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An assessment of elementary administrators' and teachers' concerns about cooperative learning.

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AN ASSESSMENT OF ELEMENTARY ADMINISTRATORS'
AND TEACHERS' CONCERNS ABOUT COOPERATIVE LEARNING

Dissertation Presented

by

William M. Fay

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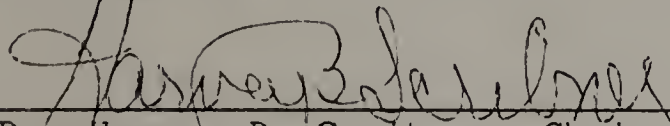
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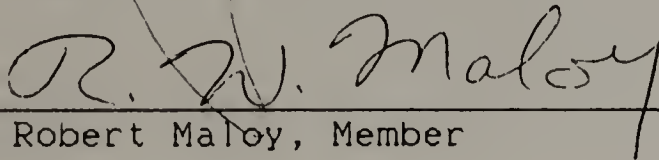
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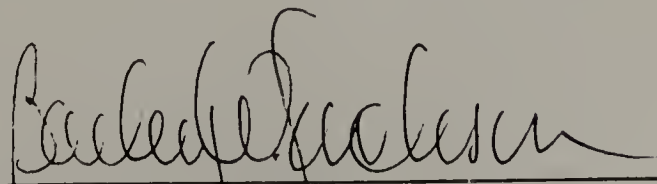
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DEDICATION

This study is dedicated to my wife, Jo, and our four beautiful children, Sheila, Susan, Bill, and Julie. These people have supported this research effort and their assistance, patience, and encouragement have made it possible for me to complete this dissertation.

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Acknowledgement is made to the following. The members of the dissertation committee who directed this study:

Dr. Harvey B. Scribner

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My family and friends for their love, understanding, support, and encouragement.

Susan and Robert Randall who encouraged me and assisted in the computer generation of the data.

Elementary administrators and regular classroom teachers in the 24 selected southeastern Massachusetts public school districts who volunteered to fill out the study's two survey instruments.

Joseph Arsenault who introduced me to Harvey Scribner.

Ray Harper, a change agent, who taught me that leadership is the ability to work with and through others.

Tom Daley who taught me that the only reason for educational change is to improve schools.

My parents, John and Katherine Fay, for all that they have done.

To anyone who I may have unintentionally overlooked.

ABSTRACT

AN ASSESSMENT OF ELEMENTARY ADMINISTRATORS' AND

TEACHERS' CONCERNS ABOUT COOPERATIVE LEARNING

SEPTEMBER 1991

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The purpose of this study was to assess the Stages
of Concern of southeastern Massachusetts elementary
administrators and regular classroom teachers toward
cooperative learning. Of the eighty school districts
surveyed, thirty-four systems indicated that they were
using cooperative learning. A stratified random sample
of twenty-four school districts were selected using the
Massachusetts Department of Education's kind of
community classification system. Forty-six elementary

administrators and eighty-five classroom teachers
participated.

Two data-gathering instruments were used: one to
measure the seven hypothesized Stages of Concern about
cooperative learning and one to gather personal
information. The Stages of Concern Questionnaire (SoCQ)
was used to gain insight into concerns of elementary
administrators and teachers about cooperative learning.
The dependent variables in the study were scores
assigned by administrators and teachers to each of the
35 items on the SoCQ. Independent variables came from
the Demographic Survey Instrument and included: role,
gender, training, age, education level, and experience.

Eleven null hypotheses were developed using a .05
level of significance criterion. Five hypotheses of
difference were constructed around role, gender, and
training. The t-test was used to evaluate each
hypothesis and all five null hypotheses were accepted.
Six hypotheses of association were built using age,
education level, and experience. The Pearson r test was
used to make a decision regarding each hypothesis and
all six null hypotheses were accepted.

Descriptive analysis revealed that 57.5% of the

school districts have not initiated cooperative learning
programs at the elementary school level. Systems using
cooperative learning revealed that more than 70% of the
respondents' highest concern scores were located at the
early development Stages. The following conclusions
were reached: (1) some students are being deprived of
cooperative learning, (2) the majority of administrators
and teachers have immature concerns about cooperative
learning, and (3) leaders need to initiate actions or
events that will resolve professional concerns about
cooperative learning.

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CHAPTER 1

INTRODUCTION

Classroom learning is a school's raison d'etre.
Deliberate, systematic, sustained classroom learning is
an indicator of an effective school (Robinson, 1985).
Deutsch (1949) researched the various types of learning
goal structures found in classrooms throughout America.
He found that there were three kinds: (1) individual
learning, (2) competitive learning, and (3) cooperative
learning.

Slavin (1983) states that an individual classroom
learning goal structure exists when everyone in the
class/subgroup works on a task by themselves and a
separate reward is issued to each student based on a set
standard. Competitive classroom learning occurs when
the class/subgroup work on a task and compete
(win/loose) with each other for a restricted reward. A
cooperative learning classroom goal structure takes
place when students work together in small groups
producing a single product (e.g., report, mural,
diorama) and then the entire group receives an identical
reward based on the quality/quantity of the product.

1

All three types of classroom learning goal structures can be effective; however, they are not being used in equal proportions. Sirotnik's (1981) research verified that the most underused structure is cooperative learning. He points out that classrooms typically have teachers talking and students working alone. The majority of all students at all levels (elementary, middle, high school) work as a total class learning competitively and/or individualistically. When students do work together cooperatively, they do so less than ten percent of the time. Johnson and Johnson (1987) estimate that competition and individualistic learning have been so strong that numerous observational studies have found them to be used "from 85 to 95 percent of the time in American schools" (p. 10).

French and Rothman (1990) report that the school practice of labeling children may be a barrier to increasing the use of cooperative learning. Children who are labeled and tracked for instructional purposes become separated from other children. This separation may cause these "different" children (racially mixed, handicapped, low academic achievers, negative self-esteem) to miss opportunities to engage in classroom cooperative learning activities. The authors

state, "...the most common form of instruction tends to be competitive, whole-group instruction,....Too few teachers regularly utilize interactive and student-centered instructional approaches such as cooperative learning" (pp. 10-11).

Slavin (1989/1990, December/January), expresses both hope and frustration with cooperative learning. He states his optimism by writing, "It has an excellent research base, many viable and successful forms, and hundreds and thousands of enthusiastic adherents" (p. 3). He also states a specific concern, "...large numbers of teachers with half-knowledge may use ineffective forms of the approach and experience failure and frustration" (p. 3).

Why is the cooperative learning goal structure the most underrepresented type when research studies indicate that all three can be effective? Triandis (1971) raises the possibility that the answer to this question involves human attitudes and human behavior. If administrators and teachers are placed into a decision-making situation where they must choose from among several classroom learning goal options then certain attitude/behavior relationships will be activated. He writes:

Attitudes involve what people THINK about, FEEL about, and how they would LIKE to behave toward an attitude object. Behavior is not only determined by what people WOULD LIKE to do but also by what they should do, that is, social NORMS , by what they have usually done, that is, HABITS, and by the EXPECTED CONSEQUENCES OF THE BEHAVIOR. (emphasis his, P. 14)

Tice (1983) stress the importance of human attitudes in determining behavior. He writes:

An attitude is a kind of deliberate emotional response to a perceived situation. It's a pre-determined emotional reaction to a given stimulus. An attitude is a direction in which you lean. If you lean TOWARD something you've got a positive attitude; but if you lean AWAY from something, you're said to have a negative attitude. Not good or bad....Not right or wrong. Just positive or negative. (emphasis his, p. 4A-5).

In schools local policymakers initiate programs such as cooperative learning and then school administrators and regular classroom teachers either

"lean toward" or "lean away" from a commitment to either support or resist its implementation. Rogers and Shoemaker (1971) estimate that in a normal distribution of elementary administrators and regular classroom teachers that 16 percent of them will be "laggards" while another 16 percent will either be "innovators" or "early adopters." The remaining 68 percent will be evenly split between the categories "early/late majority."

Shanker ("Educator cites," 1990) thinks that current classroom learning practices must change in order for schools to improve. He is joined by a chorus of American educators, business leaders, and government officials who agree with his "schools must change" message. The publication A Nation at Risk: The Imperative for Educational Reform (1983) states that the basic purpose for having a school is not in focus:

> Our society and its educational institutions
> seem to have lost sight of the basic purposes
> of schooling....the educational foundations of
> our society are presently being eroded by a
> rising tide of mediocrity that threatens our
> very future as a Nation and a people. What
> was unimaginable a generation ago has begun to

occur-others are matching and surpassing our

educational attainments. (p.5)

The report refocuses attention to the central purpose

for a school when it declares, "Learning is the

indispensable investment required for success...." (p.

7).

In summary, classroom learning is a school's raison

d'etre. Some school classroom teachers are not using

the full range of classroom learning goal structures.

This disequilibrium may be a compelling reason for

educational change. Business executives, government

officials, and educational leaders are calling for

effective educational change. This study addresses

three elements that may lead to an effective educational

change effort: (1) cooperative learning, (2) change,

and (3) concerns theory. Hall and Hord (1987) emphasize

that all three elements are necessary when implementing

an educational change effort. If these elements are

united effectively, then they may present an opportunity

to meet and redefine the current needs of the education

field. The next section will continue with the

synthesizing process by providing background information

on cooperative learning, change, and concerns theory.

Background

Cooperative learning is an educational practice
that holds promise to positively impact both the
cognitive and affective learning domains of school
children (Slavin, 1988; Aronson, 1978; Johnson &
Johnson, 1975). Research demonstrates that an
effectively implemented cooperative learning program has
the potential to produce the following affective domain
outcomes: greater student acceptance of handicapped
people, greater interactive learning patterns with
mainstreamed children, higher positive self-esteem, and
increased cross cultural/racial/ethnic friendships
(Slavin, 1988).

Cooperative learning has the capability to effect
the cognitive domain by increasing student academic
achievement (Kagan, 1985; Sharan & Sharan, 1976; Hilke,
1990; DeVries, 1978). Research evidence suggests that
cooperative learning has the ability to impact both the
cognitive and affective learning domains at the same
time thereby combining effectiveness with efficiency.

Defined in terms of five basic elements, Johnson
and Johnson (1989) state that the following items are
essential for a cooperative learning experience: 1)
positive goal interdependence, 2) face-to-face promotive

interaction, 3) individual accountability, 4) social skills, and 5) group processing. Other definitions have highlighted the importance of group heterogeneity emphasizing that each formed student cluster must represent the classroom range of achievement levels, races, gender, disposition, handicapped/nonhandicapped, and the obligatory requirements that the total group is kept together over time and that it receives a group reward (Slavin, 1983).

Cooperative learning is sometimes discussed under these names: Learning Together/Circles of Learning (Johnson and Johnson, 1975), Groups of Four (Burns, 1981), Co-Op Co-Op (Kagan, 1985), Group Investigation/ Small-Group Teaching (Sharan and Hertz-Lazarowitz, 1980), Jigsaw (Aronson, 1978), and Student Team Learning (Slavin, 1978). The different programs are designed to improve schools by offering a wide range of interactive learning patterns. The cooperative learning options may be subdivided into four categories: (1) discipline specific, (2) discipline free, (3) program flexible, and (4) program inflexible. The groupings provide classroom teachers with a menu of cooperative learning offerings. A regular classroom teacher would be encouraged to review all the options and then select the technique

that is most appropriate to his/her group learning
objective.

In essence cooperative learning is participatory
seatwork that requires positive interdependence and
individual accountability. A group of students pursue
academic goals through a collaborative effort. Hike
(1990) states that, "Students work together in small
groups, draw on each other's strengths, and assist each
other in completing a task. This method encourages
supportive relationships, good communication skills, and
higher-level thinking abilities" (p. 8).

Farivar (1985) links cooperative learning to the
American system of government:

Cooperation is fundamental to democracy. In a
democracy every person must be enlightened and
educated and competent to participate. For
democracy is a form of government in which
political power resides in all the people,
each citizen sharing equally in political
privilege and duty. This implies educational
settings in which children with diverse
backgrounds and a variety of achievement and
abilities work together sharing common
educational experiences. When we purposefully

construct educational contexts within which
students are isolated from each other, ones in
which students work alone or ones in which
they must compete with one another, ones in
which we never ask, allow or expect students
to work and learn with one another, to
cooperate, we do not lay the foundation for
democracy. (p.1)

Hall, Wallace, and Dossett (1973) suggest a way
that educational leaders can increase the effectiveness
of any innovative educational program (i.e., cooperative
learning) or practice in classrooms throughout America
by using concerns theory. The theory hypothesizes seven
Stages of Concern that people experience when they are
required to implement an innovation. The Stages of
Concern, which are numbered from zero to six, are: 0)
Awareness, 1) Informational, 2) Personal, 3) Management,
4) Consequences, 5) Collaboration, and 6) Refocusing.
The Stages of Concern represent a developmental
conceptualization of human growth that ranges from early
exposure to the innovation (Informational Stage) to
later use of the innovation (Collaboration Stage). Hall
and Hord (1987) define the word concern as, "The
composite representation of the feelings, preoccupation,

thought, and consideration given to a particular task" (p.58). They state that an educational change effort that uses a concerns theory approach may enhance the implementation effort and facilitate the use of the innovation.

Concerns theory is capable of describing why things happen under certain conditions. In essence, concerns theory has the ability to explain people's feeling toward an innovation from a human development point of view. The theory was researched at the University of Texas/Austin during the late 60s and early 70s. The Texas researchers invented several instruments to assess an implementation effort including one that was called the Stages of Concern Questionnaire (SoCQ). The SoCQ was developed to be part of the Concerns Based Adoption Model (CBAM). The total model is capable of examining and explaining feelings, behaviors, and understandings about an innovation implementation effort. Educational leaders may use the instruments found in CBAM to assess and monitor where their personnel are in the implementation phase of the educational change process.

Marcia Kalb Knoll, former president of the Association for Supervision and Curriculum Development, commented on the full range of assessment options

contained in the Concerns Based Adoption Model by saying, "...[CBAM] provides diagnostic techniques for assessing the individuals involved in a change in order to understand both them and their needs. Those techniques then provide the agents of the change process with information about how to use the resources and provide support services" (Hord, Rutherford, Huling-Austin & Hall, 1987, p. v).

Hall and Hord (1987) state that once an individual's feelings are properly diagnosed then the espoused goal of effective educational change can be facilitated. Specific interventions that are designed to bring about meaningful and lasting change may be used. The interventions are structured to increase the probability that an individual's concerns will be resolved.

The independent variables in this study were selected after a review of the related literature on the topic. Researchers Hall and Hord (1984) identify and suggest certain independent variables that might prove useful to someone studying an effective implementation effort. The goal is to select independent variables that might have a high predictive quality and then use them in statistical tests of significance. I selected

the three variables used with the hypotheses of difference tests (role, gender, and training) based on their perceived usefulness to researchers. The same reason was used to select the other three independent variables used with the hypotheses of association tests (age, level of education, and experience).

Locating school systems in southeastern Massachusetts that were using cooperative learning and then assessing regular classroom teachers' and administrators' concerns toward cooperative learning was the goal of the study. This inquiry focused only on the affective side of an implementation effort and not on the behavioral side. Specifically, this study was designed to answer the question, "What are administrators' and teachers' concerns toward cooperative learning?"

Tice (1983) has studied people form an "inside the mind" perspective and he has written, "All meaningful and lasting change starts from the inside and works it way out" (p. 2A-2). While acknowledging his apparent disregard for cautionary language, he suggests a logical starting point for a research inquiry into an effective cooperative learning implementation effort. Assessing the concerns of selected educational personnel has the

potential to increase our knowledge and understanding of
the world around us and provide cooperative learning
with timely information.

Statement of the Problem

Elementary administrators' and teachers' concerns
toward cooperative learning are an important dimension
of an effective implementation effort (Hall & Hord,
1987). Seven different Stages of Concern about an
innovation have been identified (Hall, George &
Rutherford, 1986). The problem that this study
addressed was: What are the perceived Stages of Concern
of elementary administrators and regular classroom
teachers toward cooperative learning in selectd
southeastern Massachusetts public school districts?

Purpose of the Study

The purpose of this study was to investigate the
perceptions of elementary school administrators and
regular classroom teachers Stages of Concern toward
cooperative learning in 24 selected southeastern
Massachusetts school districts. Answers to the
following questions were necessary in order to suggest
appropriate interventions that could be used to
facilitate the implementation of cooperative learning.

1.   Is there a difference between perceived Stages
     of Concern of administrators and teachers?

2.   Is there a difference between the perceived
     Stages of Concern of male and female
     administrators and teachers?

3.   Is there a difference between training and no
     training in cooperative learning and the
     perceived Stages of Concern of administrators
     and teachers?

4.   Is there a relationship among selected
     demographic characteristics (age, education,
     and experience) and the Stages of
     Concern that administrators perceive?

5.   Is there a relationship among selected
     demographic characteristics (age, education,
     and experience) and the Stages of
     Concern that teachers perceive?

The following six null hypotheses were tested:

1.   There is no significant difference in the
        perceived Stages of Concern of elementary
        administrators and regular classroom
        teachers toward cooperative learning.

2(a).   There is no significant difference in the
        perceived Stages of Concern of elementary

male and female administrators toward
cooperative learning.

2(b).   There is no significant difference in the
perceived Stages of Concern of elementary
male and female teachers toward cooperative
learning.

3(a).   There is no significant difference between
training and no training in cooperative
learning and the perceived Stages of
Concern of elementary administrators.

3(b).   There is no significant difference between
training and no training in cooperative
learning and the perceived Stages of
Concern of regular elementary classroom
teachers.

4(a).   There is no significant relationship
among age and the perceived Stages of
Concern of elementary administrators toward
cooperative learning.

4(b).   There is no significant relationship
among age and the perceived Stages of
Concern of regular elementary classroom
teachers toward cooperative learning.

5(a). There is no significant relationship among level of education and the perceived Stages of Concern of elementary administrators toward cooperative learning.

5(b). There is no significant relationship among level of education and the perceived Stages of Concern of regular elementary classroom teachers toward cooperative learning.

6(a). There is no significant relationship among education experience and the perceived Stages of Concern of elementary administrators toward cooperative learning.

6(b). There is no significant relationship among education experience and the perceived Stages of Concern of regular elementary classroom teachers toward cooperative learning.

Significance of the Study

Dissatisfaction with current American classroom learning outcomes have been set forth in the publication titled A Nation at Risk: The Imperative for Educational Reform (1983). The report's critical findings have prompted leaders in business, government, and education

to ask a question, "Are students learning effectively?"

The answer to this question has sometimes been

disappointing as evidenced by the most recent analysis

by the National Assessment of Educational Progress

(NAEP). The NAEP trend report present results from an

academic assessment of reading, writing, math, science,

U.S. history, civics, and geography. "Massachusetts

Education Today" (1990) reports NAEP data show: (1)

overall achievement show little difference now from 20

years ago; (2) student achievement levels are far below

those that might indicate competency in challenging

subject matter in English, math, science, history and

geography; (3) little has changed in how students are

taught in classrooms. The two decade NAEP investigation

indicates that, "...actual [learning] practice may be

far removed from research recommendations about what

works best" (p. 3).

The NAEP trend report plus the federal court

decisions which have legitimized desegregation and

encouraged mainstreaming may help explain why

educational researchers have been stimulated to rexamine

classroom learning options. Sirotnik's (1981) and

Johnson & Johnson (1987) research findings support the

idea that some regular classroom teachers do not use

the full range of learning goal structures or that they do not use them in equal proportion. Therefore, a study of the most underused classroom learning goal structure (cooperative learning) and its impact on elementary administrators and regular classroom teachers may prove useful to policymakers seeking educational reform.

