using one particular style. Intuitor was the style least used (short-suit) by the majority of teachers and principals in the group.

Comparison of schools

Tables 9 and 10 show the school means and mean difference for the experimental and control groups on the three motivation instruments; SAMBI-B, SAMBI-A, and SAMS. Highlights of mean difference between pre and posttest scores will be discussed first and then mean scores for schools on each of the instruments.

The mean difference between pre and posttest scores for the experimental schools showed training increased teachers' use of motivational concepts, changed students' perceptions regarding teachers' use of motivational concepts, and increased student academic motivational level. The greatest gain was in School 6 as indicated by the mean difference on teachers' use of motivational concepts (0.408), students' perceptions (0.496), and student motivation level (0.305). In contrast, School 4 showed the least gain on teachers' use of motivational concepts (0.233) and student academic motivation (0.168) and School 5 the least

Table 9. School means of pre and posttest scores for teacher's use of motivational concepts

Schools	SAMBI-B ^a		
	Pretest	Posttest	Mean Difference
Experimental Schools			
1	3.743	4.093	0.350
2	3.820	4.187	0.367
3	3.913	4.223	0.310
4	4.180	4.413	0.233
5	3.703	4.083	0.380
6	3.580	3.988	0.408
Control Schools			
7	3.640	3.643	0.003
8	3.666	3.627	-0.039
9	3.777	3.787	0.010
11	3.823	3.133	-0.690
12	4.093	4.090	0.003

^aTeacher motivational concepts, N = 62.

Table 10. School means of pre and posttest scores for student perceptions and student motivation

Schools	SAMBIA-A ^a			SAMS ^b		
	Pretest	Posttest	Mean Difference	Pretest	Posttest	Mean Difference
Experimental Schools						
1	3.679	4.119	0.440	3.539	3.819	0.280
2	3.400	3.849	0.449	3.574	3.813	0.239
3	3.545	3.947	0.402	3.636	3.916	0.280
4	3.446	3.868	0.422	3.571	3.739	0.168
5	3.713	4.047	0.334	3.748	3.871	0.123
6	3.359	3.855	0.496	3.613	3.918	0.305
Control Schools						
7	2.454	3.451	-0.003	3.510	3.573	0.063
8	2.524	2.596	0.072	3.437	3.406	-0.031
9	3.523	3.529	0.006	3.836	3.780	-0.056
11	3.775	3.797	0.022	3.787	3.794	0.007
12	3.704	3.676	-0.028	3.427	3.494	0.067

^aStudent perceptions, N = 617.

^bStudent motivation, N = 617.

gain on student motivation (0.123) followed by student perceptions (0.334). The mean difference from pre to posttests for the control schools was rather small on all instruments. As expected, there was no significant increase in teachers' use of motivational concepts. In addition, there was no change in students' perceptions, nor was there an increase in student motivation. In fact, the results show a decrease in the mean scores from pre to posttest on at least one instrument in each of the control schools.

Further examination of the data in Table 9 shows Schools 2 and 4 with the highest posttest mean scores, 4.187 and 4.413, for teachers' use of motivational concepts after the treatment. Although School 6 showed the greatest gain from pre to posttest, it also had the lowest means on both pretest (3.580) and posttest (3.988) scores. School 12 in the control group had the highest means on both pretest and posttest (4.093 and 4.090) scores, and School 7 had the lowest means on both pretest and posttest (3.640 and 3.643) scores.

The data in Table 10 show Schools 1 and 5 with the highest posttest means, 4.119 and 4.047, for students' perceptions regarding teachers' use of motivational concepts after training. Again, School 6 in the experimental group showed the greatest gain, but also the lowest means on both pretest and posttest (3.359 and 3.855). School 11 in the control had the highest mean (3.797) and School 8 had the lowest mean (2.596) on the posttest scores.

Finally, an examination of the data for student motivation revealed that the posttest mean scores (3.916 and 3.918) for Schools 3 and 6

were almost the same. School 4 had the lowest mean score for student motivation (3.739). The highest mean score for the control group schools was found in School 11 (3.794) and the lowest in School 8 (3.406).

Teachers' use of motivational concepts

Table 11 shows the frequency regarding teachers' use of motivational concepts after the treatment. Sixty percent of the experimental teachers reported they frequently used the ten motivational concepts during the teaching/learning process, while 8.6% reported they seldom used the concepts after the treatment. Those reporting moderate use of the motivational concepts accounted for the other 31.4% of the experimental group teachers.

Student perceptions and their motivation level

Table 12 presents the experimental group students' motivation levels and perceptions regarding their teachers' use of motivational concepts after the treatment. The student motivation data show 64% of the experimental group students were highly motivated, 28.9% moderately motivated, and only 7.1% poorly motivated after the treatment. Additional data show that 73.1% of the experimental group students perceived their teachers to use motivational concepts frequently after the inservice training. Approximately an equal percentage of students reported their teachers used the motivational concepts moderately and seldom after the inservice training (13.2% and 13.7%, respectively). This suggests that generally the highly motivated students perceived

Table 11. Experimental group teachers' use of motivational concepts after the treatment

	Teachers' Use of Motivational Concepts ^a		
	Frequent	Moderate	Seldom
Experimental Group	21 (60.0)	11 (31.4)	3 (8.6)

^aN = 35.

Table 12. Experimental group students' motivation levels and perceptions regarding their teacher's use of motivation concepts after the treatment

	Student Motivation Level ^a			Student Perceptions ^b		
	High	Moderate	Low	Frequent	Moderate	Seldom
Experimental Group	224 (64.0)	101 (28.9)	25 (7.1)	256 (73.1)	46 (13.2)	48 (13.7)

^aN = 350.

^bN = 350.

their teachers to use motivational concepts frequently after the inservice training on student academic motivation.

Findings - Hypotheses Testing

This section reports findings on the nine hypotheses tested for this study. The analyses were divided into three categories:

1. An analysis of the SAMBI-A, SAMBI-B, and SAMS composite and subscale mean scores. Hypotheses one through five were tested using the t-test and analysis of covariance techniques for comparison of differences in teacher classroom motivational behaviors, student perceptions, and student academic motivation level between the experimental and control groups. The pooled t-test was used to check for equivalence between groups on the pretest and to analyze differences between groups on posttest in hypotheses one and four. An analysis of covariance was used to test hypothesis three. Hypotheses two and five were tested using a paired or correlated t-test for analyzing the gain scores from pre to posttest of teachers and students in the treatment group.
2. An analysis of SAMBI-A and SAMBI-B composite and subscale mean scores. Hypothesis six was tested using the chi-square procedure for the comparison of student and teacher perceptions regarding teachers' use of motivational concepts in the teaching/learning process after the treatment.
3. An analysis of school differences on the SAMBI-A and SAMBI-B instruments. Hypotheses seven and eight were tested

using the one-way analysis of variance procedure for testing differences among eleven school means. The Scheffé test was used to determine precisely where the differences occurred among the groups.

Equivalence check on group differences, using SAMS, SAMBI-A, SAMBI-B

An equivalence check was made using the t-test technique found in SPSS (60a) to ascertain whether teachers and students in either the experimental or control schools were significantly different at the beginning of the treatment. The advantage of confirming group equivalency by scores on the pretest was to assume that the main effects of maturation, testing, and instrumentation were controlled and would not be mistaken for the effect of the treatment. Furthermore, since the classes were used "intact", possible effects from reactive arrangement were minimized (51). Table 13 shows the results for teachers in both groups. There was no significant difference between teachers in the experimental and control groups prior to the treatment as indicated by the t-value 0.17 ($p = 0.868 \geq 0.01$).

Table 14 presents the t-value for differences between students in the experimental and control schools prior to the treatment as well as the means and standard deviations of the group. There was no difference between groups as measured by SAMS (Student Academic Motivation Scale) prior to the treatment, t-value 0.16 ($p = 0.875 \geq 0.01$). However, there was a significant difference between groups on SAMBIA-A - student perceptions of teachers' classroom motivational behaviors. The t-value of

Table 13. Pretest results for teachers in the experimental and control groups on SAMBI-B

	N	Teacher Pretest		
		Mean	S.D.	t-value
Experimental Group	35	3.830	0.375	0.17
Control Group	27	3.815	0.342	

Table 14. Pretest results for students in the experimental and control groups on SAMS and SAMBI-A

	N	Student Pretest					
		SAMS			SAMBI-A		
		Mean	S.D.	t-value	Mean	S.D.	t-value
Experimental Group	350	3.624	0.479	0.16	3.552	0.538	5.05**
Control Group	267	3.679	0.478		3.266	0.757	

** Significant beyond the 0.01 level.

5.05 and means of 3.552 (experimental group) and 3.266 (control group) can be seen in Table 14. A difference of 0.286 between the means on SAMBI-A pretest was computed.

The problem regarding differences in student perceptions was noted and a decision was made to use an analysis of covariance (ANACOVA) procedure for testing the pre and post differences between groups on SAMBI-A. This technique statistically adjusted posttest scores for initial differences on pretest scores and compared the adjusted means. Furthermore, the ANACOVA increased the power of this statistical test by reducing within-group (error) variance. This is particularly important when the sample size is small (25b). The pretest was the covariate in this analysis. The model used for the analysis of covariance is:

$$Y_{ij} = u + \gamma_i + bX_{ij} + e_{ij} \quad \begin{array}{l} i = 1,2 \\ j = 1, \dots, n_i \end{array}$$

where n_i represents the number of persons in group i . Where

Y_{ij} = the posttest score of the person j in group i

u = the overall mean

γ_i = the group effect, $i = 1,2$

b = the regression coefficient for X_{ij}

X_{ij} = the pretest score of the person j in group i

e_{ij} = the residual for observation j for group i

Testing of Hypothesis 1

For the purpose of this research, ten motivational concepts were selected. They are the subscales of SAMBI-B. Teachers were questioned

about their use of these motivational concepts in the teaching/learning process.