Hall and Hord (1987) indicate that previously adopted classroom learning practices/programs may not have been implemented effectively. Hord, Rutherford, Huling- Austin, and Hall (1987) suggest that the annual "introduction/evaluation/rejection cycle (p. 5)" applied to an innovation raises the possibility that present and/or past classroom learning innovations may not have been evaluated properly. Obviously, if a learning practice such as cooperative learning was not put into place effectively then the decision to reject it may have been based on incomplete, inaccurate, or misleading information. In summary, past and current rejection decisions concerning cooperative learning may be or may have been subject to faulty formative and/or summative evaluation.

Planning staff development programs such as inservice activities designed around cooperative learning requires assessing where regular classroom

teachers and administrators are in the process of change in terms of their concerns. Simply put, until their feelings are identified and appropriate interventions initiated, then effective implementation of a cooperative learning program cannot be assumed.

A study that capitalizes on concerns theory to diagnosis/prescribe a pathway for effective implementation of any innovation may be valuable but when it specifically deals with classroom learning, it may be indispensable. Schools were invented to be learning centers. Teachers are hired to facilitate learning. Educational literature habitually marries the words teaching and learning. This focus on classroom learning is sometimes referred to metaphorically as education's "bottom line."

The importance of learning has not escaped historians. They are currently debating the appropriate words that should be used to describe the age in which we live. Some are using the words "information age" while others are more comfortable with the words "communication age." Regardless of whether these words or perhaps a more appropriate phrase is invented, the words imply the same message - the industrial age has

ended and a new age, linked to effective learning, has
begun.

Toffler (1980) reminds us that living in a new era
presents new challenges and old obligations.   American
public schools need to respond to the new challenges
because the information age demands getting use to the
reality that new knowledge (or old knowledge that has
been reviewed/reinterpreted) is causing data to double
at a rapid rate.   Yet, the school's old obligation and
its raison d'etre is still as valid today as it was
thousands of years ago: to facilitate learning.

The practice called cooperative learning in tandem
with concern theory holds promise for positively
impacting policymakers' attitudes toward educational
change and school improvement. Research findings that
can describe and explain the differences and/or
relationships between and/or among elementary
principals' and regular classroom teachers' concerns in
implementing an effective cooperative learning program
ought to be valuable in responding to "the imperative
for educational reform."

Assumptions of the Study

This study was based on the following assumptions about regular elementary classroom teachers and elementary school administrators:

1. It was normal and healthy to have concerns about implementing an educational practice such as cooperative learning.

2. Respondents were capable of indicating their own intensity of concern about cooperative learning.

3. Respondents answered the questionnaire truthfully because anonymity was assured.

Limitations of the Study

1. Data were gathered using the Stages of Concern Questionnaire but limited to an inquiry into the classroom practice called cooperative learning.

2. The investigation was limited to 46 elementary administrators and 85 regular elementary classroom teachers whose school superintendent indicated that cooperative learning had been initiated.

3. The sample area was limited to southeastern Massachusetts.

4. The study accepted teachers and
administrators who were using a variety of
cooperative learning programs; therefore,
a one-to-one program specific
comparison was eliminated.

5. The Massachusetts Department of Education's
statistical technique called "cluster
analysis" was used.   However, the number
of solicited respondents (N=165) did not equal
the number of respondents (N=131).

6. The respondents were asked to complete the
questionnaire independently which possibly
raises the opportunity for some volunteers
to respond less carefully or seriously.

Definition of Terms

Arousal - Intense concern which will be reflected
in greatly increased mental activity, thought, worry,
analysis, and anticipation (Hall & Hord, 1987, p. 59).

Attitude - A direction in which you lean. Positive
attitudes support an educational program or practice.
Negative attitudes do not support an educational program
or practice (Tice, 1983, p. 4A-5).

Change Facilitator - Anyone who supports, helps,
assists, and nurtures the adoption and/or implementation

of an innovation. Someone who may encourage, persuade,

or push people to change, to adopt an innovation and use

it in their daily schooling work (Hord, Rutherford,

Huling-Austin, Hall, 1987, p. 3).

Concern - To be in a mentally aroused state about

something (e.g., idea, feeling, attitude, reaction, or

thought). The intensity will depend on the person's

past experience and associations with the subject of the

arousal, as well as to how close to the person and how

immediate the issue is perceived as being (Hall & Hord,

1987, P.59).

Concerns Based Adoption Model (CBAM) - A

representation of a conceptual framework that explains

how schools might go about improving successfully (Hall

& Hord, 1987, p. 5). It consists of three elements:

(1) resource system, (2) change facilitator, and (3)

user system. The hypothesis underlying the model is

that the change facilitator can make decisions about how

to use resources and provide interventions to

individuals (Hord, Rutherford, Huling-Austin, Hall,

1987, p. 10).

Cooperative Learning - An organizational structure

in which a group of students pursue academic goals

through collaborative efforts. Students work together

In small groups, draw on each other's strengths, and assist each other in completing a task (Hilke, 1990, p. 8). Slavin (1989-1990) believes that individual accountability and an obligatory group reward are also important dimensions to any cooperative learning effort (p. 3).

Innovation - A program or process being implemented. It does not necessarily represent something major, new, large, or dramatically different. It can be something introduced several years ago or something that will arrive in the future. An assumption is made that an educational innovation has positive attributes and is appropriate for the setting (Hall & Hord, 1987, p. 9).

Intervention - Is an action or event or a set of actions or events that influences use of the innovation (Hall & Hord, p. 15).

Resolution - The lowering of the intensity of concerns about the innovation. This lowering effect seems to occur through more cognitive experiences: acquisition of information, practice, evaluation, synthesis, etc. (Fuller, 1970, p. 11).

Stages of Concern - Seven hypothesized levels of concern about an innovation as conceptualized by Hall,

Wallace, and Dossett (1973). They are as follows:
Awareness, Informational, Personal, Management,
Consequences, Collaboration, and Refocusing.

Outline of the Study

The research is organized and presented in the
following way:

Chapter I: Introduction

This chapter places topics into a logical
arrangement. It contains background, statement of the
problem, purpose of the study, assumptions of the study,
limitations of the study, definition of terms, and an
outline of the study.

Chapter II: Review of the Related Literature

This chapter examines the past and current findings
concerning cooperative learning, change, and concerns
theory. A summary of the literature is presented.

Chapter III: Methodology

This chapter describes the methodology that was
used to collect and analyze the data. The selection of
a stratified sample, measuring instruments, data
gathering techniques, and procedures for analyzing the
data are presented.

Chapter IV: Analysis of the Data

This chapter presents the results of the study
predicated upon the research hypotheses. Proper
statistical procedures is evidenced with the use of
Minitab. Descriptive analysis and inferential analysis
were based upon the use of two data gathering
instruments: (1) Stages of Concern Questionnaire (SoCQ)
and (2) Demographic Survey Instrument (DSI).

Chapter V: Summary, Conclusions,
and Recommendations

This chapter provides a review of the study,
conclusions, and recommendations concerning cooperative
learning and suggestions for future research.

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

Introduction

This review begins with an overview on the history of cooperative learning. It then turns its attention toward change and concerns theory. These topics are covered under the headings: History of Cooperative Learning, Program Variety, The Change Process, Perspectives on Change, Configurations for Change, Attitudes About Change, Concerns Theory, Stages of Concern, Arousal/Resolution of Concerns. This section ends with a Summary section on the reviewed literature.

History of Cooperative Learning

Cooperation as a concept is as old as humankind. When two or more people gather together to help one another, they start an interactive process based on the continuity of time and space. When the cooperation concept is placed into an educational setting, it becomes a dynamic for learning. Slavin (1977) states that a study of cooperation can be organized around four categories: (1) cooperative behavior such as working with others, (2) cooperative incentive structure such as receiving the same reward based on performance, (3) cooperative task structures where two or more

individuals may work together but may not receive the same rewards, and (4) cooperative motives which is the predisposition to act cooperatively when a choice is offered. This classification system reveals the possibilities that may occur when a regular elementary classroom teacher and an elementary school administrator implement a cooperate learning program. This togetherness for mutual benefit mindset lays the foundation for the possible development of a positive attitude toward investing time and energy in other people.

When children go to school, they are placed into a classroom with other children for learning purposes. They are exposed to different classroom learning goal structures. Deutsch (1949) studied these various structures and reported that teachers can choose from three possibilities: (1) cooperative learning (2) competitive learning, and (3) individualistic learning. Simply put, teachers condition children to: get along, struggle, or ignore each other.

The study of cooperation is sometimes connected to the study of competition. Johnson and Johnson (1987) mention the research on bicycle racing competition almost one hundred years ago when social psychologists

formally studied competition and set the stage for an examination of its opposite, cooperation. Triplett (1897) studied racing events and proclaimed that the bodily presence of another rider aroused the competitive spirit. This spirit sometimes would lead to a greater effort on the part of the participants. His studies led to an increased understanding of competition and stimulated full-range researchers to eventually explore cooperation.

During the 1920s, social psychologists had been doing studies on the twin concepts of competition and cooperation. Maller (1929) and others relied on social psychological laboratories or, more commonly, in contrived field settings that resembled laboratories. These studies provided information upon which cooperative learning programs of today are based (Slavin, 1983).

During the 1930s, research continued in both cooperation and competition. The American schools were responding to the depression years. Johnson and Johnson (1987) state that businessmen launched an effort to advocate interpersonal competition in the schools. The formation of the Liberty League supported by the National Association of Manufacturers championed

competition and individualistic learning over
cooperation as the main classroom learning structures.
The depression years were important in encouraging
competition because approximatly 25% of the nation's
workforce was out of work and there was a lot of
competition for available work. This social condition
which stressed a survival of the fittest mentality
favored classroom learning that taught children about
the competitive spirit. However, there were
counterforces at work. The Social Science Research
Council formed a sub committee on Competitive and
Cooperative Habits. May and Doob (1937) published an
operational definition contrasting cooperation and
competition. The authors defined competition and
cooperation in the following way: "competition is
directed toward the same social end by at least two
individuals. In competition, moreover, the end sought
can be achieved in equal amounts by some and not by all
of the individuals thus behaving; whereas in
co-operation it can be achieved by all of the
individuals concerned" (p. 6). Although classroom
learning goal structures were favoring competition and
individualism, cooperative learning was not totally
forgotten.

In the 1940s Kurt Lewin increased the knowledge
base about what happens when people get together. His
research into group dynamics focused attention onto
interactive patterns. The inquiry into group activities
stimulated his graduate student, Morton Deutsch, to
investigate grading practices at the Massachusetts
Institute of Technology. Deutsch (1949) formed a
cooperative classroom learning group and a competitive
one. He conducted a short experimental research study
(five weeks) where two groups were asked to do the same
task but would receive different rewards. The
manipulated independent variable was each group's charge
of responsibility: the cooperative group was told that
they would all receive the same grade and that it would
be determined by their performance compared to four
other groups; the competitive group was told that each
member of the group was to be evaluated with the efforts
of their groupmates and that their grade would be
different from each other and determined by their
contribution to the solution of the problem.

Deutsch found mixed results. The cooperative group
showed outcomes such as: attentiveness to each other,
friendliness during work, and a good evaluation on the
task performed; the competitive group showed good

Individual functioning. Overall no significant differences were found in the amount of interest in the task or the amount of learning that took place. His conclusion was that greater group productivity would result when members are cooperative rather than competitive in their interrelationships. Harmony seemed to be disrupted when there was a competitive mindset.

Deutsch highlighted the notion of getting along in the classroom by using the words promotively interdependent goals. The idea is based on the fact that when a cooperative learning situation is created in the classroom then an individual can attain his/her goal if and only if others in the group attain the same goal. This is the exact opposite of the competition goal that states that an individual can attain his/her goal if and only if the others do not attain their goal. Deutsch's important study laid the seeds that later rooted into the basics for research into cooperative learning practices.

In the 1950s, 1960s, 1970s, and 1980s cooperative learning continued to be compared with the other two learning options. The classroom learning focus became centered on three perspectives: 1) academic, 2) social, and 3) a mix of both academic and social. Researchers

were starting to look at judging the worth of a
particular classroom structure according to its specific
situation. Simply put, they believed that a cooperative
incentive reward structure was most effective for
interdependent tasks, and least effective for
independent tasks.

Other developments shifted the researcher's lens
from the laboratory and contrived settings to normal and
familiar classroom settings in a variety of geographic
locations that ranged from city sites to suburban,
rural, national, and international places. The research
inquires showed mixed results concerning the effects of
cooperative learning on student academic performance,
however, in general, the trend was to favor increasing
its use. Johnson and Johnson (1974) found that
cooperation is better than competition or
individualization for all but the most concrete,
repetitive tasks. Others, however, reviewed the
literature and concluded that competition is usually
better than cooperation for most tasks. Slavin (1977)
stated that over the brief duration of a laboratory
study (time allotment less than two weeks), cooperation
is more effective in increasing performance when
coordination of efforts is vital to effective

functioning, while competition is at least as effective as cooperation when coordination of efforts is not so important. However, over longer periods of time, growth of social pressures favoring performance in cooperative groups makes cooperation more effective.

One of the most often cited papers on cooperative learning is the Johnson, Maruyama, Johnson, Nelson, and Skon (1981) meta-analysis of studies that compare the relative effectiveness of comparative, competitive, and individualistic goals on academic achievement. The writers selected 122 studies that used three criteria: 1) were conducted using North American samples, 2) contained achievement data, and 3) compared two or more of the four goal structures (cooperative, cooperative with intergroup competition, competition, and individual effort). Three analyses were performed: 1) effect size, 2) voting, and 3) z-score. Cooperation consistently promoted higher achievement than interpersonal competition, and favored cooperation over individualistic effort. The result of the cooperation with and without intergroup competition analysis were equivocal, while no significant difference was seen between interpersonal competition and individualistic goal structures.

Slavin (1987) located 47 studies that used a cooperative learning method with a comparison group, had at least a two week duration, and assessed individual achievement equally. Twenty-nine, or 63%, found significant gains for the cooperative learning group, in two studies the comparison group made better academic progress. The others were equivocal.

Researchers who looked beyond academic achievement outcomes and considered mainstreaming of mentally and physically handicapped students (PL 94-142) and desegration issues (Brown v. Board of Education) realized that cooperative learning and its potential to positively impact the affective domain increased its value. Johnson, Johnson, Holubec, and Roy (1988) report that both desegregation and mainstreaming of handicapped children require building constructive relationships among heterogeneous students who may have initial prejudices and negative attitudes toward one another.

Johnson and Johnson (1983) researched the mainstreaming issue when they compared a group of 59 fourth grade students, 12 of whom were severely learning disabled, by randomly placing them in one of three classroom learning goal structures: 1) cooperative, 2) competitive, and 3) individualistic. Measures were made

concerning four variables: 1) interaction during instruction, 2) proximity during free time, 3) perspective-taking ability, and 4) five attitude scales. The results of an ANOVA showed that the handicapped students received more verbal comments, were closer during free time to their classmates in cooperative learning situations. Nonhandicapped students were better able to perspective-take from the social perspectives of handicapped students in the cooperative learning setting. Also, handicapped students had higher self-esteem in the cooperative arranged classroom.

Johnson and Johnson (1981) found that when mainstreamed students work together in cooperative groups, social acceptance of all students increaseed. According to Madden and Slavin (1983) the success of mainstreaming programs derives from Allport's contact theory of intergroup relations whereby positive interaction depends on four conditions: 1) nonsuperficial contact, 2) cooperative rather than competitive goals, 3) authorities who encourage member contact, and 4) equal status between members.

Race relations became an important issue in American schools following the 1954 U.S. Supreme Court desegregation decision. Intergroup race relations

resesarch was conducted and the following reviews were,
in general, positive toward cooperative learning,
however, results did vary with each researcher. Slavin
(1983) found 11 of 14 studies (78%) he reviewed to have
some positive effect on intergroup relations that dealt
with Black-White groupings. Weigel, Wiser, and Cook
(1975) found improvement in Anglo attitudes toward
Mexican-Americans in a tri-ethnic study involving
Hispanic, Anglo, and Black subjects. Gonzales (1979)
found more positive attitudes on the part of Anglo and
Asian-American students toward Mexican-American students
in his studies. Johnson et al. (1981) found cooperative
learning to have positive intergroup relation effect in
twenty-nine out of fifty-four studies (53%) they
reviewed.

Johnson and Johnson (1983, April) conducted a study
on the effects of cooperative learning compared with
individualistic modes in a racially integrated class.
Their reseach suggests that cooperative learning
experiences promoted more cross-ethnic interaction aimed
at supporting and regulating efforts to learn and ensure
the active envolvment of all students and greater
cross-ethnic interpersonal attraction. Their findings
support the position that cooperative experiences result

in liking regardless of the ethnic membership or
achievement level of the collaborators. Johnson et al.
(1981) report that another result from cooperative
learning experience is the positive effect on racial
attitude and behavior in both instructional and free
time. Students in cooperative conditions are involved
in cross ethnic giving and receiving of help. These
experiences support the formation of cross racial
friendships. Slavin and Oickle (1981) found minority
students gain even more than non-minority students as a
consequence of learning cooperatively, thus reducing
achievement disparity between Blacks and Whites.

In summary, classroom cooperative learning has many
approaches designed to have children invest time and
energy into their fellow groupmates. The research into
cooperative learning practices and its effect on student
academic achievement is mixed but the overall trend is
to favor its use. However, if other factors in addition
to student academic achievement are considered then
cooperative learning increases its value because it has
the potential to impact both the cognitive domain and
the affective domain in a prosocial way.

John Goodlad (1979) writes that there are four
purposes for American Schools: 1) academic, 2) social,

3) personal, and 4) vocational. Cooperative learning differs from competitive learning and individualistic learning because its charge of responsibility is to address both the academic function and the social function of schooling. The other two types of classroom learning goal structures, individualistic and competitive, may not impact the affective domain as favorably because they focus their attention, in general, onto the academic purpose of schooling. The next section will review a number of the more popular cooperative learning programs.

Program Variety

Slavin (1983), Aronson (1978), Johnson and Johnson (1975), Kagan (1985), Sharan and Hert-Lazarowitz (1980), and others believe that cooperative learning can improve schools. Cooperative learning has the potential to positively impact learning in two ways. First, by addressing the cognitive/affective domains and second, by encouraging teachers to view their students as a valuable classroom learning resource. The result is a two-for-one advantage because one effort will yield two benefits. This impact can be accomplished by using one or more of the cooperative learning programs.

Most cooperative learning programs regardless of their structural/conceptual nature usually share seven common features: (1) teachers teach and students learn how to cooperate (2) classroom students are assigned to a group that has from three to seven members; (3) each classroom forms between four to eight separate groups; (4) each group is comprised of mixed ability students that include high achievers, average achievers, and low achievers; (5) a balance between males and females is maintained; (6) classroom cultural/racial/ethnic mixes are representative of the entire class; (7) intact group activities are predicated upon an academic task that is conducted on a regular schedule over a time period that varies from two weeks to nine weeks or more.

A major difference that exists in the different formulations of cooperative learning is the area of curriculum targets. In particular, some programs are curriculum specific while others are curriculum free. The following programs are representative of some, but not all, of the programs in the field. However, care was taken to present an overview that includes both types of structures.