Since the pretest scores showed no significant differences between the experimental and control groups on the SAMBI-B instrument, the t-test procedure for comparison of group differences on the posttest was used. The null hypothesis was tested using the composite and subscale mean scores on posttest data for each group.

H_{o_1} : There is no significant difference in classroom motivational behaviors between teachers who received PITSAM and teachers who did not receive training.

Table 15 shows that the composite mean of the experimental teachers was 4.170 and 3.810 for the control teachers. The t-value of 4.04 was significant at the one percent level. Therefore, Hypothesis 1 was rejected. This indicates that the inservice training made a difference in teacher classroom behaviors related to student academic motivation. Table 16 shows the breakdown of the SAMBI-B instrument by subscales. While there was a significant difference on each subscale, level of concern appeared to make the most difference (t-value 4.60) and reward the least difference (t-value 2.27).

Table 15. Comparison of experimental and control groups on posttest mean scores for teachers' classroom motivational behaviors

	N	Teachers Posttest Results		
		Mean	S.D.	t-value
Experimental Group	35	4.170	0.314	4.04**
Control Group	27	3.810	0.387	

**Significant beyond the one percent level ($p \leq 0.01$).

Table 16. Comparison of experimental and control groups on posttest mean scores for teachers' classroom motivational behaviors

Teacher Motivational Concepts	Experimental Group N = 35		Control Group N = 27		t-value
	Mean	S.D.	Mean	S.D.	
Teacher Expectations	4.389	0.388	4.037	0.412	3.45**
Interest	3.971	0.350	3.607	0.475	3.47**
Focusing Student Attention	3.903	0.491	3.578	0.438	2.71**
Enthusiasm	4.303	0.348	4.007	0.462	2.87**
Level of Concern	4.126	0.363	3.667	0.422	4.60**
Goal Setting	4.354	0.343	4.059	0.457	2.91**
Feeling Tone	4.366	0.432	4.00	0.490	3.12**
Success	4.103	0.464	3.659	0.517	3.55**
Feedback	4.206	0.496	3.867	0.523	2.16*
Reward	3.971	0.490	3.682	0.509	2.27*

*Significant beyond the five percent level ($p \leq 0.05$).

**Significant beyond the one percent level ($p \leq 0.01$).

Testing of Hypothesis 2

Teachers in the experimental group were expected to infuse the ten motivational concepts into the teaching/learning process after the inservice training. The paired or correlated t-test was used to test the null hypothesis. The pretest and posttest composite and subscale mean scores were compared for mean difference to determine the treatment effects on the experimental group.

H_{02} : There is no significant increase in teachers' perceived use of motivational concepts after the inservice training.

Table 17 shows a pretest mean of 3.830 and 4.170 for the posttest, and a mean difference of 0.340 between the pre and posttest composite scores on SAMBI-B. The t-value of 8.72 shows a significant increase in teachers' perceived use of motivational concepts after the training. Therefore, Hypothesis 2 was rejected.

Table 18 presents the results of pre-posttest differences on the subscale mean scores for the experimental teachers after the inservice training. While the t-values show a highly significant increase in teachers' use of all ten motivational concepts after the inservice training, success showed the largest gain (0.451) followed by level of concern (0.429) and reward (0.406). The smallest gain was seen on the teacher expectations, goal-setting and feedback subscales (0.240, 0.269, and 0.257, respectively).

Table 17. Analysis of pretest and posttest mean scores for teachers' perceived use of motivational concepts after the treatment

SAMBI-B	Pretest Mean	Posttest Mean	Mean Difference	t-value
Experimental Group Teachers, N = 35	3.830	4.170	0.340	8.72***

*** Significant beyond the 0.001 level.

Testing of Hypothesis 3

Students of teachers in the experimental and control groups were asked to complete SAMBI-A which measured their perceptions of teachers' classroom motivational behaviors. The equivalency check on pretest mean scores revealed a significant difference between experimental and control group students' perception of their teacher classroom behaviors. Therefore, an analysis of covariance (ANACOVA) technique was used to statistically compensate for the initial differences between groups on the SAMBI-A pretest. The null hypothesis was tested using the composite mean scores on both pre and posttest data. This procedure required aggregating the mean scores of students in each school. Thus, the school was used as the unit of analysis, N = 11. The pretest was the covariate.

H_{03} : There is no significant difference in perceptions of teacher classroom motivational behaviors between students of teachers who received PITSAM and students whose teachers did not receive training.

Table 19 presents the analysis of covariance results on student perceptions. The F-value of 0.166 was not significant. There was no

Table 18. Analysis of pretest and posttest scale mean scores for teachers' perceived use of motivational concepts after the treatment

Teacher Motivational Concepts	Pretest Mean	Posttest Mean	Mean Difference	t-value
Teacher Expectations	4.148	4.388	0.240	4.83***
Interest	3.623	3.971	0.349	5.26***
Focusing Student Attention	3.554	3.903	0.349	5.61***
Enthusiasm	3.994	4.303	0.309	6.95***
Level of Concern	3.697	4.126	0.429	5.63***
Goal Setting	4.086	4.354	0.269	4.94***
Feeling Tone	4.017	4.366	0.349	5.38***
Success	3.651	4.103	0.451	7.21***
Feedback	3.949	4.206	0.257	3.45**
Reward	3.566	3.971	0.406	6.64***

** Significant beyond the one percent level.

*** Significant beyond the 0.001 level.

significant difference ($p > 0.05$) between the two groups on perceptions of teachers' classroom motivational behaviors. Therefore, Hypothesis 3 was not rejected. Although the F-value of 0.166 was not significant at the 0.05 level, an examination of the subscales results in Tables 20 and 21 show the following teacher motivational concepts to be significant: F-value of 7.325 for level of concern, F-value of 7.404 for goal-setting, F-value of 86.311 for feeling tone, and F-value of 7.373 for success. It is important to note that the sample size was reduced to $N = 11$ for the ANACOVA test which affected the results.

Table 19. Analysis of covariance on student perceptions of teacher classroom motivational behaviors

Source	Degrees of Freedom ^a	Mean Square	F
Treatment	1	0.005	0.166
Covariate (pretest)	1	1.049	
Error	8	0.030	

^a $N = 11$.

Testing of Hypothesis 4

Students in both groups were asked to complete the SAMS Inventory which measured student academic motivation level. Since the equivalency check on pretest scores showed no significant differences between the groups, the t-test was used to test the null hypothesis using the composite and subscale mean scores on posttest data.

Table 20. Summary - analysis of covariance on the subscales for student perceptions of teachers' classroom motivational behaviors

Source	Degrees of Freedom	Mean Square	F
<u>Teacher Expectations</u>	1	0.001	<1
Covariate (pretest)	1	129.63	
Error	8	0.0	
<u>Focusing Student Attention</u>	1	1.287	3.113
Covariate (pretest)	1	0.306	
Error	8	0.098	
<u>Enthusiasm</u>	1	0.258	3.899
Covariate (pretest)	1	1.169	
Error	8	0.066	
<u>Level of Concern</u>	1	0.330	7.325*
Covariate (pretest)	1	0.495	
Error	8	0.045	
<u>Goal Setting</u>	1	0.266	7.404*
Covariate (pretest)	1	0.408	
Error	8	0.036	

* $p < 0.05$.

Table 21. Summary - analysis of covariance on the subscales for student perceptions of teachers' classroom motivational behaviors

Source	Degrees of Freedom	Mean Square	F
<u>Feeling Tone</u>	1	0.380	86.311***
Covariate (pretest)	1	0.527	
Error	8	0.004	
<u>Success</u>	1	0.296	7.373*
Covariate (pretest)	1	1.488	
Error	8	0.040	
<u>Feedback</u>	1	0.167	1.834
Covariate (pretest)	1	2.227	
Error	8	0.091	
<u>Reward</u>	1	0.254	3.834
Covariate (pretest)	1	1.238	
Error	8	0.066	

* $p < 0.05$.

*** $p < 0.001$.

Ho₄: There was no significant difference in student academic motivation between students whose teachers received PITSAM and students whose teachers received no training.

Table 22 presents the results of SAMS after training. The t-value of 5.63 shows a significant difference ($p \leq 0.001$) between the groups. Therefore, Hypothesis 4 was rejected. This suggests that the inservice training made a difference regarding the academic motivation level of students in the treatment group.

Table 22. Comparison of experimental and control groups on student motivation posttest mean scores

	SAMS			t-value
	N	Mean	S.D.	
Experimental Group	350	3.844	0.407	5.63***
Control Group	267	3.634	0.498	

*** Significant beyond the 0.001 level.

Table 23 shows the results of posttest subscale mean scores of the experimental and control groups. The t-value shows significant differences between the groups on the four student motivational concepts. It appeared that the need for achievement made the most difference while locus of control (2.04) showed the least difference between the groups.

Testing of Hypothesis 5

The motivation level of students in the experimental group was expected to increase after their teachers participated in the inservice training. The null hypothesis was tested using a paired or correlated

Table 23. Comparison of experimental and control groups on student motivation posttest mean scores of the subscales

Student Motivational Concepts	Experimental		Control		t-value
	Mean	S.D.	Mean	S.D.	
Academic Self-Concept	3.798	0.453	3.628	0.569	4.01***
Intrinsic Motivation	3.768	0.571	3.423	0.648	6.90***
Locus of Control	3.782	0.422	3.706	0.489	2.04*
Need for Achievement	4.064	0.477	3.756	0.567	7.17***

* Significant beyond the five percent level.

*** Significant beyond the 0.001 level.

t-test procedure. The means of the composite and subscales were compared for differences to determine the treatment effects.

H_{05} : There is no significant increase in the academic motivation of students in the experimental group after the treatment.

Table 24 presents the results on the comparison of pretest and posttest mean scores for student academic motivation level. The mean for the pretest was 3.624 and 3.844 for the posttest. The mean difference of 0.220 shows an increase in student academic motivation after the inservice training. The t-value of 9.05 was significant beyond the 0.001 level. Therefore, Hypothesis 6 was rejected.

Table 25 presents the subscales result of differences between pretest and posttest mean scores of students in the experimental group. The t-value for each student motivational concept shows significance ($p \leq 0.001$). While the mean difference showed a significant increase for all four student motivational concepts, locus of control showed the greatest increase (0.543) and academic self-concept showed the least increase (0.166) after the teachers' inservice training.

Testing of Hypothesis 6

Experimental teachers and students were asked to respond to questions regarding their teachers' use of motivational concepts in the teaching/learning process. These concepts comprised the subscales of the SAMBI-A and SAMBI-B Instruments. Teachers reported the frequency of their use and students reported on teachers' use of the motivational concepts after the inservice training. The five-point response scale was collapsed into a three-point scale in order to use the chi-square

Table 24. Comparison of pretest and posttest mean scores for student academic motivation after the treatment

SAMS	Pretest Mean	Posttest Mean	Mean Difference	t-value
Experimental Group Students, N = 350	3.624	3.844	0.220	9.05***

*** Significant beyond the 0.001 level.

Table 25. Comparison of pretest and posttest subscale mean scores for student academic motivation after the treatment

Student Motivational Concepts	Pretest Mean	Posttest Mean	Mean Difference	t-value
Academic Self-Concept	3.632	3.798	0.166	4.12***
Intrinsic Motivation	3.443	3.768	0.325	8.43***
Locus of Control	3.239	3.782	0.543	13.31***
Need for Achievement	3.776	4.064	0.288	5.06***

*** Significant beyond the 0.001 level.

procedure to test the null hypothesis. The responses to teachers' use of motivational concepts were characterized as 'frequent', 'moderate', and 'seldom'.

H_{06} : There is no significant difference in the expected and observed frequencies of the experimental students' perceptions regarding teachers' classroom motivational behaviors and their teachers' perceived use of motivational concepts after the treatment.

Table 26 shows the chi-square value of 27.1672 for teachers' and students' perceptions. There was a significant difference between students' and teachers' perceived use of motivational concepts after the inservice training. Therefore, Hypothesis 6 was rejected ($p \leq 0.05$). For example, 73.1% of the students thought their teachers frequently used motivational concepts after the inservice training while only 60% of their teachers agreed. The second contrast shows students and teachers differ widely on 'moderate' use of the motivational concepts (13.1% vs. 31.4%). Finally, a higher percentage of students than teachers reported teachers seldom used the motivational concepts (13.7% and 8.6%).

Table 26. Comparison of perceptions of experimental group teachers and students on teacher classroom motivational behaviors after treatment

Perceptions	Teachers, N = 35	Students, N = 350
Frequent	21 (60.0)	256 (73.1)
Moderate	11 (31.4)	46 (13.1)
Seldom	3 (8.6)	48 (13.7)
$\chi^2 = 27.16725^*$	alpha 0.05	5 df

Testing of Hypotheses 7 and 8

Principals in the experimental schools were trained to provide motivation training to the teachers in their schools. The question of whether the schools differed with respect to teachers' perceived use of motivational concepts and student academic motivation level after the inservice training was considered during the data analyses. Furthermore, if the schools are different, then which combinations of schools are significantly different after the training? One-way analysis of variance was used to test the null hypotheses listed in this subsection, and the Scheffé test was used to compare all possible combinations of school means. The school was the unit of analysis.

H_{07} : There is no significant difference among the schools on teachers' perceived use of motivational concepts in the teaching/learning process after the treatment.

Table 27 shows that the F-value of 2.866 with 10 and 51 df was significant at the 0.01 level. The hypothesis was rejected. The F-value indicated the mean of at least one school was significantly different from the mean of other schools. Analysis of the data using the Scheffé test showed no two schools were significantly different at the 0.05 level when paired, but the mean for individual schools shown in Table 28 clearly indicate a significant difference between the experimental and control groups, with one exception, School 12 (mean 4.090).

H_{08} : There is no significant difference among the schools on student academic motivation after the treatment.

Table 29 shows the F-value of 7.183 with 10 and 606 df which is significant at the 0.001 level. The null hypothesis was rejected since the mean for at least one school was significantly different on student

Table 27. One-way analysis of variance on teachers' use of motivational concepts for experimental and control schools after treatment (N = 11)

Source of Variation	Degrees of Freedom	Mean Square	F
Between Groups	10	0.334	2.886**
Within Groups	51	0.116	
Total	61		

** Significant beyond the one percent level ($p \leq 0.01$).

Table 28. Mean scores of the experimental and control schools for teachers' use of motivational concepts after treatment

Schools	Mean	S.D.
Experimental		
1	4.093	0.184
2	4.187	0.430
3	4.227	0.307
4	4.413	0.328
5	4.083	0.179
6	3.988	0.343
Control		
7	3.643	0.337
8	3.627	0.344
9	3.786	0.372
11	3.813	0.387
12	4.090	0.427
Grand Mean = 4.0135		

Table 29. One-way analysis of variance on student academic motivation for experimental and control schools after the treatment (N = 11)

Source of Variation	Degrees of Freedom	Mean Square	F
Between Groups	10	1.381	7.183***
Within Groups	606	0.192	
Total	616		

*** Significant beyond the 0.001 level ($p \leq 0.001$).

Table 30. Mean scores of the experimental and control schools for student academic motivation after treatment

Schools	Mean	S.D.
Experimental		
1	3.819	0.415
2	3.813	0.436
3	3.916	0.352
4	3.739	0.355
5	3.871	0.433
6	3.918	0.431
Control		
7	3.573	0.398
8	3.406	0.429
9	3.780	0.469
11	3.794	0.470
12	3.494	0.589
Grand Mean = 3.753		

academic motivation. Further examination of the data in Table 30, using the Scheffé test, showed three experimental schools (3, 5 and 6) significantly different from School 8 in the control group. In addition, School 2 in the experimental group differed significantly from Schools 3, 5 and 6 in the same group. The mean scores on student academic motivation ranged from 3.406 (lowest, School 8) to 3.918 (highest, School 6). Overall, Table 30 indicates a difference between the experimental and control schools.

CHAPTER V. SUMMARY, CONCLUSIONS, LIMITATIONS,
DISCUSSION, RECOMMENDATIONS

Summary

A contemporary problem facing American educators is how to enhance student motivation to learn. Many researchers have investigated the problem and have typically looked at motivation from one of two perspectives: either as an individual trait of the learner which affects the learning outcome, or as a teaching method which affects the learning outcomes of the entire class. A review of the literature indicates that rarely have researchers investigated both perspectives.

This investigation examined both perspectives and added a third, the role of the principal as a motivational catalyst in the school. The model for this investigation suggests that the Principal Inservice Training on Student Academic Motivation (PITSAM) is linked to student learning outcomes. The principal receives the training and then trains the teaching staff. The interaction between principals and teachers via inservice training results in changes in teacher classroom motivational behaviors. The model further suggests that those changes impact on students through teacher-pupil interactions in the teaching/learning process, thus influencing change in student academic motivation level and ultimately, improving learning outcomes.

The major tasks for testing the model involved developing a student academic motivation training module, instrumentation, procedural design, and providing training for building principals to implement the treatment. This investigation measured the effects of a structured principal-

delivered inservice training program designed to improve teacher classroom motivation behaviors and student academic motivation.

During the 1981-82 school year, 11 Iowa secondary school principals, 62 of their teachers and 617 of their students participated in the investigation of student academic motivation and the testing of the PITSAM model. Six schools comprised the experimental group and five schools the control group.

The nonequivalent control group pretest-posttest design was chosen because randomization of schools was not possible. However, teachers and students in each school were randomly selected to participate in the study. The treatment was the inservice training on student academic motivation received by the principals who then used the same module for training their teachers. The findings will be summarized in two parts: (1) descriptive data, and (2) data analyses.

Descriptive Data

Characteristics of the sample

The data were collected from 62 teachers and 617 students in eleven schools. The schools were characterized as junior high (2), senior high (5), and junior/senior high (4). More than half of the students and teachers were at the senior high level.

The years of teaching experience for teachers ranged from one to thirty-six, with the largest number of teachers in the 6-10 year range. The subjects taught were representative of the secondary curriculum with English, social studies and mathematics dominating the list. A higher

percentage of the experimental than control group teachers reported they received some type of prior training in motivational concepts, either through inservice or college courses. Approximately 51% of the students were females. The majority of students were in either 9th or 10th grades. The experimental group principals averaged 7 1/2 years of administrative and ten years of teaching experience. All principals had experience in conducting inservice training.

Communicating styles

The six principals and thirty-five teachers in the experimental group responded to a Communicating Styles Survey. The instrument was used to determine the degree of congruence between principals' and teachers' styles of processing information and communicating it to others. It was not intended to be used in data analysis, but to supply data that may be of use to practitioners and researchers in the future. The results showed that principals and teachers in three of the schools were congruent in their styles. They were primarily sensors and thinkers. The least used styles among teachers and principals were the feeler and intuitor. The communicating styles of teachers and principals in the other three schools varied widely. There was no consistent trend.

Use of motivational concepts

Sixty percent of the experimental group teachers reported they frequently used the motivational concepts after the inservice training. A higher percentage (73.1%) of the experimental group students reported their teachers used the motivational concepts frequently after the inservice training.

The posttest results showed 64% of the experimental students highly motivated after the inservice training. It appeared that highly motivated students perceived their teachers to use the motivational concepts more frequently than did the poorly motivated students.