Kagan (1989/1990) has contributed to the curriculum free cooperative learning effort by elaborating upon a

variety of content free team structures. One structure
is called Numbered Heads Together. The cooperative
activity, which incorporates positive interdependence
with individual accountability, can be used in any
subject area. The class is divided into cooperative
learning groups of four. The teacher has the group
members number off, so that each student has a number:
1, 2, 3, or 4. The teacher would then ask a question
and tell the teams to "put their heads together" to make
sure that everyone in the team knows the answer. The
teacher then calls a number (1, 2, 3, or 4) and students
with that number can raise their hand to respond. Team
score are kept and then the whole team is rewarded.

The Learning Together Model by Johnson and Johnson
(1975) is curriculum free. Their method leaves
procedures unspecified, they provide teachers with
numerous steps that elaborate these procedures for
structuring their lessons. The steps direct teachers to
specify both academic and collaborative skill objectives
and to decide which size of learning group is optimal,
which range from two to six students in each group.
Heterogeneity of students when grouping is emphasized,
placing high, medium, and low-ability students within
the same learning group. The groups are formed by

teacher-made decisions or random assignment such as having the students count off and placing the one's together, the two's together and so on. The Johnson's suggest that cooperative skills should be taught first and to explain that each group has a goal, which is learning the assigned material and producing a single product, report, or paper. There is flexibility in the evaluation procedure for the Learning Together Model, one of them is assigning to each group member the same score given to the group product, another one is assigning two grades, one for performance and one for collaborative behavior.

Elliot Aronson (1978) and others when they worked at the University of California/Santa Cruz developed a cooperative learning model called Jigsaw. Jigsaw is curriculum specific. The name is associated with the the concept of a jigsaw puzzle. It is necessary to put the pieces together to form a total picture. Using this same "putting together" idea, a classroom teacher would first divide his/her students into several cooperative learning groups by placing three to six students together. This congregation would be called the study group. A main topic (i.e., Civil War) would be given to each study group.

A second group would now be formed by recombining
the students in the classroom. This group is known as
the expert group. Each member would cooperate with each
other and master the information on a portion of the
main topic (i.e., what did Abraham Lincoln do during the
Civil War). Once mastered, the original study group
would be reformed. The expert would then be required to
teach the other group members about his/her subtopic.
This classroom learning structure ensures that all
groupmates are totally dependent on the expert member
for his/her information. Afterwards, other experts
would have their turn to teach the group about their
"piece" of the main topic. Students would eventually be
individually tested to make sure that they had "put all
the pieces together." In essence, this topic specific
group would function independently and dependently as
each member assumed the roles of the teacher and the
learner respectfully.

The Group Investigation Model was developed by
Sharan and Hertz-Lazarowitz (1980) and while it may be
viewed as curriculum specific it does add a new
dimension to the cooperative learning effort by
harnessing the students' individual interests and gives
them more control over their learning than other

cooperative learning methods do. The teacher would assign an area of study and then the student groups (two to six members) select a topic related to the area that interests them. Using cooperative inquiry, cooperative planning, and group discussions the members would decide upon a project. Each groupmate carries out an individual investigation, then the total group summarizes the findings and prepares a presentation for the total class. Classmates listen to all the reports and are expected to learn all the material. Evaluation is determined by group effort and how well the project was investigated.

Slavin and others at Johns Hopkins University developed a series of curriculum specific models. One is called Team Assisted Individualization (TAI) and it is designed to help children in mathematics. The developers had three objectives in mind when they produced the program: (1) to reduce the need for special education or tracking in arithmetic, (2) to develop a year round cooperative learning math program, (3) to incorporate knowledge about curriculum-and domain-specific learning into a cooperative learning approach. Slavin, Madden, and Stevens (1989/1990) report that TAI, which combines cooperative learning and

Individualized Instruction, has met with success.
Typically, students are placed into cooperative learning
groups to help each other, provide feedback, and
encourage each other to move rapidly. All students
would be pretested for correct placement in the program.
They would be provided with materials appropriate to
their skill level and they would be allowed to proceed
at their own rate. The students read an instruction
sheet, work on successive skillsheets, check their work
to see if the skill has been mastered, and then take a
test. Test scores and the number of tests completed in
a week are added together into a team score. Team
members are rewarded for exceeding preset team scores.

In summary, educational researchers have increased
our knowledge base about cooperative learning with a
journey that has taken them from a laboratory setting to
a naturalistic setting. Cooperative learning has been
studied globally from California to Israel and the
results indicate that it has merit as a classroom
learning strategy. However, just because research
studies support its learning value one should not infer
that classroom teachers' and administrators' feelings
toward cooperative learning are all favorable. Nor
should one assume that just because a cooperative

learning program has been formally adopted by a school board that it has been implemented effectively. Bruce Joyce (1983) has cautioned all of us that changing to a new classroom learning practice (such as cooperative learning) is "...technically simple and socially complex" (p.54).

Historians also remind us that Americans have a long and strong educational heritage that embraces and espouses individualism and competition. In 1776, written words followed by 56 signatures created the United States of America. The Declaration of Independence sent an unambiguous message. The next section will introduce the topic of educational change and sensitize us on how cooperative learning proponents may challenge current classroom learning practices as they send their own "declaration of interdependence" message.

The Change Process

The literature on change in education is reported on and researched under a broad range of headings: staff development, school improvement, restructuring, innovation, leadership, and other descriptors. There seems to be two fundamental reasons for such widespread interest in change issues. The first is the constancy

of change itself. The second has to do with a desire to investigate the leadership practices that produce effective change.

Lewin (1948) contributed to an understanding of the change issue when he described a pattern associated with every change. His explanation model described three occurences that happen with every change: (1) unfreezing, (2) changing, (3) refreezing. He popularized these words as he conceptualized what happened during a typical innovation adoption process. The first step in the process requires a break in the existing equilibrium. This amounts to a reduction in the strength of old attitudes, values, or behaviors that result from information or experiences that disconfirm what is currently in place. The second step is the introduction of the change itself which stimulates new attitudes, values, or behaviors. This step is fragile and there is always the risk that people may slip back into old ways. The third step is to refreeze the innovation within the individual or the organization. This allows for stabilization of the change at a new equilibrium state that supports and sustains the innovation. Although the model is technically simple,

the dynamics associated with establishing meaningful and lasting change are complex.

Fullan (1982) addressed the leadership issue and discovered that an effective change leader must guide their followers through a three phases educational change process: (1) initiation, (2) implementation, and (3) institutionalization. The first phase is the adoption phase and it is what happens by way of "initiation, mobilization, and planning to prepare for change" (p.51). Traditionally this phase is within the perview of educational policymakers as they decide which educational programs or practices will be legitimized. The second phase usually involves practitioners with their new charge of responsibility which is to effectively implement the adopted innovation. Phase three is concerned with whether the innovation will survive over time and eventually become part of the school's culture. Each phase of the total educational change process has many additional factors, subvariables, and interactions.

Studies and analyses of educational change efforts over the last three decades confirm both the constancy of change and an accompanying interest in educational leadership (Schlechty, 1989; Fullan, 1982; Cunningham,

1982; Herriott and Gross, 1979; Mann, 1978; Grossman, 1974). Once a decision has beeen made to innovate then a subsequent decision will have to be made on how to introduce the innovation into the setting. The literature on change attempts to analyze changes that have happened in the past by examining general perspectives on change and specific configurations for change.

Perspectives on Change

Havelock (1971, 1973) has done extensive inquiry into the perspectives on change and his writings have proved useful to practitioners, policymakers, and researchers. He has described change using three perspectives: (1) social interaction; (2) research, development, and diffusion; and (3) problem solving. The Social Interaction Perspective assumes that the innovation is fully developed and packaged by the developer and only requires the movement of the program or practice from the development location to the adopting site. The task of moving the innovation from the "shelf" to the classroom generally requires five steps: (1) awareness, which involves making potential users cognizant about the object of change; (2) interest, which deals with satisfying a user's search

for information; (3) evaluation, the adopting school system makes a decision to try the innovation; (4) trial, the receiver uses the change object on a small scale; (5) adoption, the decision to go ahead with full widescale use of the innovation. However, a decision to reject the innovation may occur at several of the decision points. A change agent who bridges the gap between the developer system and the user system is most active in the early stages of this process. Their role is to provide information and "influence the most highly regarded teachers to adopt the change so that other peers would follow" (Hall & Hord, 1987, p.41).

The Research, Development, and Diffusion (RD&D) Perspective emphasizes the systematic and sequential nature of knowledge creation and utilization. It is predicated on an orderly process that goes from research to practice in three steps: (1) problem identification, (2) solution finding, and (3) solution dissemination. The adopter is viewed as a passive consumer and he/she will be using the developer's "teacher proof" product. Another aspect of the RD&D effort is that it embraces a distribution strategy that welcomes mandated or administratively directed compliance. This top-down leadership style compels the users to "fall into line."

In reality, this approach puts most of its time and energy into the initiation phase of the educational change process and does not concentrate greatly on the implementation/institutionalization phases. The assumption is "once the teacher has decided to adopt, no further assistance is needed for implementation" (Hall and Hord, 1987, p. 41). A clear delineation of the RD&D perspective has been presented by Guba and Clark (1976).

The RD&D Perspective and the Social Interaction Perspective both consider the innovation adopters as a target of the change process and not as a resource to be valued. In contrast, the Problem Solver Perspective emphasizes the user end of the change process. The method involves a change facilitator consulting with the the innovation user throughout the total process. The five steps are: (1) consideration of user need which is the primary concern of the change facilitator; (2) diagnosing the need with clients pinpointing the perceived problem; (3) the change agent uses a nondirective approach to solve the problem and this means not acting as an expert or advocate for a particular solution; (4) internal resources should be utilized to transform plans into actual achievement; (5) strongest user commitment will come from the

self-initiated and self-applied innovations. In

actuality, this perspective states that the client is

the key to the process. Client's opinions are solicited

and treated with respect. The most widespread model

that uses a problem-solver perspective is called

Organization Development.

Havelock (1973) believed that a Linkage Model could

be synthesized from all three perspectives by including

important features from each perspective. His model is

concerned with establishing communication networks

between sources of innovations and users via an

intermediary facilitating role either in the form of a

linking agent or a linkage agency. It makes no

difference whether the agent is inside the school

organization or outside it; what does matter is that

he/she facilitates the work of persons involved in the

change. In essence, the change agent increases the kind

and amount of information that can be used for decision

making.

Neale, Bailey, and Ross (1981) emphasize that

innovation transfer is always the key ingredient.

Analysis of the knowledge transfer process is made in

terms of "WHO transfers WHAT knowledge HOW (by what

channel) to WHOM for WHAT PURPOSE" (emphasis theirs, p.

10). The model is predicated on various stages and tactics related to the stages of change and requires six steps:

1. building a relationship

2. diagnosis

3. acquiring relevant sources

4. choosing the solution

5. gaining acceptance

6. stabilizing the innovation and generalizing self renewal. (pp. 110-112)

Havelock (1973) believes that if the steps are followed, there should be effective "problem-solving by and for the user through effective use of resources" (p. 12). The linkage idea has had a wide influence on federal programs that have been used to stimulate educational change. One notable example was the establishment of the U. S. Office of Education's National Diffusion Network. The next section will examine various patterns that can be used to implement these perspectives on educational change.

Configurations for Change

Change researchers have written about systematic, planned, sustained educational change from a configuration perspective. This point of view places an

emphasis on the targets of change. One such effort
involved a network approach. Neale et al., (1981)
states that Goodlad's Responsive Model of Educational
Improvement represents an extensive effort to join 18
local southern California schools together. His purpose
was to encourage each member school to become
self-renewing. Leadership for this network was provided
by UCLA, but the emphasis was on developing a capability
in each school to solve its own local problems. The
change strategy concentrated on the total culture of an
individual school. Two complementary cultural processes
were used: (1) an "inner" process which developed
sensitivity to the institution's needs and (2) an
"outer" process that could identify and utilize outside
resources.

The League of Cooperating Schools was formed in
calendar year 1966 to test out Goodlad's hypothesis.
His self-renewing process became known as DDAE
(Dialogue, Decision making, Action, Evaluation). The
DDAE elements were coupled with four additional
characteristics: (1) scope, (2) importance, (3)
relevance, and (4) flexibility. Together they became an
indicator of whether a school was (or was not) receptive
to change.

The League went through a "growing pains" stage when Goodlad's staff reduced their habit of giving solutions to a problem and shifted to a problem solving approach that used peer group support and idea sharing between the networked schools. This led to the "magic feather principle" (Bentzen, 1974) where the networked schools learned to "fly" by relying on themselves and on each other to accomplish their educational change goal of self-renewal.

Researchers shifted from a focus on many schools held together by a network to a focus on a single school. The Rand Change Agent Study Model reported on the advantages of each school building as the focus for change. Berman and McLaughlin (1975) studied several federally funded programs that were designed to encourage educational change and lead to school improvement. Their model contain specific suggestions for policies and procedures that could be used at the local level to actualize planned change. The model used research findings from previous school improvement efforts and modified earlier educational change models. Past research findings had revealed:

    1. Inquiries into the effectiveness of

       schooling and the possible cause of

absolute and differential effects provides
little guidance on how to change
educational practice.

2. Impact-oriented studies of innovative
projects have not produced generalizable
findings because they failed to deal with
the interaction of the project with its
institutional setting.

3. Implementation problems dominate the
outcomes of change processes in the
educational change system. (p. 135)

The school based management model stressed ways to
overcome the "dynamic conservatism" of a school system
with its natural tendencies to resist change by
emphasizing the implementation phase of the educational
change process. Three stages in the change process were
hypothesized by the model: (1) initiation, (2)
implementation, and (3) incorporation. The model
conceives of change as a complex developmental process
in which the school organization changes as a new
program does one of three things: 1) gains support, 2)
is adapted to local circumstances, or 3) becomes
incorporated into the regular organizational functioning
(p. 136).

Berman and McLaughlin (1975) defined a successful
federally funded program as characterized by four
indicators: (1) program fidelity is evidenced by an
implementation effort that reflects the innovation
developer's original plans, (2) perceived success of
local staff members, (3) change in the behavior of staff
members, (4) continuation of effort after the federal
funding stopped.

The site based management model reported finding:,
"An implementation strategy that promotes mutual
adaptation [both the proposed change and the local
organization itself are changed] is critical.... The
main factors affecting innovations were the
institutional setting...the implementation
strategy...the scope of change...project outcomes did
not depend primarily on 'inputs' from outside but on
internal factors and local decisions" (p. 23).

The Concerns Based Adoption Model (CBAM) shifted
the focus of change to an individual classroom teacher.
The model concentrated on the implementation phase of
the educational change process. The model helped
explain what happens to a teacher when s/he takes an
innovation back to the classroom and "shuts the door."
The model developed three diagnostic instruments to

assess where a teacher was in the innovation implementation process. The three instruments were designed to measure: (1) feelings, (2) behaviors, and (3) innovation attributes. After the instruments are used, the building principal, who is viewed as the primary change facilitator, would be expected to use prescriptive interventions to reduce/arouse a teacher's concern about implementing the innovation.

A review of the change configuration models show a number of options that range from looking at many networked school districts to a focus on an individual teacher. All the change models rest on a body of research, theory, and practice. They are well described in published sources. Each is presented in a way that suggests that it is a viable strategy that can lead to systematic, planned educational change. The goal of each model is to actualize change; the models differ only in the selected "pathway" each chooses to travel down.

Attitudes About Change

Elementary administrators and regular classroom teachers develop attitudes toward change in general and cooperative learning in particular. Therefore, an understanding of attitudes is central to any effort to

introduce new or stimulate underused programs or
practices such as cooperative learning into American
public schools. However, it is important to remember
what Triandis (1971) states, "...behavior is the result
not only of attitudes but also of norms, habits, and
expectations about reinforcement" (p. 25).

Triandis (1971) declares that an attitude is an
idea charged with emotion which determines a certain
action to a particular social situation. It has
thinking, feeling, and behavioral elements and several
kinds of functions, such as: it helps people adjust, to
defend their egos, to express their values, and to
understand the world around them. Therefore, attitudes
are an important dimension of life.

Some attitude theorists think that we are born with
preset attitudes while others think that the experiences
of people determine their attitudes. As attitudes
develop, thoughts become more differentiated,
integrated, and organized, and the feelings and
behaviors become more associated with these conditions.
Attitudes are not the primary cause of behavior, but it
is a contributing cause (Triandis, 1971). Behavior
often changes attitudes, as people develop attitudes
that justify their previous behavior.

As early as 1918, social psychology was defined as the scientific study of attitudes (Thomas & Znanieckl, 1918). Any vocabulary word that has been used for a long time by many people can expect Its definition to change. The common element that runs through most definitions about attitudes Is the readiness of an Individual to respond to a situation. This readiness can refer to mental attitudes (Spencer, 1862) and the abllity to Interpret correctly what Is belng said, as a result of holding those attitudes. At other times the reference is to motor attitudes (Lange, 1888), which are states of readiness to respond to a motor task. Allport's (1935) definition Is still used, "An attitude Is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic Influence upon the Individual's response to all objects and situations with which It Is related" (pp. 798-844).

Another definition that reflects a mulitdimensional perspective but still addresses the idea of responding to a situation Is used by Triandis (1971), "An attitude is an idea charged with emotion which predisposes a class of actions to a particular class of social situations" (p. 2). This definition suggests that an attitude has three elements: (1) A cognitive component,

that is, an idea that falls into a category, (2) an
affective component or feeling that charges the idea,
and (3) a behavioral component or a disposition to act
accordingly (p. 3).

Tice (1983) addressed the issue of where attitudes
originate and suggests that there are two schools of
thought about their source: (1) nature which believes
that we are born with them or (2) nurture which states
that they come to us as part of a lifelong conditioning
process. Naturalists claim that attitudes cannot be
changed and, therefore, personal accountability is
absent. Nurturalists claim that attitudes can change
and, furthermore, they should change over time as
conditions necessitate. Tice believes that an attitude
is "a deliberate emotional response to a perceived
situation" (p. 4A5). He suggests the idea that
attitudes are not necessarily good or bad; or that they
are right or wrong but rather that they are an emotional
reaction to a given situation. He believes that with a
positive attitude people can do creative things to seek
an objective, to achieve, to possess. With a negative
attitude, people consciously and unconsciously try to
avoid using it through a variety of actions such as
procrastination or creative avoidance.

In schools where cooperative learning is either
forced on teachers or its use is unsupported, conditions
exist for tension. Festinger (1957) responded to the
dilemma of this tension by explaining what might happen
if the three elements (thinking, feeling, and behavior)
are dissimilar. He proposed a theory of cognitive
dissonance. According to this theory, any kind of
cognitive inconsistency is uncomfortable and an
individual will do something to get rid of it. This
means that a dissimilarity among the affective,
cognitive, or behavioral elements about cooperative
learning will produce pressures inside an individual to
resolve the differences and produce consistency between
the three elements. He defined cognition very broadly,
as involving any knowledge, opinion, or belief about the
environment, about oneself, or about one's behavior. He
writes, "Cognitive dissonance occurs where there exists
a relationship between two cognitive elements in which
the obverse of one follows from the other" (p. 13). The
existence of dissonance may cause an individual to
respond in two ways: 1) to reduce dissonance, 2) to
avoid increases in dissonance. The individual responds
to the uncomfortableness by: a) behavior changes, b)
changes in thinking, or c) seeking new information.

Another point made by Festinger (1964) is that an individual's situation helps to form an attitude. He claims that an attitude change will disappear unless the individual's environment is supportive of the behavioral change. He argues that what developed the attitude in the first place continues to act on the subject. If school systems provide rhetoric for cooperative learning but do not support the effort beyond the "lip service" stage then administrators and teachers may go back to an earlier attitude which favored competitive or individualistic learning to the exclusion of cooperative learning. Simply put, unless there is some real environmental change that sustains a new attitude it might not prevail.