Data Analyses

The results and analyses of the data on both the composite and subscales are summarized in this subsection.

Teachers' perceived use of motivational concepts (SAMBI-B)

The SAMBI-B instrument consists of the following teacher motivational concepts: teacher expectations, interest, focusing attention, enthusiasm, level of concern, goal-setting, feeling tone, success, feedback, and reward.

Pretest results showed no significant difference between the experimental and control groups on teachers' perceived use of motivational concepts in the classroom. But, when the groups were given a posttest following training, the data showed a significant difference between the two groups.

Group comparison Teachers in the experimental group perceived their use of motivational concepts more frequently than teachers in the control group following the training. In addition, the groups differed significantly on each teacher motivational subscale. The experimental group teachers appeared to raise students' levels of concern and to provide opportunities for students to experience success more often than teachers in the control group. Conversely, the data indicate that

teachers in the experimental group perceived themselves as using feedback less often than the other motivational concepts, yet, more frequently than the control group teachers.

Experimental group: pre-posttest gains After the inservice training, teachers in the experimental group perceived an increase in the frequency in which they used the ten motivational concepts. Similar results were found on the motivational subscales. The data clearly show the teachers who received training perceived an increase in: (1) the number of opportunities they provided for students to experience success; (2) the amount of enthusiasm they exhibited and/or helped to create in their students; and (3) the number of times rewards were used as a motivational strategy. Again, feedback was perceived to be used less than the other motivational concepts.

Differences in perceptions between students and teachers Teachers and students perceived teachers' use of motivational concepts in the classroom differently. Teachers tended to perceive a less frequent use of the motivational concepts than their students.

Students' perceptions of teachers' classroom motivational behaviors (SAMBI-A)

The SAMBI-A instrument consists of ten teacher motivational concepts. Students reported their perceptions regarding teachers' use of these motivational concepts in the teaching/learning process. The motivational concepts are: teacher expectations, interest, focusing attention, enthusiasm, level of concern, goal-setting, feeling tone, success, feedback, and reward.

Pretest results showed a significant difference between the experimental and the control group students on their perceptions of teachers' classroom motivational behaviors. Since the groups differed significantly on the pretest, a decision was made to use an analysis of covariance to statistically compensate for the difference between the two groups. The covariate was the pretest data.

The pretest/posttest results showed no significant difference between the two groups on student perceptions following the inservice training. Although the groups did not differ on the composite scale, the subscale results showed the experimental group significantly different from the control group on four motivation concepts. The experimental students perceived their teachers using feeling tone, goal-setting, success, and level of concern concepts more frequently after the inservice training than did teachers in the control group. Feeling tone was perceived to be used much more frequently than the other four motivational concepts.

Student Academic Motivation (SAMS)

Student academic motivation level was measured by SAMS which consists of four student motivational concepts: academic self-concept, intrinsic motivation, locus of control, and need for achievement.

Group comparison Pretest results showed no significant difference between the experimental and control groups on student academic motivation. However, when posttest results were compared, the experimental group students differed significantly from the control group students on academic motivation. The results clearly show that the

teacher inservice training made a difference in student academic motivation.

The subscale results were consistent with the composite scale in showing a significant difference between the two groups on all four student motivational concepts. It was noted that the groups differed most on need for achievement followed by intrinsic motivation.

The experimental group students had a higher need for achievement and were more intrinsically motivated than the control group students. The least difference between the groups was seen in students' locus of control (students' belief about their ability to initiate activities or experience control over learning).

Experimental group: pretest-posttest Not only did the experimental group students differ significantly from the control group students on academic motivation, but they also showed a significant increase in the level of academic motivation following the training. Although a significant increase was shown on both the composite and the four subscales, it appears that teachers' use of motivational concepts after inservice training had the most effect on students' beliefs about their ability to have control over learning (locus of control) and the least effect on students' confidence in their ability to do school work competently (academic self-concept).

Comparison of schools

When schools were the unit analysis, the experimental schools differed significantly from the control group schools on the frequency of teachers' perceived use of motivational concepts in the teaching/

learning process. Similar results were found when the experimental and control schools were compared on student academic motivational level. After the inservice training, all the experimental schools showed a significant increase in (1) teachers' perceived use of motivational concepts, (2) students' perceptions of teachers' classroom motivational behaviors, and (3) students' academic motivational level.

Conclusions

The primary purpose of the study was to investigate the effectiveness of a structured principal-delivered inservice training program on teacher classroom motivational behaviors and student academic motivation. The results derived from testing for significant differences between experimental and control groups and significant gain of the experimental group from pretest to posttest led to the following conclusions.

1. The Principal Inservice Training on Student Academic Motivation (PITSAM), as constituted, was effective.
2. Trained principals are more effective as a motivational catalyst in the school than untrained principals.
3. Inservice training held at the building level and delivered by the principal is an effective way of improving teacher classroom motivational behaviors and student academic motivation.
4. Trained teachers reported using motivational concepts in the teaching/learning process more frequently than teachers who were not trained.

5. The trained teachers reported they used level of concern as a motivational strategy more often than any of the other concepts compared to the control teachers after the inservice training.
6. The trained teachers reported a higher increase in the use of success, reward, and enthusiasm than other motivational concepts after they received the inservice training.
7. Trained teachers reported providing feedback to students less frequently than any of the other motivational concept.
8. Students of teachers who were trained and students of untrained teachers differed significantly in perceptions regarding teachers' classroom motivational behaviors. Students of the trained teachers reported the following:
 - different feeling tones (pleasant, unpleasant, and neutral) were frequently used by their teachers;
 - goal-setting was frequently a part of the teaching/learning process;
 - there were frequent opportunities for students to experience success in learning; and
 - teachers frequently raised or lowered the students' levels of concern (anxiety level).
9. Students of trained teachers had a higher need for achievement and were more intrinsically motivated than students of teachers who have not been trained.
10. Students of trained teachers rated themselves higher on the locus of control and intrinsic motivation attitudes than the other concepts. Students' academic motivation increased significantly after their teachers received inservice training.

The two motivational concepts most affected were locus of control and intrinsic motivation. It appears that students of the trained teachers generally feel learning to be more meaningful and, therefore, feel responsibility for completing academic tasks.

11. There is less variations among experimental schools compared to control schools with respect to teachers' perceived use of motivational concepts and student academic motivation level.

Limitations

The conclusions drawn from this investigation are constrained by the following limitations:

1. The sample was limited to eleven secondary schools in central Iowa. Therefore, the conclusions may not be used to generalize to students and teachers in other districts or grade levels.
2. It was not possible to randomly select the participating schools or randomly assign students and teachers to the groups, nor was it possible to obtain both the experimental and control groups from within the same school. However, both students and teachers were randomly selected after their principals agreed to participate in the study.
3. The sample size was somewhat affected by attrition, student absenteeism, and incomplete data.
4. The training took place during the spring of the year as opposed to the beginning of the school year. This could have either positive or negative effects on the results.

5. The treatment period was limited to only seven weeks.
6. Instruments used to collect the data were nonstandardized.

Discussion

The Principal Inservice Training on Student Academic Motivation (PITSAM) suggests that the principal is the motivational catalyst in the schools. That person sets the tone for both teacher and student motivation. Aside from the personal support for and display of interest in student academic motivation, the principal actively prepares for the role of motivational catalyst. If professional growth is seen as a part of one's professional commitment, then principals need inservice training. Principals' inservice represents the first link in the PITSAM model.

The next link in the model involves the principal in providing inservice to teachers at the building level. This, according to researchers Collins (11), Lawrence et al. (50), and Berman and McLaughlin (6), is the level where teacher inservice training has been most effective. The results of this investigation supports earlier research with respect to building level inservice training. The results also support other research in that the structured PITSAM module contains the key components that impact on the effectiveness of an inservice training program discussed by Joyce and Showers (39), and Wood and Thompson (81). Those components include: theory, modeling, simulation, feedback, coaching for application, concern for the nature of the adult learner, and delivery impact. Did the communicating styles of the principals have any relationship to the results found in the study? This

investigation did not examine the relationship there, but this writer tends to agree with research which supports the value of the communicating styles concept in working with adults and student learners.

The third link in the PITSAM model focuses on the teacher's role in facilitating student academic motivation via their classroom motivational behaviors. As expected, this study revealed that the trained teachers perceived the frequency of their use of motivational concepts to differ significantly from the control group teachers after training. The results also showed a significant increase in the frequency of teachers' perceived use of motivational concepts from pre and posttest, indicating the effect of inservice training. These findings tend to support earlier research that indicate teachers are "wonderful learners" (39), and when inservice activities are "concrete, ongoing, teacher specific and hands-on" (6), teachers are more receptive to change.

In contrast to the teachers' perceptions, the results showed no significant difference between the experimental and control group students in their perceptions of teacher's use of motivational concepts in the teaching/learning process. Perhaps, this can be explained by student's inability to determine if teachers were indeed using the motivational activities described on the SAMBI-A instrument. Several other factors could have affected the way students responded to the survey.

The final link in the PITSAM model suggests that students' level of academic motivation is not only affected significantly by what the teacher does in the classroom, but also by the students' own motives.

The literature review on student motivation revealed many studies on single aspects of student motivation, but few multiple motivation approaches. This investigation of student motivation focused on student academic motivation which includes a collection of specific motivation measures identified in the literature. The advantage to using the multiple or integrated approach is the motivational profile developed from the results of motivational measures and through the examination of the relationships among different "motivations" as discussed by Moen and Doyle (55). Four single student motivational concepts were selected to be included in the SAMS instrument. Results were as expected; students of the trained teachers were significantly more motivated than those students whose teachers received no training. In addition, the academic motivation level increased significantly from pre to posttests for the experimental group students.

The results in this study confirm the PITSAM model: (1) principals can be trained to provide an effective teacher inservice program at the building level; (2) teachers can be trained to improve their classroom motivational behaviors; and (3) students are more academically motivated as a result of the inservice training. However, improved student learning outcomes are the reasons for these linkages in the PITSAM model. Did students achieve more academic learning as a result of increased motivation? The answer is unknown. Further research is needed to answer this question.

Recommendations

In light of the findings of this investigation, several recommendations seem appropriate for both practitioners and researchers.

Recommendations for practice

It is recommended that the following be considered by practitioners interested in assessing student academic motivation:

1. In order to serve as an effective motivational catalyst in the schools, principals must be willing to
 - a. receive training and then
 - b. train the teaching staff in facilitating student academic motivation in the classrooms.
2. Teachers' support is critical to the success of a program of this nature. Therefore, the principal's role as a motivational catalyst extends to motivating teachers in assuming more responsibility for enhancing student academic motivation.
3. Inservice training on student academic motivation should be extended to include other teacher motivational concepts as well as student motives related to learning.
4. Results from the findings can be used to:
 - help teachers identify areas of strengths and weaknesses in teaching strategies, thus serving as a self-analysis regarding their use of motivational concepts.
 - plan building level inservice activities that reflect the instructional needs of the staff, using input from both teachers and principals.
 - identify motivational level of individual students. This will help teachers to recognize specific motivational problems and plan appropriate activities and strategies.

Recommendations for further research

To aid other researchers conducting studies in this area, the following suggestions are provided:

1. A sample should be drawn that represents students from several school districts of different size and location so that comparisons can be made by size and location in terms of urban and rural, socio-economic, and multi-racial/ethnic backgrounds.
2. Schools should be randomly selected, and students and teachers randomly assigned to experimental and control groups.
3. Inservice training sessions should be held at the beginning of the school year for both principals and teachers.
4. It is recommended that the treatment period be extended to at least one semester, and that a retention test be administered after the posttest.
5. Additional teacher and student motivational concepts should be identified from the literature and included in future research reflecting an integrated approach.
6. Factors influencing the principal's delivery of inservice training, such as communicating styles and consideration for the adult learner, should be considered for future research.
7. It is recommended that this study be replicated using an observer to rate teachers' classroom motivational behaviors in addition to the self-report type survey. A comparison can then be made between those changes that were self-reported and those observed by others.

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Last, but not least, I must acknowledge the love, support, and prayers of my dear mother, Julia Gray Scott, who has always been there for me. It is to her and the memory of my late father, Samuel Scott, that this dissertation is humbly dedicated.

APPENDIX A. SELECTED SAMPLES OF CORRESPONDENCES
TO EXPERIMENTAL AND CONTROL SCHOOL PRINCIPALS

I am a doctoral candidate in Educational Administration at Iowa State University. I am planning a study designed to examine the effects of a principal-delivered inservice training program on student academic motivation and teacher classroom behaviors related to motivation. I believe that a structured inservice training delivered by principals impacts what teachers do in the classroom to facilitate student motivation, and which ultimately affects student achievement.

The evidence is clear regarding motivated students; anxiety decreases, discipline problems lessen, self-esteem heightens, and in some instances academic achievement increases. Through inservice training, teachers (the most influential facilitators of student motivation) can be helped to transform motivational theories into practical application in the classroom. You were recommended to me by Dr. Jim Sweeney, Professor at Iowa State University, because of your interest in enhancing student achievement. I can assure you that your participation in this study will be of mutual benefit. While I investigate my belief that a structured inservice program delivered by the principal makes a difference, you will receive training on student motivation.

Procedures

The information below will help you to understand the procedures for carrying out the study and your role in it.

- A. Training. A structured inservice unit on student motivation including a training package has been developed for principals to use for training teachers.

The training package contains information on motivational theories and concepts, teaching strategies, references, and masters for transparencies.

1. Twenty principals will receive training on how to use the materials at a three-hour inservice session on the campus of Iowa State University. The training will be conducted by Dr. Jim Sweeney and myself. Proposed dates/time: Saturday, March 6, 1982, or Saturday, March 13, 1982, from approximately 10:00 a.m. to 1:00 p.m.
2. Principals will be expected to present the training to all teachers in three 1-hour sessions during the three weeks immediately following training at Iowa State University.
3. The control group for this study will consist of twenty principals who will not receive training.

B. Length of Study

This is a seven-week study which begins the week following the principal's inservice training at ISU (March 1st or 8th) and ends with the posttest activity on April 23rd or 30th.

C. Assessment (testing)

The design of the study calls for a pre- and post-test of teachers and students. The instruments will assess (1) student academic motivation (student's perception) and (2) teacher classroom behaviors relating to student motivation as perceived by students and teachers. Administration time for both: approximately 60-70 minutes for students and 15-20 minutes for teachers.

D. Test Administration

1. Pretest. All instruments will be given to the principals at the ISU inservice session. The pretest must be administered prior to the first teacher inservice training session on student motivation. (Monday, following the training at ISU is strongly recommended.)
2. Principals will be expected to "supervise" student testing so as to guarantee valid data. Pre- and post-tests for teachers will be directly administered by principals. Self-addressed, stamped envelopes will be provided for the return of all instruments to the researcher.

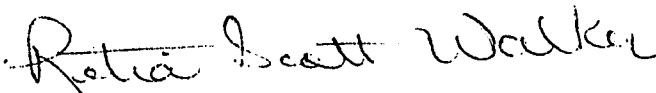
3. Due to the cost of printing, I am unable to test all students in each class. Information on how teachers and students will be randomly selected for the study will be disseminated at the inservice session for principals.
- E. Feedback. To protect the confidentiality of the individuals, the researcher will share school, not teacher data with each principal. Individual teachers may receive class results upon request if a lead teacher is designated to receive and distribute the information.
- F. Cost. The school will be expected to pay the actual cost of the training package, and be responsible for duplication of materials for teachers (if desired). The anticipated cost exclusive of duplication is less than \$10.00.

To summarize, principals will be expected to:

- a. participate in the ISU Inservice Training,
- b. conduct three 1-hour inservice training sessions with teachers,
- c. administer the tests as outlined, and
- d. provide school payment for the training package.

I hope I have anticipated and addressed the critical questions concerning the study. Please let me hear from you within the next few days by completing the enclosed questionnaire and returning it to me in the self-addressed, stamped envelope. Thank you for taking the time to consider my proposal. I appreciate your interest and cooperation.

Sincerely,



Retia Scott Walker
Graduate Student
Iowa State University

Please complete and return.

151

Name _____

School _____

Address _____

Telephone _____

Check one response:

I will participate in the study.

I will not participate in the study.

I am interested, but need additional information. Please call me.

If your response is yes, complete the following:

Number of full time regular classroom teachers in your school _____

I can attend the ISU Inservice Session on _____ 3/6/82 _____ 3/13/82.

(Check both dates if you are
available.)

Time: _____ 9-12 noon _____ 10a.m. - 1p.m.

Thank you. I'll contact you immediately after I am able to confirm a date and the time.

Please note: There is a possibility that more than twenty principals will be able to participate on one of the above dates. If this is the case, twenty principals will be randomly selected for the study. Some of you might be interested in serving in the control group. Those principals who serve as the control group will be offered the training after the experiment has been completed.

IOWA STATE
UNIVERSITY

Thank you for agreeing to participate in the study. The principal Inservice Training on Student Academic Motivation is scheduled for Saturday March 13, 1982, 9 - 12 noon, in N231 Quadrangle, on the campus of Iowa State University.

Please bring a list of your classroom teachers. Indicate which teachers have first period classes. This information is needed in order to randomly select six teachers and ten of their students to measure the effects of training on teacher classroom behaviors and student academic motivation.

If you need additional information, please call me at (515) 294-5521 or 294-9804. I am looking forward to working with you.

Sincerely,

Retia S. Walker

RW;jw

Thank you for agreeing to serve in the control group for my study. As you recall, I plan to examine the effects of a principal-delivered inservice on teacher classroom behaviors and student academic motivation.

Your responsibility as a part of the control group is to administer a pre-test (week of March 15th) and a post-test (week of April 26th) to six teachers and sixty students in your school. Return the answer sheets in the self-addressed, stamped envelope provided immediately after the testing activity.

To randomly select your teachers, assign each person teaching a first period class a number and place it in a box. Select six numbers from the box. Ask those teachers to follow the same procedure for randomly selecting ten students from their first period class. If you're unable to select enough teachers assigned to first period classes, then use the second period.

The following instruments are enclosed in this package:

- | | |
|--------------------|---|
| For students (60): | (1) The Student Academic Motivation Scale (SAMS) |
| | (2) The Student Academic Motivation Behavior Inventory (SAMBI)
Part A: Student perceptions |
| For teachers (6): | The Student Academic Motivation Behavior Inventory (SAMBI)
Part B: Teacher perceptions |

The package also contains a Modified Informed Consent Form for students and teachers, answer sheets, instructions, plain white envelopes for individual instruments and large brown self-addressed stamped envelopes for mailing completed instruments to me.

Please call me if there are any questions. I can be reached at the office during the day at (515) 294-5521, 294-5529, or 294-9804 and at home in the evenings at (515) 292-0021. Thank you for your cooperation and assistance.