Historically, old photographs attest to America's mindset toward individualistic and competitive classroom learning structures. Agricultural age one-room schoolhouses and the industrial age factory-style schools have traditionally bolted classroom furniture to the floor. These horizontal and vertical rows with predetermined distance between each student became the standard by which American students became conditioned to isolation or competition in their classroom. This historically strong environmental message about not

putting students together into cooperative learning
groups may account for some of the current attitudes
toward cooperative learning.

Festinger (1957) points out that when a person
changes his/her group and then is subjected to new
behavioral norms he/she will behave consistently with
the new expectations. If there are strains introduced
between his behavior and his feelings then this strain
is likely to lead to an attitude change. But, once the
person is removed from the new situation there is always
the possibility that he/she may go back to an earlier
attitude.

There is also a tendency that when an attitude and
a behavior do not match there is internal pressure for
one or the other to change. If a message advocating
cooperative learning causes an individual to change
his/her thinking, there will be a tendency for the other
elements to change. Similarly, an experience that
changes a person's way of feeling about the attitude
objective will tend to change his thoughts about it.
Inconsistencies between feeling and thinking, of course,
do not always produce attitude change. If the person
receives a communication that changes his thoughts,
he/she may restructure those thoughts so that new

distinctions are among them, and his feelings may not
change. This leads some attitude theorists to view
attitudes as a contributing cause of behavior and not
the finite determiner of behavior. To understand
attitudes, it is necessary to focus on both their
structure and their consequences. Attitudes are
acquired and changed as a result of both internal
processes that go on in the heads of people, and
external processes, which go on in their environment.

There is research evidence that the three
components of attitude (thinking, feeling, and behaving)
are highly related. Rosenberg (1956), stated that the
greater the perceived link between an attitude and a
person's values then the greater will be this person
experience. Similarly, Fishbein (1965) shows that the
greater the feelings associated with a value then the
greater is the feeling toward an attitude. On the other
hand, there is also evidence that suggests that the
three elements should be conceptualized and measured
separately.

In summary, Triandis (1971) states that social
psychologists think that humans develop attitudes for
four reasons: (1) they help them understand the world
around them, by organizing and simplifying a very

complex input from the environment, (2) to protect their self-esteem, by making it possible for them to avoid unpleasant truths about themselves, (3) to help them adjust in a complex world, by making it more likely that they will react so as to maximize their rewards from the environment; and (4) to allow them to express their fundamental values (p. 4). If the current attitude toward cooperative learning, which is to underuse it as a classroom learning structure, is to change then a logical place to start the process is by assessing current administrators' and teachers' concerns about cooperative learning. This idea is the focus of the next section which deals with concerns theory.

Concerns Theory

An understanding of concern theory was developed from the work of Dr. Frances Fuller during the middle to late 1960s as she researched studies on the concerns of preservice teachers. Fuller was a counseling psychologist and approached the subject from a clinical perspective rather than a pedagogical perspective. She proposed a developmental conceptualization for concerns after conducting careful observations of how inservice teachers differed from preservice teachers.

Fuller (1969) proposed three phases of concern to describe a typical teacher: 1) a pre-teaching phase, 2) an early teaching phase, and 3) a late teaching phase. Toward the end of the 1960s the concerns model was abstracted to four domains: 1) unrelated concerns, 2) self concerns, 3) task concerns, and 4) impact concerns. This early work on teacher concerns served as the basis for the development of the Stages of Concern about an innovation dimension of the Concerns Based Adoption Model (CBAM).

In academic year 1970, staff members of the Inter-Institutional Program of the Research and Development Center for Teacher Education at The University of Texas/Austin observed a similarity between Dr. Fuller's concerns work with preservice teachers and people involved with innovation implementation. Procedures were set up to document the similarities. The careful observations lasted for three years. The Inter-Institutional staff began to hypothesize that there were definite categories of innovation implementation concerns that appeared to change in a logical progression as users became more familiar with an innovation. This led to the discovery of seven Stages of Concern (SoC) about the innovation. This

hypothesis became the basis for assessing the dynamics
of an innovation adopter.

Later a second diagnostic instrument was invented
that was used to describe and diagnose the behaviors of
innovation implementers. The instrument was called the
Levels of Use (LoU) instrument and it consisted of a
face-to-face interview designed around specific set of
questions. In combination both instruments (the SoC and
LoU) provided an accurate description of a typical
innovation adoption effort with one dimension focusing
on feelings and the other instrument focusing upon
performance (Hall, George & Rutherford, 1986, pp. 2-4).

Stages of Concern

Hall, Wallace, and Dossett (1973) followed up and
drew heavily upon the work of Dr. Fuller and produced a
paper titled A Developmental Conceptualization of the
Adoption Process Within Educational Institutions. Its
purpose was to assist others who were engaged in the
process of innovation adoption and it became an
important resource for change facilitators. It further
provided a basis for empirical investigation into the
adoption process by explaining the seven Stages
hypothesized by concerns theory. The Stages are:

Awareness - little concern about or involvement
with the innovation is indicated.

Informational - a general awareness of the
innovation and interest in learning more detail
about it is indicated. The person seems to be
unworried about herself/himself in relation to
the innovation. S/he is interested in
substantive aspects of the innovation in a
selfless manner such as general characteristics,
effects, and the requirements for use.

Personal - an individual is uncertain about the
demands of the innovation, her/his inadequacy to
meet those demands, and his/her role with the
innovation. This includes analysis of his/her
role in relation to the reward structure of the
organization, decision making, and consideration
of the potential conflicts with existing
structures or personal commitment. Financial or
status implications of the program for self and
colleagues may also be reflected.

Management - attention is focused on the processes
and tasks of using the innovation and the best
use of information and resources. Issues

related to efficiency, organizing, managing,

scheduling, and time demands are utmost.

Consequences - attention focuses on impact of the

innovation on students in her/his immediate

sphere of influence. The focus is on relevance

of the innovation for students, evaluation of

student outcomes, including performance and

competencies, and changes needed to increase

student outcomes.

Collaboration - the focus is on coordination and

cooperation with others regarding use of the

innovation.

Refocusing - the focus is on exploration of the

universal benefits from the innovation,

including the possibility of major changes or

replacement with a more powerful alternative.

Individual has definite ideas about alternatives

to the proposed or existing form of innovation

(p. 7).

Hall and others reapplied Fuller's developmental

conceptualization of change. She had realized that

people move through a continuum of concerns about self

to concerns about the task and ending with concerns

about impact. Hall et al. (1973) applied this concept

to an innovation implementation process. Broadly
speaking, the concerns hypothesis states that when an
individual encounters a new situation that requires
interaction with an innovation, his/her initial behavior
is governed by concerns about himself/herself and the
demands that the situation makes upon him/her. As these
self-concerns become resolved, the individual moves to
concerns focusing on the nature of the task and on the
quality of task performance. Ultimately, the individual
becomes concerned about the impact he/she is making upon
others using the innovation and strives to optimize
his/her efforts for others.

The authors felt that concerns play a central role
in the implementation phase of the educational change
process. In particular, they perceived that concerns
represent an important part of an adopter's needs and
that it was possible to diagnose them and then formulate
a precise intervention which was designed to resolve the
concern. A change agent who recognizes that
self-concerns are being expressed can initiate
consultation or training that may result in resolution
of self-concerns and move the person along the
developmental effectiveness continuum toward more
effective uses of the innovation.

Hall, George, and Rutherford (1986) defined a concern as the composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task. Depending on his/her personal make-up, knowledge, and experiences, each person perceives and mentally contends with a given issue differently; thus there are different kinds of concerns. The innovation might be seen several ways, for instant the responder might feel the innovation is a threat to his/her well being, or it may be seen as desirable. There may be a tremendous feeling of confusion and lack of data about what the innovation is all about. The demand to consider the innovation may come from within the organization, or the pressure may come from outside the organization. In the final analysis, each individual reacts to an innovation and the contex in their own particular way. These reactions are what concerns theory explains.

Hall and Hord (1987) state that the study of concerns theory led to the development of a "psychometrically rigorous (p. 62)" 35 item diagnostic instrument called the Stages of Concern Questionnaire (SoCQ). The device may be administered to anyone who is involved with any innovation implementaton process. It

usually takes between ten minutes to fifteen minutes to respond to the seven point Likert scale format. The SoCQ's interpretation reveals a respondent's relative intensity of concern about the innovation throughout seven Stages.

In review, each person faced with the challenge of implementing an innovation is stimulated to produce concerns across seven Stages of Concern. The relative intensity of the concerns vary from individual to individual, however, research indicates that people do not stay "frozen" in place, they appear to follow a predictable path that lessens the relative intensity at certain Stages and arouses intensity further along the development effectiveness continuum. Therefore, holding concerns and changing concerns is a unique phenomenon for each individual. The topics of concern arousal and concern resolution will be examined in the next section.

Arousal/Resolution of Concerns

Hall et al. (1986) state that an individual's closeness to an innovation will determine the different types of concerns he/she experiences. Several types of concerns can be experienced at the same time, however, there are usually different degrees of relative intensity. With each person, certain demands of the

innovation are viewed as being more important than others at a particular time. Thus the degree of arousal of the different types of concerns will vary. Concerns will assume different levels of arousal depending on the amount of knowledge and experience that a user has with the innovation. Whether a person is using or not using the innovation, this will also make a difference. If a person is highly experienced with the innovation then this fact will likely mean different Stages of Concern.

Hall and Hord (1984) report that after an individual has been diagnosed as to their highest Stage of Concern then proper interventions can be initiated to resolve the concerns. Specifically, leaders should use appropriate interventions to encourage innovation use. The authors define an intervention as an action or event or a set of actions or events that influences the use of an innovation. Their work led to the development of the Intervention Taxonomy which helps change facilitators select the right intervention activities to use based on an innovation user's highest Stage of Concern.

The taxonomy was designed around several intervention levels: policy, game plan components, strategy, tactic, and incident. There was a hierarchical relationship to the levels that ranged from

a global perspective which impacted many people to an individual perspective which affects one person. The policy level interventions (formal and informal) are designed to impact the most people. A formal policy is generally written down and it can be easily described by administrators or teachers. An informal policy is not written down instead it is described as the organization's norms. A school board would most likely use this level of intervention to implement change.

The game plan components are activities used by principals to support innovation use. There are six options: 1) supportative organizational arrangements, such as providing space and materials to users; 2) training, to develop knowledge and skills; 3) consultation and reinforcement, to solve problems; 4) monitoring and evaluation, to report outcomes; 5) external communication, to gain support outside the organization; and 6) dessimination, to encourage outsiders to use the innovation. The game plan components are used by principals to reduce teacher concerns.

Strategy level interventions involve a long time perspective and are designed to sustain an innovation's use. A typical strategy might be the requirement that

all teachers attend a series of workshops during the
academic year to build skills in the use of an
innovation. The tactic level intervention is a sub-part
of the strategy level. It is a short duration effort
that usually takes just a few hours to perform.
Examples would include such things as holding teacher
meetings or making classroom visits.

Incident interventions are usually the smallest
effort in terms of time and number of targets contacted
but Hall and Hord (1984) stress their importance. The
activity usually occurs between the principal and a
teacher. They are considered the key building blocks in
a successful innovation implementation effort because
they accumulate over time and have the potential to
powerfully influence innovation use.

Fuller (1970) points out that interventions are
designed to reduce concerns or arouse concerns. She
comments, "Arousal seems to occur during affective
experiences, for example, during confrontation....
Resolution seems to occur through more cognitive
experiences: acquisition of information, practice,
evaluation, synthesis and so on" (p. 11). However,
resolution of earlier concerns and the arousal of later
concerns are not accomplished simply by having more

knowledge about the innovation or time and experience with the innovation. Many other factors influence concerns as well. For example, the innovation may be basically a bad fit (although manufactures do not knowingly set out to produce bad fit innovations). The knowledge and skill requirements may be beyond the person's ability. Other activities in person's life may be more important than the innovation. The process of arousal and resolution of concerns through appropriate interventions is highly personal and requires the passage of time. Highly intense concerns may not be easily reduced, and in some cases a person's attitude, knowledge, and skills may make resolution of concerns nearly imposible.

In general, it appears that a person's concerns about an innovation do rise and fall with some degree of predictability. This regularity involves both concern arousal and concern resolution as a person spends time working with the innovation and getting use to its requirements. Given enough time, a person's success skills and acquired knowledge will probably cause him/her to move toward the more highly developed impact concerns end of the implementation effectiveness

continuum; however, each individual determines for
himself or herself whether change will occur.

Summary

The preceding pages have investigated cooperative
learning as it relates to classroom learning. An
historical perspective was presented on its potential to
change education and improve schools. Its instructional
advantage appears to be that it can do two things at
once: (1) impact the cognitive/affective domains and
(2) allow the classroom teacher to view each student as
a valuable classroom resource and not just as a target
for "production line" instructional services. Simply
put, cooperative learning takes participatory seat work
and puts it to advantage.

The change process was examined because according
to Johnson and Johnson (1987) cooperative learning is an
underutilized classroom goal structure. If schools are
to restructure according to the recent demands of
American business executives, American government office
holders, and American educational leaders then viable
options such as cooperative learning must challenge the
"business as usual" mentality. America educational
researchers must identify promising educational learning

practices that can reform education and improve schools. These goals require a knowledge of the change process.

Finally, the literature reviewed concerns theory and the research done by Francis Fuller and others that led to the development of the Stages of Concern Questionnaire and Innovation Taxonomy. The study assessed the concerns of elementary administrators and teachers about cooperative learning and provides valuable data. Information that can lead to more meaningful and relevant change in inservice programs for teachers and administrators.

CHAPTER 3

METHODOLOGY

Introduction

This chapter describes the methodology that was used to collect and analyze the data. The steps in the process were: (1) sample selection, (2) measuring instruments used, (3) data gathering techniques, and (4) a process for analyzing the data from two perspectives: descriptive and inferential. The study investigated elementary school administrators' (N=46) concerns toward implementing cooperative learning in comparison to regular classroom teachers' (N=85) concerns toward using cooperative learning.

The study was designed to answer the following questions:

1. Is there a difference between perceived Stages of Concern of administrators and teachers?

2. Is there a difference between the perceived Stages of Concern of male and female administrators and teachers?

3. Is there a difference between training and no training in cooperative learning and the

perceived Stages of Concern of administrators and teachers?

4.   Is there a relationship among selected demographic characteristics and the Stages of Concern that administrators perceive?

5.   Is there a relationship among selected demographic characteristics and the Stages of Concern that teachers perceive?

Sample Population

A stratified random sample of 46 elementary school administrators and 85 regular classroom teachers from 24 selected southeastern Massachusetts public school districts were used in the study. The Massachusetts Department of Education has separated the state into seven kinds of communities (KOC) for statistical test purposes. The publication titled A New Classification Scheme for Communities in Massachusetts (1985) describes the state classification system which is based on similar communities. The system employs a statistical technique called "cluster analysis" which takes the state's 351 cities and towns and places them into seven categories that have comparable characteristics. The seven categories are: (1) urbanized centers, (2) economically developed suburbs, (3) growth communities,

(4) residential suburbs, (5) rural economic centers, (6) small rural communities, and (7) resort/retirement and artistic. The study used a randomized stratified sample of administrators and teachers from each of the identified communities.

Instrumentation

Each subject in the study was asked to fill out two instruments: (1) Demographic Survey Instrument (DSI) and (2) Stages of Concern Questionnaire (SoCQ). The DSI was constructed to collect information from each respondent concerning his/her gender, age, education, experience, role (administrator or teacher), and training versus no training with cooperative learning. Information concerning sex was gathered to determine if there was a significant difference in the perceived Stages of Concern of males and females toward cooperative learning. Data regarding ages, education levels, experiences, role, and training versus no training were collected to see if these variables were significant factors in the Stages of Concern of the two groups. Assessed differences would be important in determining what appropriate interventions should be selected to resolve identified concerns.

The Stages of Concern Questionnaire was developed at the University of Texas/Austin in the Research and Development Center for Teacher Education. It can measure seven hypothesized Stages of Concern about an innovation such as cooperative learning. The instrument was used to gather data about 46 elementary administrators' and 85 regular classroom teachers' concerns with regard to cooperative learning.

Hall, George, and Rutherford (1986) reveal, "[SoCQ] was validated over a three year period, preceded by ten years of measurement development and research by Frances Fuller and others...." (p.9). Starting in September 1974 and continuing for two years the questionnaire was used in cross-sectional and longitudinal studies of 11 different educational innovations and led to the general conclusion that the questionnaire, "... accurately measures Stages of Concern about the innovation" (p. 10). The tests resulted in estimates of reliability, internal consistency, and validity.

Reliability of the SoCQ

The items representing each stage on the SoCQ were selected to address high internal reliability. This necessitated that any selected SoC question must produce responses that correlate highly with other items

measuring the same Stage of Concern and that condition would assure high internal validity. Hall et al. (1986) report that "...in a one-week test-retest study, stage scores correlations ranged from .65 to .86, with four of the seven correlations being above .80. Estimates of internal reliability (alpha coefficients) ranged from .64 to .83 with six of the seven coefficients being about .70" (p. 11).

The coefficients reflected the degree of reliability among the items on a scale of terms of overlapping variability. The formula is a generalization of the Kuder-Richardson Formula 20 for dichotomous items (Cronbach, 1951). Program TESTSAT on the VSTAT library (Veldman, 1967) was used to compute these coefficients using data from a stratified sample of 830 teachers and professors.

Validity of the SoCQ

Hall et al. (1986) found that the validity of the scores on the SoCQ as measures of the defined Stages of Concern could not be demonstrated as easily as could their reliability. There didn't exist another measure of concerns with which the SoCQ could be compared. Therefore,:

An attempt was made to demonstrate that scores on the questionnaire relate to each other and to other variables as concerns would suggest. Thus, intercorrelation matrices, judgments of concerns based on interview data, and confirmation of expected group differences and changes over time have been used to investigate the validity of the SoCQ scores. (p. 12)

The first indications that the questionnaire might measure concerns as conceptualized came with the analysis of the 195-item pilot checklist containing six subscales (stage 1 through stage 6). Each item was responded to on a zero through seven scale, a high response indicating that the person considered that item to be "very true of me now." Scores were computed by adding the responses for the items in each scale; the sum of the scale scores constituted the total score. This correlational evidence indicated that the items on a particular scale tended to be responded to similarly, the inference being that the items in each scale measured a notion distinct from notions measured by other scales.

A correlation matrix was computed based on these
same data. The correlation near the diagonal were
higher than those more removed from it. Guttman (1954,
1957) applied the term simplex to this type of pattern.
The simplex pattern in a matrix corresponds to a set of
objectives having degrees of similarity and
dissimilarity with one another in such a way that they
can be arranged on a line. Each object will be more
like an object immediately beside it than like any
object farther away on the line. Thus, the scales on
the pilot questionnaire indicated an order consistent
with the hypothesized order of the Stages of Concern
(Hall et al., 1986, p. 12).

Research Design

Borg and Gall (1983) state, "Research design refers
to the procedures used by researchers to explore
relationships between variables, to form subjects into
groups, administer the measures, apply the treatment
conditions, and analyze the data" (p. 351). They break
research into two types: (1) descriptive and (2)
causal. Descriptive studies are primarily concerned
with finding out "what is" (p. 354).