Sincerely,

Retia S. Walker

RSW;jw
Enclosures

PLEASE RETURN TO ME

Would you like to receive the Motivation Inservice Training before the end of this school year. yes no

Instead of the Motivation Inservice Training, I would like a copy of the Motivation Training Manual. (cost \$4.75 each)

 yes no

If yes,

Number requested

Check enclosed for \$

Mail ~~M~~anual to:

APPENDIX B. INSERVICE WORKSHOP PLANNER

Principal Inservice Training in Student
Academic Motivation

March 13, 1982
Iowa State University
Room N231 Quad

-Planner-

Time	Activity	Materials			Remarks
		Transparency	Exercises	Handouts	
8:45 a.m.	coffee/cake				
9:00 a.m.	Orientation . Purpose . Motivational Theories . What Research Says	--	--	--	Walker
9:15 a.m.	Overview of the session .PITSAM objectives (see manual) .Schedule explained	--	--	--	Walker/Sweeney
9:30 a.m.	What is Motivation? .Myths .Definitions (see manual) Introduce Motivational Concepts	#1 # 2,3 #4,5	--	-- H-1	Walker/Sweeney 157
	A. Teacher Expectations B. Enthusiasm C. Interest D. Goal-Setting E. Focus Student Attention F. Level of Concern G. Feeling Tone	#6(A,B)1 #7 #8,9,10 #11,12,13,14 #15,16,17 #18 #19,20,21 #22(a,b), 23,24	Case Studies E-1 -- E-2 (Q#1) Role Play E-3 Self-Test E-4 E-2 (Q#2) E-2 (Q#3)	H-2 H-3 H-4 -- -- -- --	Walker/Sweeney

Time	Activity	Materials			Remarks
		Transparencies	Exercises	Handouts	
10:30a.m.	Coffee break	--	--	--	--
10:45a.m.	Continue (Motivational Concepts)				Walker/Sweeney
	H. Success	#25,26,27,28	E-2 (Q#4)	--	
	I. Knowledge of Results/Feedback	#29,30	E-2 (Q#5)	--	
	J. Reward	#31	E-2 (Q#6)	--	
	- Summary -	#32	--	H-5 H-6 H-7	
11:15a.m.	. Self-score Quiz				Walker
	. Training Evaluation				Walker
	. Test Administration				Walker

APPENDIX C. MOTIVATION THEORY SELF-TEST
USED IN THE INSERVICE TRAINING

MOTIVATION THEORY
SELF-TEST

If you wish to further increase your motivation, take this test so the knowledge of results of how much you have learned will increase your motivation.

1. A teacher who wished to increase the accuracy of students' computation should find most effective:
 - a. telling each child how many problems he has done correctly
 - b. telling each child how many problems he has done incorrectly
 - c. children correcting each other's papers
 - d. children correcting their own papers
 - e. giving letter grades to each paper

2. By initiating a social studies unit with an arranged environment the teacher is trying to increase motivation to learn by:
 - a. meaningfulness
 - b. manipulation
 - c. success
 - d. interest
 - e. feeling tone

3. Modern education states that one of the most important outcomes of schooling is the development of a zest for learning. This objective is based on the motivational influence of:
 - a. feeling tone
 - b. success
 - c. knowledge of results
 - d. intrinsic motivation
 - e. tension

4. Ralph has great difficulty in handwriting and never works to improve it. Poor motivation would probably result from his lack of:
 - a. interest
 - b. knowledge of results
 - c. feeling tone
 - d. activity related to goal
 - e. success

5. Paul avoids all physical education because he is afraid of being hit by a ball. He does not throw or catch well. What will probably be the most effective technique to increase his motivation?
 - a. assure him that playing ball is fun
 - b. get the other children to help him
 - c. let him know the importance of participation in games
 - d. teach him to throw and catch
 - e. be sure he is successful in other parts of the day

6. You feel it is important that children learn how to prepare a report on a country that deals with the history, geography, government, and customs, but they seem unmotivated. You begin by having them work on the section on geography with much help from you. What variables are you manipulating?
 - a. knowledge of results
 - b. success
 - c. interest
 - d. feeling tone
 - e. level of difficulty

7. Bill is poorly coordinated so the teacher skates with him as his partner when the class is rollerskating. Bill begins to enjoy the physical sensations of skating. His motivation to learn to skate will probably increase most as a result of:
 - a. reduction of his anxiety
 - b. attention by the teacher
 - c. more chance of success
 - d. the reward's relation to the activity
 - e. skating is becoming easier

8. When you call on two strong students in succession for the first responses in a new drill, then two average students, and lastly, a weak student, you are manipulating the motivational variable of:
 - a. success
 - b. feeling tone
 - c. tension
 - d. interest
 - e. level of difficulty

9. When you dismiss class members individually (at the time for going home) by requiring each to give the correct answer to a multiplication fact, you are manipulating the motivational variable of:
 - a. success
 - b. knowledge of results
 - c. tension
 - d. interest
 - e. level of difficulty

10. The teacher decides to tally on the board the number of times the class can follow instructions without unnecessary questions as well as the number of times unnecessary questions are asked. To increase the motivation to listen carefully, she is manipulating the variable of:
 - a. success
 - b. interest
 - c. feeling tone
 - d. knowledge of results
 - e. intrinsic motivation

11. Choose the statement that describes the most extrinsic motivation.
 - a. child is building a skate board she can ride with other children
 - b. child is computing how much his father owes him
 - c. child is studying hard to get straight "A's"
 - d. child is swimming on a hot day
 - e. child is making cookies for a party

12. It is important that unmotivated children keep records of their progress so they are influenced by:
 - a. more success
 - b. more interest
 - c. relation of goal to activity
 - d. feeling tone
 - e. knowledge of results

13. Although Ralph hates spelling, his teacher sees that he practices until he can get 100 on the test. She had probably made the decision that an important motivational factor for him is:
 - a. success
 - b. feeling tone
 - c. knowledge of results
 - d. activity related to goal
 - e. tension

14. Which child will have the most productive motivation to learn?
 - a. a child unconcerned about the learning
 - b. a child a little concerned about the learning
 - c. a child moderately concerned about the learning
 - d. a child much concerned about the learning
 - e. a child greatly concerned about the learning

15. The teacher wishes the intrinsic motivation of reading to increase. Which of the following should she choose?
 - a. a chart where each child records the number of books he reads
 - b. much recreational reading
 - c. many easy books
 - d. asking parents to encourage reading at home
 - e. giving special recognition to good readers

16. Frank has been labeled a "low achiever". Which teacher has appropriate expectations of Frank?
 - a. the teacher who expects Frank to meet the same standards set for the entire class.
 - b. the teacher who plans learning experiences at Frank's level and attempts to move him along at a pace he can handle.
 - c. the teacher who expects Frank to remain a low achiever.
 - d. the teacher who expects Frank to make little progress.
 - e. the teacher who plans only easy activities for Frank.

17. Ms. Scott enjoys dramatizing the social studies lessons. Her students feel she is:
- interested in the subject
 - acting a little "crazy"
 - enthusiastic about the subject
 - an emotional person
 - both a and c
18. Jeff wants to increase his typing speed. Which of the following methods should he choose?
- goal-setting
 - focusing attention
 - private tutor
 - a second typing class
 - all of the above
19. Focusing student attention at the beginning of the lesson means:
- demanding everyone's attention
 - tapping the ruler on the desk
 - setting the stage for students to anticipate the lesson by building interest and motivation for learning
 - presenting a familiar object/idea
 - having students to turn to page "10" and begin reading immediately
20. The following statements are familiar to most people. Identify the myths.
- students are unmotivated
 - teachers motivate students
 - motivation enhances learning
 - items a + b + c
 - teachers facilitate motivation

MOTIVATION THEORY
SELF-TEST ANSWER SHEET

Correct Answers.

1 - d	6 - e	11 - c	16 - b
2 - d	7 - d	12 - e	17 - e
3 - d	8 - e	13 - a	18 - a
4 - e	9 - c	14 - c	19 - c
5 - d	10 - d	15 - b	20 - d

If you have 12 or more correct -

The pleasant feeling tones of your success should motivate you to use your knowledge of motivation theory in the classroom.

If you have 7 to 11 correct -

The specific knowledge of results of which questions you missed should motivate you (we hope) to review parts of this book.

If you have less than 7 correct -

Our failure to write a better program has resulted in unpleasant feeling tones for you and us. We hope that will motivate you to write and tell us what is wrong with this book.

Adaptation of Madeline Hunter's Motivation Self-Test

APPENDIX D. INSERVICE TRAINING EVALUATION FORM

166
Training Evaluation

Participant Assignment: Teacher _____ Administrator _____
Other (Specify) _____

Level: Middle School _____ Jr. High _____ Sr. High _____

Subject _____

1. Rank from 1 to 5 the extent to which the training objectives were accomplished. Rank 1 = most completely accomplished. Rank 5 = least completely accomplished. Circle one number.

Rank: | 1 2 3 4 5 |

2. How stimulating did you find the session(s)? (Check only one).
____ Extremely stimulating
____ Highly stimulating
____ Substantially stimulating
____ Somewhat stimulating
____ Slightly stimulating (or less)
3. How relevant to your job-situation did you find the contents of the session(s)?
____ Extremely relevant
____ Highly relevant
____ Substantially relevant
____ Somewhat relevant
____ Slightly relevant (or less)
4. How useful (practical) for you was the skill or information gained in the session(s)?
____ Extremely useful
____ Highly useful
____ Substantially useful
____ Somewhat useful
____ Slightly useful (or less)
5. The session(s) provided sufficient variety to maintain my interest.
____ Strongly agree
____ Agree
____ Moderately agree
____ Disagree
____ Strongly disagree

6. How well motivated are you to try to implement the PITSAM concepts in your school/classroom?

_____ I am very excited about implementing the concepts.

_____ I am moderately excited about implementing the concepts.

_____ I am slightly interested in implementing the concepts.

_____ I am skeptical, have doubts about implementing the concepts.

7. What is your over-all rating of the training session(s)?

_____ One of the best I've attended (Exceeds my standards).

_____ Very helpful to me as a professional (Meets my standards).

_____ Not very helpful (Does not meet my standards).

8. Comments:

APPENDIX E. INSTRUMENTS USED IN THE STUDY

The Student Academic Motivation Scale (SAMS)

Directions: This questionnaire is designed to determine your motivational level. Decide how you feel about each statement below. Select the number which corresponds with your answer and circle it on the answer sheet. DO NOT WRITE ON THE QUESTIONNAIRE.

	Always	Often	Sometimes	Rarely	Never
	1	2	3	4	5
1. I put a great deal of effort into my school work.	1	2	3	4	5
2. I begin work on assignments promptly.	1	2	3	4	5
3. I ask teachers to explain the incorrect answers on my test and homework papers.	1	2	3	4	5
4. I complete assignments to get a good grade.	1	2	3	4	5
5. I work hard to avoid failing in school.	1	2	3	4	5
6. I attempt to solve difficult problems.	1	2	3	4	5
7. I select tasks that are easy for me to do.	1	2	3	4	5
8. I read difficult books because they are challenging.	1	2	3	4	5
9. I seek help from the teacher when I am unable to complete my assignments.	1	2	3	4	5
10. I work hard to make things go well for me in school.	1	2	3	4	5
11. I stop working on a problem that is too hard and find an easier one.	1	2	3	4	5
12. I enjoy school because there are many interesting things to do.	1	2	3	4	5
13. When I am absent from school, I immediately try to catch up on my school assignments.	1	2	3	4	5
14. I take my school work seriously.	1	2	3	4	5
15. I set goals for myself to reach.	1	2	3	4	5

	Always	Often	Sometimes	Rarely	Never
170	1	2	3	4	5
16. I try to learn almost anything required of me in school.	1	2	3	4	5
17. I work hard at meeting the standards set by the teachers.	1	2	3	4	5
18. I get excited about learning new things.	1	2	3	4	5
19. I am concerned about my school work.	1	2	3	4	5
20. I am responsible for how well I do in school.	1	2	3	4	5
21. I look forward to going to school.	1	2	3	4	5
22. I find it difficult to keep my mind on school work.	1	2	3	4	5
23. I examine my study habits to determine how I can improve my school work.	1	2	3	4	5
24. I leave my school work until the last minute.	1	2	3	4	5
25. I do more than the assignment requires.	1	2	3	4	5
26. I return to work voluntarily after interruptions or lack of progress.	1	2	3	4	5
27. I listen closely when teachers are lecturing or giving demonstrations.	1	2	3	4	5
28. I feel that success in school is a matter of luck.	1	2	3	4	5

The Student Academic Motivation
Behavior Inventory (SAMBI)

Part A - Student Perceptions

Directions: This questionnaire is designed to learn more about the kinds of things teachers do in the classroom which motivates you to learn. It is important for you to answer each question as thoughtfully and frankly as possible. This is not a test, and there are no right or wrong answers.

Decide how you feel about each statement below. Select the letter which corresponds with your answer and circle it on the answer sheet. DO NOT WRITE IN THIS BOOKLET.

SA: if you strongly agree A: if you agree U: if undecided
D: if you disagree SD: if you strongly disagree

	SA	A	U	D	SD
1. The teacher shows enthusiasm for the subject he/she teaches.	SA	A	U	D	SD
2. The teacher tells students exactly what must be done in order to do well in his/her class.	SA	A	U	D	SD
3. The teacher often gives students information on how well they are doing in their school work.	SA	A	U	D	SD
4. The teacher encourages students to begin work promptly and continue until the task has been completed.	SA	A	U	D	SD
5. The teacher uses a variety of activities to put students in the mood for learning.	SA	A	U	D	SD
6. The teacher uses a firm tone of voice to encourage students to complete their assignments.	SA	A	U	D	SD
7. The teacher makes the lessons interesting by showing how they are related to student's everyday lives.	SA	A	U	D	SD
8. The teacher works with students until they understand a difficult learning activity.	SA	A	U	D	SD
9. The teacher sets standards of excellence for students and expects each student to meet those standards.	SA	A	U	D	SD

		SA	A	U	D	SD
10.	The teacher offers helpful criticism about students' school work.	SA	A	U	D	SD
11.	The teacher encourages students to enjoy learning.	SA	A	U	D	SD
12.	The teacher uses different kinds of body movements and voice tones when presenting the lessons.	SA	A	U	D	SD
13.	The teacher tries to relate learning to student interests.	SA	A	U	D	SD
14.	The teacher selects learning tasks that are challenging but not too easy or too difficult.	SA	A	U	D	SD
15.	The teacher shows concern for how students feel about the subject matter and makes changes if necessary.	SA	A	U	D	SD
16.	The teacher makes students feel like learning will be exciting and successful when he/she begins a new learning activity.	SA	A	U	D	SD
17.	The teacher uses a variety of grading procedures.	SA	A	U	D	SD
18.	When teaching a new skill, the teacher gives students the easier tasks to do first.	SA	A	U	D	SD
19.	The teacher uses interesting ways of getting student attention when beginning lesson activities.	SA	A	U	D	SD
20.	The teacher makes students feel a personal responsibility for learning.	SA	A	U	D	SD
21.	The teacher encourages students to plan specific dates by which their school work is to be completed.	SA	A	U	D	SD
22.	When students work hard, the teacher plans special treats (field trips, extra points, etc.) at the end of a learning unit.	SA	A	U	D	SD
23.	The teacher gives seatwork and homework in a pleasant tone of voice.	SA	A	U	D	SD

	SA	A	U	D	SD
24. The teacher tries to make students feel relaxed before giving an examination, but also emphasizes the need to do their best.	SA	A	U	D	SD
25. The teacher uses non-verbal responses such as smiles, frowns etc. to let students know how he/she feels about their school work.	SA	A	U	D	SD
26. The teacher changes the classroom (bulletin boards, displays etc.) to focus student attention on new learning experiences.	SA	A	U	D	SD
27. The teacher gives all students equal chance of responding to questions during class discussions.	SA	A	U	D	SD
28. The teacher uses gestures and facial expressions to show enthusiasm during the lesson presentations.	SA	A	U	D	SD
29. The teacher helps those students having difficulties completing their assignments.	SA	A	U	D	SD
30. The teacher encourages students to seek the reward of pleasure and satisfaction in school work.	SA	A	U	D	SD

174

Answer Sheet forThe Student Academic Motivation Scale (SAMS)andThe Student Academic Motivation Behavior Inventory (SAMBI)

Part A - Student Perceptions

Name _____
Last First Initial

School _____ Grade _____

Teacher _____ (1) Female
_____ (2) Male

Directions: Do Not Write In The Questionnaire Booklet. Decide how you feel about each statement in the Questionnaire Booklet. Select the number or letter which corresponds with your answer and circle below on this answer sheet.

Questionnaire 1 = Always 2 = Often 3 = Sometimes 4 = Rarely 5 = Never

1.	1	2	3	4	5	15.	1	2	3	4	5
2.	1	2	3	4	5	16.	1	2	3	4	5
3.	1	2	3	4	5	17.	1	2	3	4	5
4.	1	2	3	4	5	18.	1	2	3	4	5
5.	1	2	3	4	5	19.	1	2	3	4	5
6.	1	2	3	4	5	20.	1	2	3	4	5
7.	1	2	3	4	5	21.	1	2	3	4	5
8.	1	2	3	4	5	22.	1	2	3	4	5
9.	1	2	3	4	5	23.	1	2	3	4	5
10.	1	2	3	4	5	24.	1	2	3	4	5
11.	1	2	3	4	5	25.	1	2	3	4	5
12.	1	2	3	4	5	26.	1	2	3	4	5
13.	1	2	3	4	5	27.	1	2	3	4	5
14.	1	2	3	4	5	28.	1	2	3	4	5

Questionnaire #2

Student Perceptions

SA: if you strongly agree

A: if you agree

U: if undecided

D: if you disagree

SD: if you strongly disagree

1.	SA	A	U	D	SD	16.	SA	A	U	D	SD
2.	SA	A	U	D	SD	17.	SA	A	U	D	SD
3.	SA	A	U	D	SD	18.	SA	A	U	D	SD
4.	SA	A	U	D	SD	19.	SA	A	U	D	SD
5.	SA	A	U	D	SD	20.	SA	A	U	D	SD
6.	SA	A	U	D	SD	21.	SA	A	U	D	SD
7.	SA	A	U	D	SD	22.	SA	A	U	D	SD
8.	SA	A	U	D	SD	23.	SA	A	U	D	SD
9.	SA	A	U	D	SD	24.	SA	A	U	D	SD
10.	SA	A	U	D	SD	25.	SA	A	U	D	SD
11.	SA	A	U	D	SD	26.	SA	A	U	D	SD
12.	SA	A	U	D	SD	27.	SA	A	U	D	SD
13.	SA	A	U	D	SD	28.	SA	A	U	D	SD
14.	SA	A	U	D	SD	29.	SA	A	U	D	SD
15.	SA	A	U	D	SD	30.	SA	A	U	D	SD

The Student Academic Motivation
Behavior Inventory (SAMBI)

Part B: Teacher Perceptions

Directions: This questionnaire is designed to measure teacher classroom behaviors related to student academic motivation. Decide how well each statement describes your classroom behavior and then write the corresponding number in the blank space on the answer sheet. PLEASE DO NOT WRITE ON THIS QUESTIONNAIRE.