Sprinthall (1987) describes research as being either experimental or post-facto. He elaborates on the requirements of a post-facto design when he pointed out:

the researcher does not manipulate the independent variable. Rather the independent variable is ASSIGNED. That is, the subjects are measured on some trait THEY ALREADY POSSESS and then are ASSIGNED TO CATEGORIES ON THE BASIS OF THAT TRAIT. These trait differences (independent variable) are then compared with measures which the researcher takes on some other dimension (dependent variable). (emphasis his, p. 218)

This study was a descriptive post-facto questionnaire survey. Therefore, it must rule out a direct cause-and-effect inference. However, post-facto research does, "...provide the basis for better than chance predictions" (Sprinthall, 1987, P. 218). The questionnaire survey design structured its inquiry around two types of hypotheses: (1) the hypothesis of difference and (2) the hypothesis of association.

The hypothesis of difference was used to determine if two groups represent different populations, that is, subjects are assigned to different groups on the basis

of some original difference and then assessed for possible differences in some other areas. This condition required that the sample population be measured with a dependent variable (SoCQ). The data were tested for significance using the independent t-test formula with a preset .05 level of significance.

The hypothesis of association was used to determine if a correlation exists among separate measures. The Demographic Survey Instrument (DSI) determined each respondent's status and the information was used to assign values to the independent variables. After the measurements were taken, they were then formulated with measurements of the dependent variable (SoCQ). The data were tested using the Pearson product-moment correlation with a preset .05 level of significance. The resulting coefficient was then expressed numerically using a range from -1 to +1. The mathematical expression had both direction and magnitude and it reveal the presence or absence of statistical significance.

The Demographic Survey Instrument (DSI) solicited general information about a respondent's status. The Stages of Concern Questionnaire (SoCQ) contained 35 statements describing various concerns toward change. Respondents were asked to rate each concern statement

using a scale from zero (irrelevant) to seven (very true of me now). This forced choice Likert scale was used to determine each respondents relative intensity of concern toward cooperative learning. The scale scores were then used for statistical analysis as recommended by Hall et al. (1986).

The DSI and the SoCQ were distributed to a stratified random sample of elementary administrators and regular classroom teachers selected from 80 southeastern Massachusetts school districts. The participating school districts were chosen by two criteria: 1) cooperative learning programs/practices were currently being used in elementary classrooms within the district and 2) the school district was randomly selected based on the Massachusetts Department of Education's kind of community (KOC) classification system.

Statistical Procedures

Descriptive analysis and inferential analysis were used to produce summaries, conclusions, and recommendations for the study. Sprinthall (1987) suggests that three elements are useful in descriptive analysis: 1) measurement of a central tendency (mean), 2) determination of variability (standard deviation),

and 3) frequency distribution. Hall, Hord, and
Rutherford (1986) suggest that after the Stages of
Concern Questionnaire data have been collected then the
percentile scores can be descriptively analyzed to
determine the samples' highest Stage of Concern. This
is accomplished by counting how often a particular Stage
of Concern was chosen as the respondent's highest score.
The process is called Peak Stage Score Interpretation.
It was possible to understand where the samples'
aggregate concerns were located.

Three steps were followed to analyze the SoCQ data
based on Peak Stage Score Interpretation: 1) each stage
percentile score was listed on a row to form a
composite, 2) the respondent's highest stage score was
circled in each row, 3) a tabulation of circled scores
was performed on each column to determine the frequency
of occurance for each highest peak stage score. The
Peak Stage Score Interpretation was based directly on
the definitions associated with each Stage of Concern.
The frequency of occurence for each peak score shows how
many respondents are experiencing the same relatively
high intensity of concern. The Stages were then
analyzed to determination the major domain (unrelated,
self, task, impact) area that needed to be addressed.

Inferential analysis involved two hypotheses: 1)
the hypothesis of difference and 2) the hypothesis of
association. The hypotheses were tested for statistical
significance in the following ways:

1. Hypotheses 1, 2, and 3 were

    tested using the independent

    t-test;

2. Hypotheses 4, 5, and 6 were

    tested using the Pearson r.

The study would have rejected a null hypothesis if
four or more Stages tested significant at the .05 level.
It accepted the hypothesis when four or more statements
were found to be not significant at the .05 level. The
following hypotheses were tested:

1.   There is no significant difference in the

            perceived Stages of Concern of elementary

            administrators and regular classroom

            teachers toward cooperative learning.

2(a).   There is no significant difference in the

            perceived Stages of Concern of elementary

            male and female administrators toward

            cooperative learning.

2(b).   There is no significant difference in the

            perceived Stages of Concern of elementary

male and female teachers toward cooperative learning.

3(a).   There is no significant difference between training and no training in cooperative learning and the perceived Stages of Concern of elementary administrators.

3(b).   There is no significant difference between training and no training in cooperative learning and the perceived Stages of Concern of regular elementary classroom teachers.

4(a).   There is no significant relationship among age and the perceived Stages of Concern of elementary administrators toward cooperative learning.

4(b).   There is no significant relationship among age and the perceived Stages of Concern of regular elementary classroom teachers toward cooperative learning.

5(a).   There is no significant relationship among education level and the perceived Stages of Concern of elementary administrators toward cooperative learning.

5(b).   There is no significant relationship
         among education level and the perceived
         Stages of Concern of elementary
         teachers toward cooperative
         learning.

6(a).   There is no significant relationship
         among education experience and the
         perceived Stages of Concern of elementary
         administrators toward cooperative learning.

6(b).   There is no significant relationship
         among education experience and the
         perceived Stages of Concern of regular
         elementary classroom teachers toward
         cooperative learning.

Data Analysis

The Demographic Survey Instrument (DSI) yielded
information about seven independent variables: 1) role,
2) gender, 3) training in cooperative learning, 4) age,
5) education level, 6) experience and 7) use. The
Stages of Concern Questionnaire (SoCQ) produced the
dependent variable scores. The data from both the DSI
and the SoCQ were tabulated, coded, and entered into a
computer as independent variables and the dependent

variables respectfully. The Minitab program was used to generate and compile the data for analysis.

Summary

This chapter described the methods and procedures that were used to collect and analyze the data concerning 46 elementary school administrators' and 85 regular classroom teachers' Stages of Concern toward cooperative learning. Nellhaus (1990) states that Massachusetts has 1202 elementary schools within its boundary. The elementary schools include K-8 schools but do not include typical middle or junior high school grade configurations (i.e., 6-8, 7-9, 5-8, or 7&8). The sample population was drawn from the 253 elementary schools located in southeastern Massachusetts. Special effort was placed on producing a stratified random sample that reflected the Massachusetts Department of Education's seven kind of community criterion.

The respondents were given two instruments to complete: 1) the Stages of Concern Questionnaire and (2) a Demographic Survey Instrument. Data from the returned instruments were tabulated, coded, and entered into the Minitab statistical software program for processing. The results were analyzed two ways: 1) descriptively and 2) inferentially. Descriptive

analysis included measures of central tendency,

variability, and frequency of occurrence. Inferential

analysis was obtained by testing for the hypothesis of

difference (t-test) and the hypothesis of association

(Pearson r).

CHAPTER 4

ANALYSIS OF THE DATA

This chapter analyzes the data according to appropriate statistical procedures and presents the major findings of the study. Data utilized were gathered by means of the Stages of Concern Questionnaire and the Demographic Survey Instrument. The findings are divided into two parts. Part one reports descriptive statistics for the independent variables, and part two deals with inferential analysis of the data based on the hypotheses involved in the study.

The study investigated five research questions. They were:

1. Is there a difference between the perceived Stages of Concern of administrators and teachers?

2. Is there a difference between the perceived Stages of Concern of male and female administrators and teachers?

3. Is there a difference between training and no training in cooperative learning and the perceived Stages of Concern of male and female administrators and teachers?

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4. Is there a relationship among selected
    demographic variables and the perceived
    Stages of Concern of administrators?

5. Is there a relationship among selected
    demographic variables and the perceived
    Stages of Concern of teachers?

Descriptive Analysis of the Data

The findings in this section are presented with
regard to the frequency distribution of the personal
characteristics of the survey participants.

A total of 131 administrators and teachers in
southeastern Massachusetts public schools participated
in the study. The sample consisted of 46 administrators
(35 percent of the total respondents) and 85 teachers
(65 percent).

The number of administrators and teachers in the
study were identified by gender, age, and education
level. There were 60.9 percent (N=28) male
administrators and 39.1 percent female administrators
(N=18). Female teachers represented 62.4 percent (N=53)
of the sample group while male teachers accounted for
37.6 percent (N=32). The greatest number of
administrators, 45 (98 percent), were age 40 or over.
The breakdown of administrators in the sample according

to age was as follows: 50 percent (N=23), 40 to 49
years; 30.4 percent (N=14), 50 to 59 years; 17.4 percent
(N=8), 60 to 69 years; 2.2 percent (N=1) were below age
40. The largest number of teachers, 84.7 percent
(N=72), were under age 50, and consisted of the
following classifications: 25.9 percent (N=22), 30-39
years; 58.8 percent (N=50), 40-49 years; and 15.3
percent (N=13), 50-59 years. The largest number of
administrators, 45 (97.8 percent), indicated a Masters
Degree or higher degree. The greatest number of
teachers, 60 (70.6 percent), had a Masters Degree or
lower degree.

With regards to years of education experience, the
largest number of administrators was found in the 21+
years and teachers was found in the 10 to 20 years of
experience classification: administrators, 67.4 percent
(N=31); teachers, 49.4 percent (N=42). The next largest
number for administrators was found in the 10 to 20
years classification, with 14 administrators (30.4
percent of the total number) and 29 teachers (34.1
percent) who were in the 21+ years. Approximately 11.5
percent of the total sample had less than 10 year of
educational experience; administrators, .8 percent (N=1)
and teachers 10.7 percent (N=14).

Over 32.9 percent (N=28) of the teachers and 34.7
percent (N=16) of the administrators indicated that they
did not have training in cooperative learning. The
breakdown of the sample according to those who had
training consisted of administrators, 30 (65.2 percent),
and teachers, 57 (67.1 percent).

School districts that use cooperative learning
indicated that 122 professional staff members have been
using cooperative learning for the following number of
years: sixty-five less than one year (53.3%),
twenty-nine 1-2 years (23.8%), nineteen 3-5 years
(15.6%), four 6-9 years (3.3%), three 10-20 years
(2.5%), and two 21+ years (1.6%).

The Peak Stage Score Interpretation for the Stages
of Concern Questionnaire was done on role (administrator
and teacher), gender, and training. Table 4.1 reveals
that 49 percent (N=25) of the administrators have their
highest concern score in Stage 0 (Awareness).
Approximately one half of the surveyed administrators
have little concern or involvement with cooperative
learning even though their school superintendent
indicated that cooperative learning programs or
practices were adopted. Regular classroom teachers
showed their highest percent of concern in Stage 1

(Informational). This indicated that 31.9 percent
(N=30) have a general awareness about cooperative
learning and an interest in learning more detail about
it. These teachers seem unworried about themselves in
relation to cooperative learning. They are looking for
substantive information such as general characteristics,
effects, and requirements for cooperative learning.

Males and females in Table 4.1 show high concerns
in three Stages: Awareness, Informational, and
Personal. Males have a combined score of 76.5 percent
and females 71.9 percent. These early Stages are
associated with two concern domains: 1) unrelated
(Awareness Stage) and 2) self (Informational Stage and
Personal Stage). People in the unrelated concern domain
(Awareness Stage) tend not to be thinking about
cooperative learning. The people are focus on other
things that they consider more important at this time in
their life. Therefore, cooperative learning becomes a
low priority or nonexistent concern on their list of
"things to be concerned about." The self domain
category (Informational Stage and Personal Stage) has an
egocentric feature. Concerns at this point about
cooperative learning have to do with feelings of
potential inadequacy, self doubts about the knowledge

required, or uncertainty about the situation they are about to face in implementing cooperative learning.

The trained category in Table 4.1 reveals 29.8 percent of the responders' peak stage scores are collectively at three Stages: Consequences, Collaboration, and Refocusing as compared to just two percent from the not-trained group. Hall and Hord (1987) write that this is the preferred domain to be located in if a cooperative learning effort has been implemented effectively. This domain is directed toward how cooperative learning is affecting students. Administrators and teachers are focusing on how they can be be more effective with cooperative learning. They are concerned with wondering if students are getting what they need to know about cooperative learning. The trained group indicated that 69 percent (N=60) have been using cooperative learning for two years or less.

The trained respondents in Table 4.1 show that 5.3 percent have their highest concern at the Consequences Stage. They are primarily concerned with the impact that cooperative learning is having on students within their immediate sphere of influence. They are concerned with the relevance that this classroom learning goal structure is having upon their students. Evaluation of

student achievement, including performance and
competency with cooperative learning, was important to
this group.   Collectively, they are willing to make
whatever changes are necessary in their current
cooperative learning practices to increase student
outcome.   The not-trained portion of the sample numbered
two percent in their peak stage score at the Refocusing
Stage.   Simply put, 98 percent of the non-trained people
have no interest in coordination and cooperation with
other colleagues regarding the use of cooperative
learning.

        Table 4.1 displayed that 2.2 percent of the people
who were trained showed that their highest concern
scores were at the Refocusing Stage.   This refocusing
Stage is concerned with exploring the possibility of
major changes in current cooperative learning programs
including the option of replacing them with a more
powerful alternative.   The alternative programs may
reflect structural differences such as teaching the
cooperative learning skills separate from the academic
task or infusing them into the existing curriculum.
Also, there is a possibility that a portion (or all) of
this group might abandon cooperative learning.

Collectively, the following Peak Stage Scores are noted for two early development Stages: Awareness indicates highest scores for administrators (49.0%), males (42.6%), and not-trained personnel (48%); Information Stage professionals indicate: teachers (31.9%), females (32.1%), and trained professionals (26.3%).

Table 4.1

Percent of Peak Stage Scores For the Stages of

Concern Questionnaire on Cooperative Learning

Group	Highest Stage of Concern						
	0	1	2	3	4	5	6
Admin.	49.0	19.6	9.8	3.9	3.9	11.8	2.0
Teachers	23.4	31.9	16.0	6.4	4.3	17.0	1.1
Males	42.6	22.1	11.8	8.8	1.5	11.8	1.5
Females	23.1	32.1	16.7	2.6	5.1	19.2	3.1
Trained	24.2	26.3	14.7	5.3	5.3	22.1	2.2
Not Trained	48.0	32.0	12.0	6.0	0.0	2.0	0.0

Note. Administrators (N=46), Teachers (N=85), Males

(N=60), Females (N=71), Trained (N=87), Not Trained (N=44).

Inferential Analysis of the Data

In this section the results of the statistical
tests and the analysis of the data related to the
research hypotheses are presented. The data are
organized into the following parts: 1) difference
between selected demographic characteristics and the
responses of administrators and teachers on the seven
Stages of Concern, and 2) relationship among selected
demographic items and the responses of administrators
and teachers on the seven Stages of Concern. As it was
indicated in Chapter III, the selected level of
significance for the testing of the hypotheses was .05.
Each hypothesis was tested using the following format:
Statement of the hypothesis in the null form; 2)
tabulation and presentation of the findings; 3)
interpretation of the results. The criterion for
rejecting the hypothesis was when four or more of the
Stages of Concern were found to be significant.

Difference Between Selected Demographic Characteristics and the Stages of Concern of Administrators and Teachers

In this part, the investigator was interested in
determining if: 1) the concerns of administrators
differ from the concerns of teachers , 2) the concerns

of males differ from the concerns of females, and 3) the concerns of administrators and teachers with training in cooperative learning differ from the concerns of those who do not have training in cooperative learning. These areas of study were identified in Hypotheses 1, 2, and 3. The t-test was used to test these hypotheses. The dependent variables were the ratings assigned by administrators and teachers to each Stage of Concern. For each stage, mean ratings (M), standard deviation of ratings (S.D.), t value, and p value (risk of error in rejecting the null hypothesis) were the statistics presented for interpreting the findings.

<u>Hypothesis 1</u>: There is no significant difference in the perceived Stages of Concern of administrators and teachers.

According to Table 4.2, a significant difference was found between the perceived Stages of Concern of administrators and teachers on one of the seven Stages; namely, Management. No significant differences were found between the two groups on the Awareness, Informational, Personal, Consequences, Collaboration, and Refocusing Stages. Teachers showed significantly more concern than administrators on the Management Stage ($\overline{X}_a$ = 2.42, $\overline{X}_t$ = 2.89, t = -1.88, p = .032). Their

concerns were also rated higher on the Personal Stage
($\bar{X}_a$ = 3.35, $\bar{X}_t$ = 3.77, t = -1.31, p = .096). Although
administrators indicated lower concern, teachers showed
higher concern on the Informational Stage (X_a = 3.48, X_t
= 3.77, t = -1.09, p = .14). Administrators showed the
highest concern on the Consequences Stage, followed by
the Collaboration and the Informational Stages. The
highest concern indicated by teachers was on the
Consequences Stage, followed by the Collaboration,
Personal, and Informational Stages. In general,
teachers tended to show higher degrees of concern toward
the stages as compared to administrators as indicated by
their higher mean scores. Since significant differences
were found on only one of the seven Stages, the null
hypothesis was accepted. Stages of Concern of
administrators and teachers proved not to be
significantly different.

Table 4.2

<u>t-Test Comparing the Stages of Concern</u>

<u>of Administrators and Teachers</u>

Stages of Concern	Group	Mean	S.D.	t	p
Awareness	Admin.	1.96	1.28		
	Teachers	1.69	1.05	1.22	.89
Informational	Admin.	3.48	1.39		
	Teachers	3.77	1.63	-1.09	.14
Personal	Admin.	3.35	1.80		
	Teachers	3.77	1.69	-1.31	.10
Management	Admin.	2.42	1.34		
	Teachers	2.89	1.42	-1.88	.03 *
Consequences	Admin.	4.15	1.38		
	Teachers	4.27	1.57	-0.47	.32
Collaboration	Admin.	3.84	1.51		
	Teachers	3.95	1.73	-0.36	.36
Refocusing	Admin.	2.47	1.20		
	Teachers	2.73	1.22	-1.18	.12

<u>Note</u>. Administrators (N=46), Teachers (N=85).

* Significant difference at the .05 level.

Rating: Zero concern (low) to Seven concern (high).

Hypothesis 2(a): There is no significant

difference between the perceived Stages of

Concern of male and female administrators.

Table 4.3 shows that no significant differences

were found between male and female administrators on any

of the seven Stages of Concern. Males rated five Stage

of Concern higher than their female counterparts. They

were: Informational, Personal, Management,

Consequences, and Collaboration. Female administrators

rated Awareness and Refocusing Stages higher than their

colleagues but not to the critical .05 level of

significance. Therefore, the null hypothesis was

accepted. There is no significant difference between

the perceived Stages of Concern of male and female

administrators.

Hypothesis 2(b): There is no significant

difference between the perceived Stages of

Concern of male and female teachers.

According to Table 4.3, a significant difference

was found between male and female teachers on one Stage

of Concern. Males rated the Awareness Stage of Concern

significantly higher than their female counterparts ($\bar{X}_m$

= 2.13, $\bar{X}_f$ = 1.43, t = -3.04, p = .001). No significant

differences were found between the groups and the

remaining Stages; that is, Informational, Personal,
Management, Consequences, Collaboration, and Refocusing.
Mean scores also indicate that females' concerns were .
higher than males' on Informational, Personal,
Consequences, and Collaboration. However, males'
concerns were higher than females' on Management and
Refocusing. The null hypothesis was accepted since
significant differences were not found on six of the
Stages.

Table 4.3

<u>t-Test Comparing the Stages of Concern of</u>

<u>Male and Female Administrators and Teachers</u>

Stages of Concern	Group	Males		Females		Results	
		Mean	S.D.	Mean	S.D.	t	p
Awareness	Admin.	1.88	1.38	2.09	1.14	- .55	.29
	Teachers	2.13	1.09	1.43	.95	-3.04	.00 *
Informational	Admin.	3.40	1.28	3.60	1.58	- .45	.33
	Teachers	3.66	1.32	3.84	1.80	.52	.70
Personal	Admin.	3.48	1.86	3.14	1.73	.62	.73
	Teachers	3.74	1.46	3.79	1.82	.13	.55
Management	Admin.	2.58	1.47	2.18	1.11	1.05	.85
	Teachers	2.94	1.29	2.86	1.50	- .25	.40
Consequences	Admin.	4.39	1.53	3.77	1.02	1.66	.95
	Teachers	4.06	1.44	4.40	1.65	1.00	.84
Collaboration	Admin.	3.87	1.66	3.80	1.30	.16	.56
	Teachers	3.50	1.69	4.22	1.71	1.88	.97
Refocusing	Admin.	2.39	1.23	2.59	1.18	- .56	.29
	Teachers	2.90	1.14	2.62	1.27	-1.07	.14

<u>Note</u>. Administrators (Males = 28, Females = 18),

Teachers (Males = 32, Females = 53). * Significant difference

at the .05 level. Rating: Zero concern (low) to Seven

concern (high).

Hypothesis 3(a): There is no significant
difference between training and no training
and the perceived Stages of Concern of
administrators.

The results of the statistical tests revealed a
significant differences between administrators with
cooperative learning training and those without
cooperative learning training on two of the seven Stages
of Concern (Table 4.4). Specifically, the non-trained
administrators showed a significantly higher degree of
concern toward cooperative learning on the Awareness
Stage ($\bar{X}_t$ = 1.39, $\bar{X}_{nt}$ = 3.04, t = -4.36, p = .000). The
other significant Stage was Management ($\bar{X}_t$ = 2.08, $\bar{X}_{nt}$ =
3.06, t = -2.38, p = .01). Other mean scores reveal
that non-trained administrators scored higher on the
following Stages: Informational and Personal. Trained
administrators showed higher mean scores on the
Consequences, Collaboration, and Refocusing Stages.
Overall, the null hypothesis was accepted because the
threshold criterion was not reached. There is no
significant difference between training and no training
and the perceived Stages of Concern of administrators.

Hypothesis 3(a): There is no significant

difference between training and no training

and the perceived Stages of Concern of

teachers.

Significant differences between Stages of Concern

of teachers who had training and those who did not have

training were found (Table 4.4) on two of the seven

Stages. Those were: Awareness and Informational.

Teachers who did not have training in cooperative

learning had higher concerns on the following Stages:

(a) Awareness ($\bar{X}_t$ = 1.42, $\bar{X}_{nt}$ = 2.26, t = -3.54, p =

.001) and (b) Informational ($\bar{X}_t$ = 3.52, $\bar{X}_{nt}$ = 4.28, t =

-2.22, p = .015). Non-trained teachers also showed

higher concerns in the Personal Stage, however, the

score was not significant to the .05 level. Teachers

who had training showed higher relative concerns (but

not significant) on the Management, Consequences,

Collaboration, and Refocusing Stages. The null

hypothesis was accepted. There is no significant

difference between training and no training and the

perceived Stages of Concern of teachers.

Table 4.4

t-Test Comparing Training or No Training

in Cooperative Learning and the Stages of

Concern of Administrators and Teachers

Stages of Concern	Group	Training Mean	S.D.	No Training Mean	S.D.	Results t	p
Awareness	Admin.	1.39	0.86	3.04	1.28	-4.63	.00 *
	Teachers	1.42	0.93	2.26	1.08	-3.54	.00 *
Informational	Admin.	3.30	1.44	3.81	1.27	-1.24	.11
	Teachers	3.52	1.70	4.28	1.36	-2.22	.02 *
Personal	Admin.	3.09	1.78	3.84	1.79	-1.36	.09
	Teachers	3.57	1.67	4.18	1.68	-1.56	.06
Management	Admin.	2.08	1.20	3.06	1.40	-2.38	.01 *
	Teachers	2.93	1.40	2.83	1.48	0.30	.62
Consequences	Admin.	4.37	1.28	3.72	1.50	1.47	.92
	Teachers	4.54	1.45	3.72	1.70	2.18	.98
Collaboration	Admin.	4.25	1.38	3.08	1.49	2.62	.99
	Teachers	4.21	1.67	3.41	1.76	2.01	.97
Refocusing	Admin.	2.59	1.02	2.22	1.49	0.88	.81
	Teachers	2.79	1.19	2.59	1.29	0.70	.76

Note. Administrators (Trained = 30, Not Trained = 16)

Teachers (Trained = 57, Not Trained = 28). * Significant

difference at the .05 level. Rating: Zero concern (low)

to Seven concern (high)

<u>Relationship Among Selected Demographic</u>

<u>Characteristics and the Stages of</u>

<u>Concern of Administrators and Teachers</u>

The researcher was interested in this part to determine if there was a relationship among selected demographic variables and the Stages of Concern that administrators and teachers perceive about the innovation cooperative learning. The area of study was identified in hypotheses 4, 5, and 6. The Pearson correlation technique was used in testing these hypotheses. Hypothesis rejection is based on the criterion of four or more Stages of Concern reaching or exceeding the .05 level of significance.

<u>Hypothesis 4(a)</u>: There is no significant relationship among age and the perceived Stages of Concern of administrators.

Results of the statistical test revealed a significant relationship among age and one of the Stages of Concern as follows: administrators indicated a significant relationship in the Collaboration Stage (r= -.365). The negative relationship indicated that the older the administrator, the less concern about developing a collaboration effort for cooperative learning. Age was not found to be related to the

remaining six Stages of Concern (Table 4.5). The null
hypothesis was accepted because less than four Stages
tested significant. There was no significant
relationship among age and the Stages of Concern.

Hypothesis 4(b): There is no significant
relationship among age and the perceived
Stages of Concern of teachers.

This hypothesis was accepted on six of the seven
Stages. Based on the findings in Table 4.5, Refocusing
was the only Stage that was found to be significantly
related to age. Teachers showed a significant negative
relationship among age and refocusing (r=.-242). This
indicates that teachers' concerns toward changing from
using cooperative learning significantly diminish with
age. None of the other Stages proved to be significant,
therefore, the null hypothesis was accepted. There is
no significant relationship among age and the perceived
Stages of Concern of teachers.

Table 4.5

Relationship Among Age and the Stages of Concern
of Administrators and Teachers

Stages of Concern	Group	r
Awareness	Administrators	.028
	Teachers	-.073
Informational	Administrators	-.045
	Teachers	-.187
Personal -	Administrators	-.227
	Teachers	-.187
Management	Administrators	-.092
	Teachers	-.104
Consequences	Administrators	-.147
	Teachers	-.208
Collaboration	Administrator	-.365 *
	Teachers	-.196
Refocusing	Administrators	-.169
	Teachers	-.242 *

Note. Administrators = 46, Teachers = 85.

r = relationship. * Significant at the .05 level.

Rating: Zero concern (low) to Seven concern (high).

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Hypothesis 5(a): There is no significant
relationship among education level and the
perceived Stages of Concern of administrators.

Findings in Table 4.6 show that this hypothesis was
accepted on all seven Stages. Based on the findings,
education level was not related to any of the Stages of
Concern. Specifically, no significant relationship was
found among education level and administrators' Stages
of Concern.

Hypothesis 5(b): There is no significant
relationship among education level and the
perceived Stages of Concern of teachers.

This hypothesis was accepted on all seven Stages.
Based on the findings reported in Table 4.6, education
level was not significantly related to any of the Stages
of Concern. Therefore, no relationship of significance
was found among education level and the Stages of
Concern of teachers.

Table 4.6

Relationship Among Education Level and the Stages

of Concern of Administrators and Teachers

Stages of Concern	Group	r
Awareness	Administrators	-.191
	Teachers	-.005
Informational	Administrators	-.090
	Teachers	-.048
Personal	Administrators	.072
	Teachers	-.045
Management	Administrators	.145
	Teachers	.044
Consequences	Administrators	-.024
	Teachers	.014
Collaboration	Administrators	.027
	Teachers	-.147
Refocusing	Administrators	.053
	Teachers	.003

Note. Administrators = 46, Teachers = 85.

r = relationship. * Significant at the .05 level.

Rating: Zero concern (low) to Seven concern (high).

<u>Hypothesis 6(a)</u>: There is no significant
relationship among education experience
and the perceived Stages of Concern of
administrators.

No significant relationships were found among the
seven Stages of Concern and education experience. The
null hypothesis was accepted (Table 4.7). There is no
significant relationship among education experience and
teachers' Stages of Concern toward cooperative learning.

<u>Hypothesis 6(b)</u>: There is no significant
relationship among education experience and the
perceived Stages of Concern of teachers.

A significant relationship was found between
education experience and one of the Stages. Management
was found to be significant (r= -.287). When age
increases, concerns toward management decrease for
administrators. Since the remaining six hypotheses were
accepted, the null hypothesis was not rejected. There
is no significance among administrators' education
experience and their perceived Stages of Concern toward
cooperative learning according to Table 4.7.

Table 4.7

Relationship Among Education Experience and the Stages
of Concern of Administrators and Teachers

Stages of Concern	Group	r
Awareness	Administrators	.167
	Teachers	.076
Informational	Administrators	.113
	Teachers	-.096
Personal	Administrators	.091
	Teachers	-.124
Management	Administrators	.037
	Teachers	-.278 *
Consequences	Administrators	-.018
	Teachers	-.191
Collaboration	Administrators	-.180
	Teachers	-.196
Refocusing	Administrators	-.179
	Teachers	-.192

Note. Administrators = 46; Teachers = 85.

r = relationship. * Significant at the .05 level.

Rating: Zero concern (low) to Seven concern (high).

Summary

This chapter has presented an analysis of the data in relation to the research hypotheses involved in the study. A comparison was made between administrators' and teachers' responses to selected personal and demographic characteristics, and their Stages of Concern toward cooperative learning. The findings revealed very little significant difference/relationship between/among personal and demographic characteristics of administrators and teachers and their Stages of Concern toward cooperative learning. The next chapter presents a summary of the findings, conclusions, recommendations, and suggestions for future research.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to present a summary of the findings, draw conclusions, make recommendations to facilitate change in implementing an effective cooperative learning effort, and to suggest future research.

Summary of the Research

This study was conducted to assess the Stages of Concern of elementary school administrators and regular classroom teachers in selected southeastern Massachusetts school districts about cooperative learning. The task was to evaluate the effects of selected personal characteristics on the Stages of Concern of two separate groups. Tests were performed to determine the difference between role, gender, and training in cooperative learning and the Stages of Concern of elementary administrators and regular classroom teachers; and the relationship of age, education level, and experience to administrators' and teachers' Stages of Concern about cooperative learning.

The subjects for the study were chosen from 24 southeastern Massachusetts public school districts.

Included were 46 elementary school administrators and 85
teachers who were involved with cooperative learning.
Administrators represented 35.11 percent (N=46) of the
sample, and teachers 64.89 percent (N=85). The
breakdown of the sample according to gender was as
follows: male administrators, 28 (60.87 percent of the
administrators), and 18 female administrators (39.13
percent); male teachers 32 (37.65 percent of the total
number), and female teachers, 53 (62.35 percent).

Two data gathering instruments were used in the
study: an instrument designed to measure the seven
hypothesized Stages of Concern of administrators and
teachers about cooperative learning and an instrument
designed to gather personal information from
administrators and teachers. The Stages of Concern
Questionnaire (SoCQ) was used to gain insight into the
elementary administrators' and teachers' concerns. A
seven-point Likert scale was used to determine the
levels of intensity from each respondent. The scale
ranged from zero (irrelevant concern) to seven (high
concern). The instrument allowed the respondents the
opportunity to respond to 35 statements indicating how
closely each statement described a concern that they
felt at the time. The second instrument was designed to

gather information regarding demographic characteristics of each respondent. The instrument consisted of seven selected personal factors with appropriate places to respond.

Data obtained from the 131 returned questionnaires were coded and put into a computer for proper treatment (summary, tabulation, and analysis). Descriptive analyses of the data were accomplished through the use of selected measures of central tendency, standard deviation, and frequency distribution based on each respondent's Peak Stage Score. Inferential analyses of the data were achieved by using the t-test and the Pearson r formulas. Dependent variables in the study were scores assigned by administrators and teachers to each Stage of Concern. The independent variables consisted of each respondent's: role, gender, training/no training in cooperative learning, age, education level, and experience.

Data were used to answer these five research questions:

1. Is there a difference between the perceived Stages of Concern of administrators and teachers about cooperative learning?

2. Is there a difference between the perceived
    Stages of Concern of male and female
    administrators and teachers about cooperative
    learning?

3. Is there a difference between training and no
    training in cooperative learning and the
    perceived Stages of Concern of administrators
    and teachers?

4. Is there a relationship among selected
    demographic characteristic and the perceived
    Stages of Concern of administrators about
    cooperative learning?

5. Is there a relationship among selected
    demographic characteristic and the perceived
    Stages of Concern of teachers about
    cooperative learning?

Summary of the Findings

Findings derived from data analyses were as
follows:

1. All school districts in southeastern
    Massachusetts do not use cooperative
    learning in their elementary schools. School
    superintendents reported that 57.5 percent

(N=46) have not initiated cooperative learning programs at their elementary school sites.

2. Districts that have adopted cooperative learning programs indicate that 77.1 percent (N=94 out of 122) of their professional staff have used cooperative learning for two years or less.

3. The Peak Stage Scores Interpretation disclosed that role, gender, and training information put the majority of respondents into two Stages: Awareness and Informational. The Awareness Stage had the highest concern scores for the following categories: administrators (49.0%), males (42.6%), and not-trained professionals (48.0%). The Informational Stage had the following highest score concentrations: teachers (31.9%), females (32.1%), and trained professionals (26.3%).

4. Overall, role was not significant in the Stages of Concern of administrators and teachers about cooperative learning. However, teachers do indicate a greater intensity of concern about cooperative learning than do administrators in six of the seven Stages:

Informational, Personal, Management,
Consequences, Collaboration, and Refocusing.
Teachers tested significantly different in
the Management Stage.

5. Gender was not, in general, significant in the
    Stages of Concern of administrators and
    teachers about cooperative learning. Yet,
    male teachers were significantly more
    concerned than their female colleagues
    at the Awareness Stage. Male administrators
    were higher than females administrators about
    their concerns at five of the seven Stages:
    Informational, Personal, Management,
    Consequences, and Collaboration. Female
    administrators had higher concerns at two
    Stages: Awareness and Refocusing.

6. Training was not significant in most of the
    Stages of Concern of administrators and
    teachers. However, administrators and teachers
    both showed significant difference at
    the Awareness Stage. Also, significant
    differences were shown in the concern intensity
    of teachers at the Informational Stage and
    administrators at the Management Stage.

Non-trained administrators and teachers
demonstrated their highest mean concern scores
at three Stages: Awareness, Informational, and
Personal. Trained professionals exhibited
their highest mean concern scores at three
Stages: Consequences, Collaboration, and
Refocusing.

7. Age was not, in general, significantly
related to the Stages of Concern of
administrators or teachers. However, two
Stages reached the .05 level: administrators
revealed the Collaboration Stage tested
significant and teachers revealed that the
Refocusing Stage was significant.

8. Education level was not found to be
significantly related to the Stages of Concern
of administrators or teachers.

9. Education experience, overall, was not
significantly related to the Stages of Concern
of administrators or teachers. One Stage
(Management) tested significant for teachers.

Conclusions

An assessment of administrators' and teachers'
Stages of Concern about cooperative learning provides

valuable information for change agents in southeastern
Massachusetts who are interested in increasing the
likelihood of an effective implementation effort
designed around cooperative learning. The following
conclusions were drawn from the study.

1. Some students are being deprived of cooperative
learning or are being taught by professionals
whose concerns are located at the least
effective Stages about cooperative learning.

The study revealed that 57.5% of the
southeastern Massachusetts public elementary
school districts do not use cooperative
learning programs. Systems that do use
cooperative learning revealed (Table 4.1)
that their administrators and teachers have
their most intense concern scores located at
the least effective Stages (Awareness,
Informational, and Personal). This means that
southeastern Massachusetts students are being
attended to by practicing professionals who are
more concened about themselves instead of being
more concerned about the task to be
accomplished or more concerned about the impact

that cooperative learning is having on their
students.

Planning and initiating activities that.
address the effective implementation issue must
be initiated. The activities must meet the
needs of southeastern Massachusetts
administrators and teachers who are working
with cooperative learning. The self issue
must be resolved because failure to do so
may endanger the cooperative learning
initiative and perpetuate the unbalanced use
of individualistic and competitive classroom
learning goal structures. These two
unchallenged learning structures will continue
to dominate the southeastern Massachusetts
public elementary school classrooms
and students will continue to miss out on
one-third of the classroom learning options.

2. The majority of practicing professionals have
    immature concerns about cooperative learning
    programs and practices. The Peak Stage Score
    Interpretation (Table 4.1) for practicing
    professionals in southeastern Massachusetts
    public elementary schools illustrated that

role, gender, and training variables show a

high concentration of concern scores at two

Stages: Awareness and Informational. These

Stages are located in the early development end

of the cooperative learning implementation

effectiveness continuum.

3. Leaders need to initiate training activities

that will resolve professional concerns about

cooperative learning. Training activities have

the potential to shift southeastern

Massachusetts public elementary school

administrators' and teachers' concerns

from the early development Stages to the late

development Stages. Table 4.3 points out that

not-trained professionals have more intense

concerns at the Awareness, Informational, and

Personal Stages of Concern about cooperative

learning. The intensity of concerns shifts

with training. This is illustrated by the

higher Stage scores attained by the trained

group at the following Stages: Consequences,

Collaboration, and Refocusing. These Stages

are all located in the more developmentally

mature end of the cooperative learning
implementation effectiveness continuum.

Recommendations

Based on the findings, the following
recommendations are proposed:

1. School systems that are currently using
   cooperative learning in southeastern
   Massachusetts must address the effective
   implementation issue. The school districts
   should immediately assess the cooperative
   learning concerns of their entire professional
   staff to determine their current development
   level. The Stages of Concern Questionnaire
   should be used to accurately diagnose the
   concerns of each school system's administrators
   and teachers about cooperative learning. The
   diagnostic activity is essential if appropriate
   interventions are to be prescribed.

2. Immature concerns about cooperative learning
   must be addressed. Administrators' Peak Stage
   Score Interpretation (Table 4.1) showed that
   49 percent were located at the Awareness Stage
   and teachers recored their highest score in the
   Informational Stage (31.9%).

The Awareness Stage concern for administrators needs to be resolved because these school administrators are expressing little or no concern about cooperative learning. Therefore, the following interventions should be considered: Inservice workshops that focus on cooperative learning are to be arranged by the National Diffusion Network consultants; book authors such as Slavin, Kagan, or Johnson and Johnson should be contacted and arrangements made with them or their designees for personal appearances to discuss the latest cooperative learning research findings; or effective "on site" cooperative learning users (or a more appropriate person) should be encouraged to conduct an awareness session workshop. The essential point to remember is that the activity should be designed to bring a positive message about cooperative learning to an unaware audience. The awareness message should be delivered over time throughout the entire academic year.