Scale:

	Always	Often	Sometimes	Rarely	Never
	1	2	3	4	5

- | | | | | | |
|--|---|---|---|---|---|
| 1. I show personal enthusiasm for the subject through verbal and non-verbal behaviors. | 1 | 2 | 3 | 4 | 5 |
| 2. I attempt to create an appropriate level of concern (anxiety level) to motivate students. | 1 | 2 | 3 | 4 | 5 |
| 3. I use variety (in approaches and materials) to focus student attention when beginning lesson activities. | 1 | 2 | 3 | 4 | 5 |
| 4. I encourage students to seek pleasure and satisfaction from doing school work. | 1 | 2 | 3 | 4 | 5 |
| 5. I plan learning experiences which take students at their entry level and move them along at a pace they can handle. | 1 | 2 | 3 | 4 | 5 |
| 6. I display enthusiasm (nod of the head, eye contact, thank-you etc.) and support for student contributions to the learning activities. | 1 | 2 | 3 | 4 | 5 |
| 7. I set standards of excellence for students and expect each student to meet those standards. | 1 | 2 | 3 | 4 | 5 |
| 8. I introduce new learning activities with hints of mystery, display of unfamiliar related objects, etc. to stimulate student interest in the unit. | 1 | 2 | 3 | 4 | 5 |
| 9. I provide opportunities for students to take personal responsibility for learning. | 1 | 2 | 3 | 4 | 5 |

10.	I provide positive reinforcement by emphasizing even small amounts of student progress.	1	2	3	4	5
11.	Assign students to work cooperatively on class projects.	1	2	3	4	5
12.	I introduce contrasting or provocative data and information to stimulate student thinking and feelings.	1	2	3	4	5
13.	I pair unmotivated students with those who are enthusiastic about the subject.	1	2	3	4	5
14.	I attempt to build student interest by explaining the purpose of the learning activities.	1	2	3	4	5
15.	I give students additional directions when they're having difficulties.	1	2	3	4	5
16.	I make sure that students understand the academic expectancies and criteria for evaluation on any test or unit of learning.	1	2	3	4	5
17.	I encourage students to enjoy learning.	1	2	3	4	5
18.	When students work hard, I plan special treats (field trips, extra points etc.) at the end of a learning unit.	1	2	3	4	5
19.	I make learning meaningful to students by using realistic and personal examples in the classroom.	1	2	3	4	5
20.	I use a variety of approaches to create student expectancy for new learning experiences.	1	2	3	4	5
21.	I encourage students to set goals for completing their school work.	1	2	3	4	5
22.	I discuss with students a variety of feedback procedures I use for determining final grades.	1	2	3	4	5
23.	I encourage students to approach a task with an attitude of experiencing the excitement of accomplishment and success.	1	2	3	4	5
24.	I allow students to display and share their talents and work.	1	2	3	4	5

- | | | | | | |
|---|---|---|---|---|---|
| 25. I identify the positive aspects of each student's work and point them out to him/her. | 1 | 2 | 3 | 4 | 5 |
| 26. I provide immediate and frequent feedback to the students. | 1 | 2 | 3 | 4 | 5 |
| 27. I clearly communicate to students the goals for each unit of learning activities. | 1 | 2 | 3 | 4 | 5 |
| 28. I use voice tone, body language, pauses, and teaching aids to vitalize and accentuate classroom presentations. | 1 | 2 | 3 | 4 | 5 |
| 29. I build anticipation for success and pleasure for learning at the beginning of a new learning experience. | 1 | 2 | 3 | 4 | 5 |
| 30. I use non-verbal responses (smiles, frowns etc.) to communicate feelings to students about their work. | 1 | 2 | 3 | 4 | 5 |
| 31. I provide students with a sense of purpose and direction for the required work at the beginning of the lessons. | 1 | 2 | 3 | 4 | 5 |
| 32. I help students to focus and maintain their attention throughout the lesson presentations. | 1 | 2 | 3 | 4 | 5 |
| 33. I communicate high academic expectations to all students. | 1 | 2 | 3 | 4 | 5 |
| 34. As I assign new tasks, I offer praise to students for past successful activities. | 1 | 2 | 3 | 4 | 5 |
| 35. When giving feedback, I emphasize what's right, point out what's wrong, and suggest ways to improve. | 1 | 2 | 3 | 4 | 5 |
| 36. I use a firm but positive tone of voice to encourage students to complete their assignments. | 1 | 2 | 3 | 4 | 5 |
| 37. I examine students' feelings about the subject matter and make changes if necessary. | 1 | 2 | 3 | 4 | 5 |
| 38. I encourage students to begin work promptly and continue until the task has been completed. | 1 | 2 | 3 | 4 | 5 |
| 39. I use a pleasant business-like tone of voice when giving students assignments. | 1 | 2 | 3 | 4 | 5 |

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 40. | I give assistance to students at the beginning of difficult learning activities. | 1 | 2 | 3 | 4 | 5 |
| 41. | When introducing a new skill, I give students the easier tasks to do first. | 1 | 2 | 3 | 4 | 5 |
| 42. | I encourage students to relax before giving an examination, while emphasizing the need to do their best. | 1 | 2 | 3 | 4 | 5 |
| 43. | I emphasize the need for students to experience personal satisfaction from learning activities. | 1 | 2 | 3 | 4 | 5 |
| 44. | I offer constructive criticism about student work. | 1 | 2 | 3 | 4 | 5 |
| 45. | I emphasize what students have accomplished before discussing what remains to be done. | 1 | 2 | 3 | 4 | 5 |
| 46. | I provide consistent feedback regarding student mastery of learning. | 1 | 2 | 3 | 4 | 5 |
| 47. | I change the classroom (bulletin boards, displays etc.) to focus student attention on new learning experiences. | 1 | 2 | 3 | 4 | 5 |
| 48. | I invite all students to respond during class discussions. | 1 | 2 | 3 | 4 | 5 |
| 49. | I show enthusiasm for the subject through the use of gestures and facial expressions during lesson presentations. | 1 | 2 | 3 | 4 | 5 |
| 50. | I consider individual student's ability when assigning learning tasks. | 1 | 2 | 3 | 4 | 5 |

Answer Sheet for

The Student Academic Motivation Behavior Inventory (SAMBI)

Part B - Teacher Perceptions

Name _____
Last First Initial

School _____ Level _____
Middle Jr. High Senior High

Principal _____

Grade(s) you teach _____ Subject(s) _____

Years of teaching experience _____

Have you had training in student motivational strategies? _____

If so, where? College _____ Inservice Education _____ Other(specify) _____

Scale:	Always	Often	Sometimes	Rarely	Never
	1	2	3	4	5

- 1. _____ 16. _____ 31. _____ 46. _____
- 2. _____ 17. _____ 32. _____ 47. _____
- 3. _____ 18. _____ 33. _____ 48. _____
- 4. _____ 19. _____ 34. _____ 49. _____
- 5. _____ 20. _____ 35. _____ 50. _____
- 6. _____ 21. _____ 36. _____
- 7. _____ 22. _____ 37. _____
- 8. _____ 23. _____ 38. _____
- 9. _____ 24. _____ 39. _____
- 10. _____ 25. _____ 40. _____
- 11. _____ 26. _____ 41. _____
- 12. _____ 27. _____ 42. _____
- 13. _____ 28. _____ 43. _____
- 14. _____ 29. _____ 44. _____
- 15. _____ 30. _____ 45. _____

WHAT'S YOUR STYLE?

For a clue to your own "communicating" style, complete this quiz. Write the number 4 on the line which best describes you, 3 on the one which is next most like you, 2 on the next most, and 1 on the line of the phrase least descriptive of you.

I AM LIKELY TO IMPRESS OTHERS AS:

- (A) _____ practical.
- (B) _____ emotional.
- (C) _____ astute.
- (D) _____ intellectually oriented.

WHEN I WORK ON PROJECTS, I WANT THEM TO BE:

- (A) _____ results-oriented, so that the time and energy I put in will be justified.
- (B) _____ stimulating, with other people involved.
- (C) _____ well-planned.
- (D) _____ designed to contribute something new.

MY TIME IS IMPORTANT, SO I WANT TO MAKE SURE THAT:

- (A) _____ what I do today counts.
- (B) _____ my actions will be meaningful to the future generations.
- (C) _____ I plan well and follow my plan.
- (D) _____ I am getting ready for the future.

I FEEL SATISFIED WHEN I:

- (A) _____ get more done than I planned.
- (B) _____ can be helpful to a friend.
- (C) _____ can solve a problem by thinking it through.
- (D) _____ can tie one idea in with another.

I ENJOY IT WHEN OTHERS SEE ME AS:

- (A) _____ a person who gets things done.
- (B) _____ warm and creative.
- (C) _____ someone who knows where he's going.
- (D) _____ bright, with a vision.

WHEN OTHERS PRESSURE ME, I AM:

- (A) _____ likely to react immediately.
- (B) _____ apt to get "carried away" by my feelings.
- (C) _____ inclined to be critical of them.
- (D) _____ prone to step back into my own world of thought.

(Excerpted from Communicating Styles Technology, Dallas, Texas.)

Item Classification of Motivation Instruments

<u>Subscales</u>	Questions	
	<u>SAMBI-A (students)</u>	<u>SAMBI-B (teachers)</u>
Teacher Expectations	# 2,20,27	# 5,9,16,33,48
Interests	# 7,13,16	# 8,12,14,19,29
Focusing Student Attention	# 5,19,26	# 3,20,31,32,47
Enthusiasm	# 1,12,28	# 1,6,13,28,49
Level of Concern	# 8,15,24	# 2,11,37,40,42
Goal-Setting	# 4,9,21	# 7,15,21,27,38
Feeling Tone	# 6,23,25	# 25,30,34,36,39
Success	# 14,18,29	# 23,24,41,45,50
Feedback/ Knowledge of Results	# 3,10,17	# 22,26,35,44,46
Reward	# 11,22,30	# 4,10,17,18,43

<u>Subscales</u>	<u>Questions on SAMS</u>
Academic Self-Concept	# 1,3,5,6,7,14, 19,22
Intrinsic Motivation	# 8,12,18,21,26,27
Locus of Control	# 4,9,10,11,20,23,24,28
Need for Achievement	# 2,13,15,16,17,25

Communicating Styles Instrument

<u>Item Letter</u>	<u>Style</u>
A	Sensor
B	Feeler
C	Thinker
D	Intuitior