The Informational Stage concerns of
teachers need to be addressed. Interventions
should be initiated that provide teachers
with general descriptive information about
cooperative learning. The distribution of
brochures, books, or leaflets that inform
readers about the goals and uses for
cooperative learning should prove useful in
arousing some professional interest in the
topic. It is also recommended that
educational leaders avoid information overload.

3. Training needs for southeastern Massachusetts
public school systems that use cooperative
learning vary (see Table 4.2). With regard to
not-trained personnel, they showed intense
concerns at the early development Stages
(Informational, Personal). Trained personnel
revealed intense concern at the late
development Stages (Consequences,
Collaboration). These diverse needs should
be met.

Not-trained personnel need their
Information Stage concerns addressed.
Information of a general nature can be conveyed

by conversation or short media presentations.
It is helpful to give information that
contrasts what people are currently doing with
what cooperative learning would entail. A
visit to a nearby site that is using
cooperative learning should also prove useful.

The not-trained personnel need their
Personal Stage concerns attended to with the
use of specific interventions that are designed
to encourage and assure them that they can
implement cooperative learning effectively.
The message should be conveyed in both spoken
and written form. Furthermore, it should prove
useful to explain that cooperative learning can
be introduced to students gradually over the
course of an entire academic year and not
all at once.

Trained administrators and teachers need
assistance in the Consequences Stage. The
professionals' concerns are targeted toward
students and the quality use of cooperative
learning. These people can benefit from
encouragement in the form of praise and
congratulations. Also, providing them with the

latest journal articles dealing with
cooperative learning would help to sanction
their effective cooperative learning efforts.
These professionals may also add to their
effectiveness by being allowed to attend
cooperative learning conferences or workshops.

Trained professionals whose most intense
concerns rest at the Collaboration Stage often
become leaders in the cooperative learning
effort. These people must be encouraged to
share their knowledge and skills in cooperative
learning with others. Their needs can be met
by creating a forum where they are given an
opportunity to engage in an ideas exchange.
They should be permitted to go outside their
present school sites and work with others who
are less knowledgeable about cooperative
learning.

4. Several training models based on different
   cooperative learning varities (i.e., Numbered
   Heads Together, Learning Together Model,
   Cooperative Integrated Reading and Composition)
   should be available to all school districts in
   southeastern Massachusetts and based on the

skills, knowledge, and values demonstrated
by effective administrators and teachers in
the area.

5. Southeastern Massachusetts professionals need
to become productively involved with effective
implementation time lines. Training should
convey the advantages of a long-term thinking
(3-5 years or more) over short-term thinking
(1-2 years). A long range cooperative learning
effective implementation effort should be
planned, initiated, and sustained.

6. Incident interventions are the key to most
effectively implemented cooperative learning
programs. They are characteristically
small in terms of duration and number, however,
they are constantly occuring and accumulate to
a large total over a typical implementation
effort. Leadership workshops should be
initiated in southeastern Massachusetts
school districts using cooperative learning
that teach administrators how to recognize
incident interventions and put them to
advantage.

7. Experts in the use of the Intervention Taxonomy
   should be hired to train southeastern
   Massachusetts superintendents and principals on
   how to operate a full-ranged cooperative
   learning effective implementation effort.

8. Site-based management has been promoted as one
   way to improve schools by encouraging people
   who will be directly involved with a decision
   to become an active part of the decision-making
   process. A site-based classroom learning
   effort that promotes cooperative learning is
   recommended for southeastern Massachusetts user
   districts.

Suggestions for Future Study

A number of other studies which would be useful
for planning and developing effective cooperative
learning programs are suggested as a result of this
investigation.

1. Since the study was limited to elementary
   schools in southeastern Massachusetts,
   follow-up studies should be conducted in other
   regions to substantiate or refute the Stages of
   Concern of administrators and teachers in the
   Massachusetts public school system and beyond.

2. This study focused on the concerns of
   administrators and teachers toward cooperative
   learning from an attitudinal perspective.
   Further investigations might be designed from
   a behavioral perspective. An investigation
   designed to examine the effective behaviors and
   interactions of these educators involved in
   cooperative learning should be useful.

3. This study was based on data collected by a
   Likert scale, another investigation is
   recommended to study the Stages of Concern of
   administrators and teachers through the use of
   open-ended questions.

APPENDICIES

APPENDICIES

APPENDIX A

STAGES OF CONCERN QUESTIONNAIRE

ABOUT COOPERATIVE LEARNING

STAGES OF CONCERN QUESTIONNAIRE
ABOUT COOPERATIVE LEARNING

The purpose of this questionnaire is to determine what people who are using or thinking about using a cooperative learning program are concerned about at various times during the adoption process. The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about an innovation such as cooperative learning to many years experience in using it. Therefore, <u>A GOOD PART OF THE ITEMS ON THIS QUESTIONNAIRE MAY APPEAR TO BE OF LITTLE RELEVANCE TO YOU AT THIS TIME</u>. For the completely irrelevant items, please circle "0" on the scale. Other items will represent those concerns you <u>DO</u> have, in varying degrees of intensity, and should be marked higher on the scale. For example:

This statement is very true
of me at this time.............. 0 1 2 3 4 5 6 ⑦

This statement is somewhat
true of me now .... 0 1 2 3 ④ 5 6 7

This statement is not at
all true of me at this time .... 0 ① 2 3 4 5 6 7

This statement seems
irrelevant to me................ ⓪ 1 2 3 4 5 6 7

Please respond to the items in terms of <u>your present</u> <u>concerns</u>, or how you feel about your involvement or potential involvement with <u>cooperative learning</u>. We do not hold to any one definition of cooperative learning, so please think of it in terms of <u>YOUR OWN PERCEPTIONS</u> of what it involves. Remember to respond to each item in terms of <u>YOUR PRESENT CONCERNS</u> about your involvement or potential involvement with cooperative learning.

Thank you for taking time to complete this task.

COOPERATIVE LEARNING STAGES OF CONCERN QUESTIONNAIRE

0	1	2	3	4	5	6	7
irrelevant	not true of me now		somewhat true of me now			very true of me now	

1. I am concerned about students' attitudes toward cooperative learning.

   0 1 2 3 4 5 6 7

2. I now know of some other approaches that might work better.

   0 1 2 3 4 5 6 7

3. I don't even know what cooperative learning is.

   0 1 2 3 4 5 6 7

4. I am concerned about not having enough time to organize myself each day.

   0 1 2 3 4 5 6 7

5. I would like to help other faculty in their use of cooperative learning.

   0 1 2 3 4 5 6 7

6. I have a very limited knowledge about cooperative learning.

   0 1 2 3 4 5 6 7

7. I would like to know the effect of reorganization on my professional status.

   0 1 2 3 4 5 6 7

8. I am concerned about conflict between my interests and my responsibilities.

   0 1 2 3 4 5 6 7

0	1	2	3	4	5		7
irrelevant	not true of me now			somewhat true of me now	very true of me now		

9. I am concerned about my use   0 1 2 3 4 5 6 7
   of cooperative learning.

10. I would like to develop working   0 1 2 3 4 5 6 7
    relationships with both our
    faculty and outside faculty
    using cooperative learning.

11. I am concerned about how   0 1 2 3 4 5 6 7
    cooperative learning
    affects students.

12. I am not concerned about   0 1 2 3 4 5 6 7
    cooperative learning.

13. I would like to know who will   0 1 2 3 4 5 6 7
    make the decisions in the
    new system.

14. I would like to discuss the   0 1 2 3 4 5 6 7
    possibility of using
    cooperative learning.

15. I would like to know what   0 1 2 3 4 5 6 7
    resources are available if
    we decide to adopt cooperative
    learning.

16. I am concerned about my   0 1 2 3 4 5 6 7
    inability to manage all
    that cooperative learning
    requires.

17. I would like to know how my   0 1 2 3 4 5 6 7
    teaching or administration
    is suppose to change.

0	1	2	3	4	5		7
irrelevant	not true of me now			somewhat true of me now		very true of me now	

18. I would like to familiarize other departments or persons with the progress of this new approach.

0 1 2 3 4 5 6 7

19. I am concerned about evaluating my impact on students.

0 1 2 3 4 5 6 7

20. I would like to revise cooperative learning's instructional approach.

0 1 2 3 4 5 6 7

21. I am completely occupied with other things. ˙

0 1 2 3 4 5 6 7

22. I would like to modify our use of cooperative learning based on the experiences of our students.

0 1 2 3 4 5 6 7

23. Although I don't know about cooperative learning, I am concerned about things in the area.

0 1 2 3 4 5 6 7

24. I would like to excite my students about their part in this approach

0 1 2 3 4 5 6 7

25. I am concerned about the time

0 1 2 3 4 5 6 7

26. I would like to know what the use of cooperative learning will require in the immediate future.

0 1 2 3 4 5 6 7

0	1	2	3	4	5	7
irrelevant	not true of me now			somewhat true of me now	very true of me now	

27. I would like to coordinate my effort with others to maximize cooperative learning's effects.

0 1 2 3 4 5 6 7

28. I would like to have more information on time and energy commitments required by cooperative learning

0 1 2 3 4 5 6 7

29. I would like to know what other faculty are doing in this area.

0 1 2 3 4 5 6 7

30. At this time, I am not interested in learning about cooperative learning.

0 1 2 3 4 5 6 7

31. I would like to determine how to supplement, enhance, or replace cooperative learning.

0 1 2 3 4 5 6 7

32. I would like to use feedback from students to change the program.

0 1 2 3 4 5 6 7

33. I would like to know how my role will change when I am using cooperative learning.

0 1 2 3 4 5 6 7

34. Coordination of tasks and people is taking too much of my time.

0 1 2 3 4 5 6 7

35. I would like to know how cooperative learning is better than what we have now.

0 1 2 3 4 5 6 7

APPENDIX B

COOPERATIVE LEARNING STAGES OF CONCERN QUESTIONNAIRE

ARRANGED ACCORDING TO STAGE STATEMENTS

COOPERATIVE LEARNING STAGES OF CONCERN QUESTIONNAIRE

ARRANGED ACCORDING TO STAGE STATEMENTS

Item

Number   Statement

_____

AWARENESS

3. I don't even know what cooperative learning is.

12. I am not concerned about cooperative learning.

21. I am completely occupied with other things.

23. Although I don't know about cooperative learning
    cooperative learning, I am concerned about
    things in the area.

30. At this time, I am not interested in learning
    about cooperative learning.

INFORMATIONAL

6. I have a very limited knowledge about cooperative
   learning.

14. I would like to discuss the possibility of using
    cooperative learning.

15. I would like to know what resources are available

if we decide to adopt cooperative learning.

26. I would like to know what the use of cooperative
    learning will require in the immediate future.

35. I would like to know how cooperative learning
    is better than what we already have now.

PERSONAL

7. I would like to know the effect of reorganization on my
   professional status.

13. I would like to know who will make the decisions in the
    new system.

17. I would like to know how my teaching or administration
    is suppose to change.

28. I would like to have more information on time and energy
    requirements.

33. I would like to know how my role will change when I am
    using cooperative learning.

MANAGEMENT

4. I am concerned about not having enough time to organize
   myself each day.

8. I am concerned about conflict between my interests and

my responsibilities

16. I am concerned about my inability to manage all
    that cooperative learning requires.

25. I am concerned about the time spent working with
    nonacademic problems related to cooperative learning.

34. Coordination of tasks and people is taking too much
    of my time.

CONSEQUENCES

1. I am concerned about students' attitudes toward
   cooperative learning.

11. I am concerned about how cooperative learning
    affects students.

19. I am concerned about evaluating my impact on students.

24. I would like to excite my students about their part
    in this approach

32. I would like to use feedback from students to change the
    program.

COLLABORATION

3. I would like to help other faculty in their use of
   cooperative learning.

10. I would like to develop working relationships with both our faculty and outside faculty using cooperative learning.

18. I would like to familiarize other departments or persons with the progress of cooperative learning.

27. I would like to coordinate my effort with others to maximize cooperative learning's effects.

29. I would like to know what other faculty are doing in cooperative learning.

REFOCUSING

2. I now know of some other approaches that might work better.

9. I am concerned about revising my use of cooperative learning.

20. I would like to revise cooperative learning's instructional approach.

22. I would like to modify our use of cooperative learning based on the experiences of our students.

31. I would like to determine how to supplement, enhance, or replace cooperative learning.

APPENDIX C

DEMOGRAPHIC SURVEY INSTRUMENT

DEMOGRAPHIC SURVEY INSTRUMENT

Please complete this form.

Place an (X) before the response which best describes you or your situation.

1.   Gender: _____ Male, _____ Female.

2.   What percent of your job is:

   _____ % Classroom Teacher; _____ % Administrator
   _____   Other (specify) _____ %.

3.   Age:

   _____ 20-29; _____ 30-39; _____ 40-49;
   _____ 50-59; _____ 60-69 _____ 70+.

4.   Education (highest degree earned):

   _____ Bachelor
   _____ Bachelor + _____ credits (respondent supplied)
   _____ Masters
   _____ Masters + _____ credits (respondent supplied)
   _____ CAGS
   _____ Doctorate.

5.   Years of teaching and/or administrative experience in regular elementary grades (k-6, full time):

   _____ less than 1; _____ 1-2; _____ 3-5;
   _____ 6-9; _____ 10-20; _____ 21 or more.

6.   Years of teaching and/or administrative experience using cooperative learning:

   _____ less than 1; _____ 1-2; _____ 3-5;
   _____ 6-9; _____ 10-20; _____ 21 or more.

7.   Have you received formal training in cooperative learning (workshops, courses)?

   _____ yes
   _____ no.

APPENDIX D

CONTACT LETTERS

Dear Superintentent _____:

Would you please be kind enough to give a minute of your valuable time to complete a one checkmark (yes/no) survey instrument indicating whether your school system is or is not currently using cooperative learning?

Cooperative learning is an idea that school superintendents increasingly see written and spoken about with greater frequency in schools throughout southeastern Massachusetts. Some common names for the programs are: Student Team Learning (STL); Learning Together (LT); Group Investigation (GI), and Jigsaw (J) to name just a few. Other practices are less formal in their nature yet they all have similar ingredients: grouping students in clusters of four to six students of mixed academic ability and mixed ethnic/cultural/racial composition. These students work together as an intact group for four to nine weeks or more to complete an educational goal.

Simply check (✓) whether or not your school system is currently using cooperative learning at the elementary level. Kindly return it to me as soon as possible.

Thank you for your assistance with the survey.

Sincerely,

William M. Fay

22 Dacia Drive
Weymouth, MA 02190
_____ April 1991

Dear Superintendent:

Last Spring I contacted your office and I was informed
that your school system was using cooperative learning. I
am working with the University of Massachusetts/Amherst to
find out how school principals and classroom teachers feel
about cooperative learning. This letter is to request
permission to survey specific school(s) in your district.
The purpose of the research is to increase our knowledge and
understanding about principals' and teachers' feelings
toward cooperative learning. The objective is to contact
three people at each selected school building: the
principal, one male classroom teacher, and one female
classroom teacher. They will be asked to voluntarily
complete a questionnaire about cooperative learning. There
is no interest in evaluating any system or specific school,
therefore, the findings (based on 24 school districts in
southeastern Massachusetts) will be presented as group data.
All information will be held in the strictest confidence.
I have included a copy of the survey instrument that will be
used for your information. Having been a school
administrator myself, I recognize the demands on your time
and energy and I would like to say, "Thank you!" in advance
for taking the time to consider my request. The school(s)

that I would like to contact are listed at the bottom of
this letter. A postcard has been included to facilitate the
process. Please return the self addressed postcard if I
have your permission to proceed further. If you would like
additional information, please telephone me at 617-337-7579.

In conclusion, I would like to state that it is through
projects (such as this one) that we try to better understand
our public schools, however, in the final analysis, it is
only through the good will of people like yourself that
school research projects can proceed.

Sincerely,

William M. Fay

School(s):

22 Dacia Drive
Weymouth, MA 02190
_____ April 1991

Dear School Administrator:

Cooperative learning is a classroom practice that is receiving a lot of attention these days. The University of Massachusetts/Amherst and I am interested in finding out more about this topic. Your school superintendent has agreed to help the us by giving me permission to contact you. The purpose of this letter is to let you know what is happening and to seek your cooperation. The goal to use your school to increase our knowledge and understanding about cooperative learning.

The project started when your school district was selected from 34 southeastern Massachusettts school districts. Your school was chosen as a "data collection" site. The procedure calls for three people to be contacted at each selected school: the principal, one male classroom teacher (if possible), and one female classroom teacher. Each selected person will be asked to voluntarily complete an anonymous questionnaire about cooperative learning and return it in the self addressed, stamped envelope by

April ___, 1991. As a former school principal

(Charlestown), I recognize the demands on your time and

energy and I would like to say, "Thank you!" in advance for

taking the time to consider the request.

The project is specifically designed to sample

elementary administrators' and classroom teachers' concerns

toward cooperative learning. Two classroom teacher survey

envelopes have been included for faculty members at your

school. Would you please distribute the envelopes at random

to one male (if possible, otherwise female) and one female

classroom teachers.   Please be advised that there is no

interest in evaluating any specific school system or any

specific school building, therefore, the findings shall be

presented as group data. <u>All information will be held in

the strictest confidence</u>.

In conclusion, I would like to say that it is through

projects like this one on cooperative learning that we try

to expand our information about public schools, however, in

the final analysis, it is only through the good will of

people like yourself that public school research projects

can proceed. If I can be of any further assistance, please

telephone me at 617-337-7579. Thank you.

Sincerely,

William M. Fay

22 Dacia Drive
Weymouth, MA 02190
April ___, 1991

Dear Classroom Teacher:

Cooperative learning is a classroom practice that is
receiving a lot of attention these days. In conjunction
with the University of Massachusetts/Amherst, this current
research study on cooperative learning seeks your help in
finding out what your feelings are in this area. You have
been randomly selected to be a teacher participant. You are
being asked to complete a questionnaire about cooperative
learning and return it in the self addressed, stamped
envelope by April ___ , 1991.

As it was described to your superintendent and building
principal, the enclosed questionnaire will be used to
determine your areas of concern. The questionnaire is to be
completed anonymously and, in keeping with honorable
research practices, confidentiality will be assured because
all the information will be presented as group data. The
reason for placing a return label on the front of the
response envelope is for nonresponse followup.

I recognize the demands on your time and energy because I have been a classroom teacher. Therefore, I would like to say, "Thank you!" in advance for taking the time to consider the request. It is through projects, such as this one on cooperative learning, that researchers try to increase our information about the teaching profession. However, in the final analysis, it is only through the good will of people like yourself that school research projects can proceed. If I can be of any further assistance, please telephone me at 617-337-7579. Thank you.

Sincerely,

William M. Fay

APPENDIX E

DATA

DATA RAW SCORES

Case	Dependent Variables							Independent Variables					
	0	1	2	3	4	5	6	R	G	T	A	E	Ex
1	0.2	4.8	6.0	4.0	6.2	5.2	2.2	1	1	1	5	4	6
2	2.0	3.8	3.8	3.0	6.6	5.6	3.2	2	2	1	4	1	5
3	1.2	1.2	1.2	1.2	2.8	2.4	1.6	1	2	1	5	4	6
4	2.4	4.8	3.2	2.0	2.4	2.0	2.4	2	1	1	4	1	5
5	1.8	4.8	3.6	4.8	2.6	3.4	2.0	2	1	1	4	2	5
6	0.0	1.0	1.4	1.4	2.8	4.2	1.2	1	1	1	4	4	6
7	2.0	3.2	4.4	2.2	5.0	5.0	1.8	1	1	1	3	2	5
8	2.2	1.2	0.0	1.4	2.4	3.2	3.6	1	2	1	5	3	5
9	0.0	0.0	0.0	0.0	0.0	2.8	0.0	2	2	1	4	1	6
10	2.0	4.8	5.0	2.8	5.2	1.8	1.8	2	2	1	4	3	5
11	3.2	4.2	3.8	1.8	2.6	2.8	1.2	1	1	1	6	5	6
12	1.6	6.8	7.0	6.2	5.4	2.6	3.2	2	2	1	3	1	6
13	4.0	7.0	7.0	4.4	4.2	7.0	2.6	2	2	0	4	1	6
14	2.0	2.8	1.8	2.0	3.6	4.8	2.0	1	1	1	5	3	5
15	1.8	5.8	7.0	4.2	5.0	2.4	1.4	2	2	1	5	4	6
16	2.0	3.0	1.8	3.0	2.2	1.4	1.4	2	1	0	4	3	5
17	2.4	3.4	4.4	2.2	3.2	4.2	3.0	1	2	1	4	3	5
18	0.4	2.2	1.8	3.0	5.6	5.2	4.2	2	2	1	4	1	5
19	4.2	2.8	4.4	1.6	3.8	3.2	3.8	1	1	0	4	3	6
20	0.8	5.8	3.0	3.2	3.8	5.6	3.4	1	2	1	6	2	6

Case	Dependent Variables							Independent Variables					
	0	1	2	3	4	5	6	R	G	T	A	E	Ex
21	3.8	2.0	2.2	1.8	1.8	1.8	2.0	2	1	0	4	1	6
22	2.0	2.8	0.2	2.2	4.2	2.0	0.2	1	2	0	5	2	5
23	1.6	4.2	3.4	1.8	3.6	2.8	2.2	2	1	0	3	7	5
24	0.9	4.4	3.8	2.2	6.6	7.0	3.2	2	2	1	3	1	5
25	5.6	3.2	1.6	1.0	1.4	0.4	0.0	1	1	0	6	3	6
26	2.0	3.4	4.0	2.6	4.0	2.0	4.2	2	1	1	5	3	6
27	0.2	4.8	3.4	3.0	6.4	4.2	4.6	2	2	1	4	1	5
28	3.4	4.2	4.0	2.0	2.2	2.2	0.8	1	2	0	4	2	6
29	1.8	4.8	6.4	4.2	6.4	5.4	4.2	1	1	0	5	4	6
30	1.0	2.2	0.6	2.2	4.2	1.8	1.8	1	1	1	6	5	5
31	2.8	1.6	1.8	6.0	2.6	1.4	2.0	1	1	0	6	3	6
32	3.2	4.8	6.4	1.0	3.2	2.2	1.8	2	2	0	3	1	5
33	0.4	2.4	1.2	1.4	4.0	2.0	2.2	1	1	1	6	5	6
34	2.4	5.2	4.8	0.0	0.0	1.2	0.0	2	2	0	4	1	6
35	1.2	5.0	4.6	2.0	2.8	4.6	1.4	1	2	0	5	4	6
36	4.6	3.7	2.8	3.8	3.8	1.0	5.6	2	1	1	4	3	5
37	4.0	5.0	5.4	3.8	5.0	2.6	3.8	1	1	0	5	3	6
38	2.2	5.0	5.0	3.4	4.6	4.4	3.2	2	1	1	3	1	5
39	2.2	5.4	5.6	5.2	5.0	4.8	3.0	2	1	1	4	4	5
40	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2	1	0	5	2	6
41	1.2	3.0	1.8	1.4	3.6	5.6	2.2	1	1	1	4	4	5

Case	Dependent Variables							Independent Variables					
	0	1	2	3	4	5	6	R	G	T	A	E	Ex
42	0.8	2.2	1.2	2.4	4.8	4.6	2.6	2	2	1	4	2	6
43	1.8	3.4	3.0	3.0	3.8	4.0	2.4	1	1	1	4	7	6
44	1.0	5.8	5.8	2.8	7.0	7.0	4.6	2	2	1	4	2	5
45	1.0	2.0	2.8	2.8	5.0	3.2	2.2	2	2	1	3	3	5
46	0.8	3.6	5.0	5.0	6.8	5.6	5.6	2	2	1	3	4	4
47	2.8	6.4	7.0	5.6	5.6	5.0	2.8	2	2	1	4	1	5
48	1.8	1.4	3.2	3.0	4.2	6.6	3.4	2	1	1	5	3	6
49	0.2	1.4	2.4	0.6	5.0	5.6	2.2	2	2	1	4	1	5
50	0.0	2.8	3.0	2.8	4.0	5.4	3.0	2	2	1	5	1	5
51	1.2	5.4	5.6	2.8	4.8	4.8	3.4	2	2	0	5	2	6
52	0.6	2.8	3.0	1.6	7.0	5.2	2.2	2	2	1	4	4	5
53	0.0	2.2	1.0	0.4	4.8	2.6	0.2	1	1	1	5	2	6
54	2.6	3.4	5.8	2.4	4.8	6.0	3.6	2	1	0	3	1	5
55	1.6	2.8	2.8	1.2	3.8	4.2	4.0	2	2	1	3	2	5
56	2.2	4.6	5.0	2.8	4.6	4.2	2.6	1	2	0	4	2	6
57	0.6	3.6	3.2	2.2	3.8	3.4	2.2	2	2	0	4	1	6
58	1.2	3.6	3.0	2.2	4.6	5.2	4.2	1	2	1	4	3	5
59	1.2	2.2	3.4	2.2	5.2	1.6	1.4	2	2	1	5	3	6
60	1.0	2.1	0.8	1.6	2.8	1.9	0.8	2	2	1	4	3	5
61	0.9	2.6	1.4	1.6	5.6	6.0	2.0 ·	1	1	1	4	3	5
62	2.0	1.8	3.0	1.2	3.6	1.8	2.4	2	1	1	3	1	5

Case	Dependent Variables							Independent Variables					
	0	1	2	3	4	5	6	R	G	T	A	E	Ex
63	3.0	5.6	5.6	4.8	4.2	4.4	2.6	2	2	1	5	1	6
64	2.8	5.2	5.6	4.4	5.6	5.2	4.8	1	1	0	4	3	5
65	1.2	3.0	2.4	1.4	2.6	3.6	0.8	2	1	0	4	2	1
66	1.6	5.0	4.8	2.4	6.0	4.2	3.0	1	1	1	4	3	6
67	0.8	3.2	4.0	4.6	4.6	5.6	4.0	2	2	1	4	2	4
68	1.2	5.2	4.6	3.6	4.8	4.6	3.6	2	2	1	4	2	4
69	0.8	4.4	1.4	0.2	3.8	3.8	1.2	1	2	1	4	4	6
70	3.8	2.0	2.8	3.2	2.2	2.0	3.4	2	1	1	5	5	6
71	1.4	2.0	1.8	1.6	4.0	5.2	1.4	2	2	1	3	1	5
72	1.6	2.6	3.6	4.4	4.2	4.4	2.4	2	1	1	4	1	4
73	0.2	0.2	0.6	2.2	4.6	6.8	1.2	2	2	1	4	2	5
74	1.0	2.8	1.6	2.4	4.8	5.8	2.6	2	1	1	3	1	5
75	1.0	4.4	4.4	4.0	4.2	6.0	3.6	2	2	1	4	3	6
76	3.2	3.2	4.4	1.0	3.8	1.8	2.6	1	2	1	5	3	6
77	2.8	3.4	4.4	2.8	3.0	3.4	2.8	2	2	0	4	2	5
78	2.8	4.6	4.6	1.8	4.8	4.8	2.4	2	2	0	3	2	5
79	0.6	3.4	2.2	3.4	5.2	3.6	2.6	2	1	1	4	6	6
80	2.2	3.8	4.0	3.2	3.4	3.4	1.4	1	1	0	4	2	5
81	1.0	4.6	5.2	3.0	6.6	7.0	3.4	2	2	1	4	2	5
82	1.4	5.0	4.6	4.8	4.8	4.8	3.6	2	2	1	3	1	4
83	2.0	5.6	3.2	4.2	3.8	2.0	3.2	2	2	0	4	1	4

Case	Dependent Variables							Independent Variables					
	0	1	2	3	4	5	6	R	G	T	A	E	Ex
84	2.8	4.6	4.0	2.8	4.0	2.2	2.8	2	1	0	4	3	5
85	0.4	0.0	1.4	0.8	1.8	3.2	1.2	2	2	1	5	1	6
86	1.4	4.0	2.4	1.8	5.8	5.2	2.4	1	1	1	6	3	6
87	3.6	3.8	4.6	2.4	3.4	2.6	2.4	2	1	0	3	1	5
88	1.2	5.4	5.6	4.4	6.8	5.2	5.2	2	1	0	2	1	3
89	0.4	4.8	4.8	3.4	6.8	6.6	4.2	1	1	1	4	3	5
90	0.4	1.6	0.8	1.0	5.0	5.6	3.4	1	2	1	4	2	5
91	1.2	3.6	5.2	5.6	5.6	5.4	3.0	1	1	1	4	5	6
92	3.0	5.6	5.8	4.0	4.2	4.2	3.4	2	2	0	4	3	5
93	3.2	4.0	2.8	0.6	3.0	1.0	1.6	2	1	0	5	1	6
94	0.8	2.4	2.8	1.2	5.0	3.4	1.6	2	1	1	4	5	6
95	2.4	3.2	2.2	1.6	1.2	2.0	0.8	2	2	1	4	1	6
96	0.0	1.2	2.2	5.6	6.4	3.8	5.2	2	1	0	3	1	4
97	1.0	2.8	3.2	1.0	2.0	7.0	1.2	2	2	1	4	2	4
98	1.8	3.2	3.2	4.0	4.8	4.0	2.6	1	1	0	5	7	6
99	4.2	4.8	5.2	3.8	4.4	3.6	2.4	1	1	0	5	3	6
100	3.4	4.8	4.6	4.4	4.6	4.0	3.6	1	2	0	4	2	6
101	2.0	6.2	2.2	0.8	5.0	4.6	3.6	1	2	1	5	3	5
102	0.4	5.0	2.2	1.8	1.0	0.8	0.0	2	2	0	4	2	5
103	2.4	2.0	1.2	1.6	2.2	0.8	1.8	2	1	0	4	3	6
104	5.0	4.2	4.4	2.6	2.8	2.0	1.4	1	2	0	4	1	6

Case	Dependent Variables							Independent Variables					
	0	1	2	3	4	5	6	R	G	T	A	E	Ex
105	1.4	5.6	4.0	2.2	6.4	5.8	3.2	2	2	1	4	1	5
106	2.2	4.6	4.8	4.4	5.0	4.6	3.0	2	1	1	4	1	4
107	2.2	5.2	7.0	6.6	5.6	3.8	3.6	2	2	0	4	2	2
108	2.0	2.2	1.6	1.2	2.6	2.2	1.6	1	1	1	5	3	6
109	2.6	3.0	4.4	4.0	4.2	4.0	3.0	2	2	1	3	1	5
110	2.4	6.2	4.6	1.8	5.4	6.2	4.8	2	2	1	3	1	5
111	1.0	2.8	2.0	0.6	5.2	4.6	4.0	1	1	1	6	4	6
112	4.4	4.0	4.2	3.0	1.8	3.4	2.0	2	1	0	3	3	5
113	0.6	1.8	2.4	2.6	4.2	5.8	3.4	2	2	1	5	3	6
114	1.0	1.0	0.6	2.2	6.0	2.2	1.0	2	2	1	5	1	6
115	0.8	4.6	2.6	3.8	3.8	4.8	3.4	2	2	1	4	2	5
116	0.2	4.2	4.2	3.6	4.2	1.4	1.4	2	2	1	4	2	5
117	0.8	3.0	2.6	1.6	3.2	2.2	2.4	2	2	1	4	1	6
118	2.2	4.8	5.0	3.4	5.8	4.4	3.6	1	2	1	4	3	6
119	2.2	4.4	5.0	4.0	5.0	4.2	2.4	2	2	1	4	1	5
120	0.6	4.8	6.2	0.8	4.6	3.0	2.8	2	1	1	4	2	6
121	1.0	5.6	6.2	2.8	6.4	6.0	3.8	1	1	1	4	2	6
122	1.6	0.6	1.4	1.6	3.6	4.2	2.6	2	2	1	4	1	5
123	1.8	5.6	5.6	3.0	5.8	5.8	3.2	2	1	0	4	1	6
124	2.4	1.0	4.4	3.4	3.4	5.4	3.2	1	2	1	4	2	6
125	1.8	5.0	3.0	2.8	2.8	3.4	2.0	2	2	0	4	3	6

Case	Dependent Variables							Independent Variables					
	0	1	2	3	4	5	6	R	G	T	A	E	Ex
126	1.6	2.8	4.0	3.2	3.0	3.2	3.2	1	2	1	4	7	3
127	2.4	5.6	5.2	4.4	5.8	6.6	3.8	2	1	0	3	2	5
128	2.0	5.8	5.2	5.0	5.4	4.2	4.2	2	2	1	4	4	2
129	1.4	5.2	6.2	4.0	6.4	5.0	4.6	2	1	0	4	3	6
130	1.8	4.8	5.6	3.6	5.6	4.8	3.2	2	1	1	3	1	4
131	2.0	1.0	1.0	1.0	1.0	1.0	0.6	1	1	0	4	3	6

DATA PERCENT SCORES

Case	KOC	Role	Concern Stage Percents						
			0	1	2	3	4	5	6
1	2	AM	23	88	94	77	82	72	26
2	2	TF	81	69	70	56	90	80	47
3	2	AF	60	30	28	18	13	19	17
4	2	TM	86	88	59	34	9	14	30
5	2	TM	77	88	67	88	11	36	22
6	2	AM	10	27	31	23	13	52	11
7	3	AM	81	60	78	39	54	68	20
8	3	AF	84	30	5	23	9	31	57
9	3	TF	53	43	21	27	13	12	6
10	2	TF	81	88	85	52	59	12	20
11	1	AM	94	75	70	30	11	25	11
12	1	TF	98	99	99	83	33	98	34
13	1	TF	72	99	99	98	63	22	87
14	7	AM	81	54	39	34	24	64	22
15	1	TF	77	96	99	80	54	19	14
16	1	TM	81	57	39	56	8	9	14
17	1	AF	86	63	78	39	19	52	42
18	1	TF	29	45	39	56	66	72	69
19	1	AM	98	88	78	27	27	31	60
20	5	AF	46	96	57	60	27	80	52

Case	KOC	Role	Concern Stage Percents						
			0	1	2	3	4	5	6
21	5	TM	97	43	45	52	5	12	38
22	5	AF	81	54	5	39	33	14	2
23	5	TM	72	75	63	30	24	25	26
24	5	TF	37	80	70	39	90	98	47
25	2	AM	99	60	35	15	4	3	1
26	1	TM	81	63	72	47	30	14	69
27	5	TF	23	88	63	56	86	52	77
28	1	AF	95	75	72	34	8	16	6
29	1	AM	77	88	96	80	86	76	69
30	4	AM	53	45	17	39	33	12	20
31	1	AM	91	37	39	9	11	9	22
32	3	TF	94	88	96	15	19	16	20
33	3	AM	29	48	28	23	30	14	26
34	1	TF	86	91	83	2	1	7	1
35	1	AF	60	90	80	34	13	59	14
36	4	TM	99	63	55	97	71	5	92
37	1	AM	98	90	89	73	54	22	60
38	3	TM	84	90	85	65	43	55	47
39	2	TM	84	93	91	92	54	64	42
40	1	TM	53	27	25	15	3	5	9
41	1	AM	60	57	39	23	24	80	26
42	1	TF	46	45	28	43	48	59	34

Case	KOC	Role	Concern Stage Percents						
			0	1	2	3	4	5	6
43	1	AM	77	63	57	56	27	48	30
44	1	TF	53	96	92	52	96	98	77
45	1	TF	53	43	55	52	54	31	26
46	3	TF	10	54	57	52	30	76	42
47	2	TF	91	99	99	95	66	68	38
48	4	TM	77	34	59	56	33	95	52
49	4	TF	23	34	48	9	54	80	26
50	3	TF	46	66	85	90	92	80	92
51	3	TF	60	93	91	52	48	64	52
52	3	TF	37	54	57	27	96	72	26
53	3	AM	10	45	25	7	48	22	2
54	1	TM	89	93	92	43	48	88	57
55	2	TF	72	54	55	18	27	52	65
56	2	AF	84	84	85	52	43	52	34
57	4	TF	37	66	59	39	27	36	26
58	4	AF	60	66	57	39	43	72	69
59	4	TF	60	45	63	39	59	10	14
60	3	TF	60	93	91	52	48	64	52
61	3	AM	37	51	31	27	66	88	22
62	4	TM	81	40	57	18	24	12	30
63	1	TF	93	95	91	88	33	55	34
64	1	AM	91	91	91	83	66	72	81

Case	KOC	Role	Concern Stage Percents						
			0	1	2	3	4	5	6
65	4	TM	60	57	48	23	11	40	6
66	1	AM	72	90	83	43	76	52	42
67	4	TF	46	60	72	85	43	80	65
68	7	TF	60	91	80	69	48	59	57
69	2	AF	46	80	31	2	27	44	11
70	2	TM	97	43	55	60	8	14	52
71	1	TF	66	43	39	27	30	72	14
72	7	TM	72	51	67	83	33	55	30
73	2	TF	23	12	17	39	43	97	11
74	5	TM	53	54	35	43	48	84	34
75	5	TF	53	80	78	77	33	88	57
76	5	AF	94	60	78	15	27	12	34
77	1	TM	91	63	78	52	16	36	38
78	1	TF	91	84	80	30	48	64	30
79	2	TM	37	63	45	65	59	40	34
80	1	AM	84	69	72	60	21	36	14
81	2	TF	53	84	91	56	90	98	52
82	2	TF	66	90	80	88	48	64	60
83	4	TF	81	95	59	80	27	14	47
84	4	TM	91	84	72	52	30	16	38
85	1	TF	29	5	31	11	5	31	11
86	5	AM	66	72	48	30	71	72	30

Case	KOC	Role	Concern Stage Percents						
			0	1	2	3	4	5	6
87	5	TM	96	69	80	43	21	22	30
88	2	TM	60	93	91	83	92	72	87
89	2	AM	29	88	83	65	92	95	69
90	4	AF	29	37	21	15	54	80	52
91	1	AM	60	66	87	95	59	76	42
92	1	TF	93	95	92	77	33	52	52
93	1	TM	94	72	55	9	16	5	17
94	4	TM	46	48	55	18	54	36	17
95	4	TF	86	60	45	27	3	14	6
96	7	TM	10	30	45	95	86	44	87
97	7	TF	53	54	59	15	7	98	11
98	7	AM	77	60	59	77	48	48	34
99	1	AM	98	88	87	73	38	40	30
100	1	AF	95	88	80	83	43	48	57
101	4	AF	81	98	45	11	54	59	57
102	1	TF	29	90	45	30	3	4	1
103	1	TM	86	43	28	27	8	4	20
104	1	AF	99	75	78	47	13	14	14
105	4	TF	66	95	72	39	86	84	47
106	1	TM	84	84	83	83	54	59	42
107	1	TF	84	91	99	99	66	44	57

Case	KOC	Role	Concern Stage Percents						
			0	1	2	3	4	5	6
108	2	AM	81	45	35	18	11	16	17
109	1	TF	89	57	78	77	33	48	42
110	3	TF	86	98	80	30	63	91	81
111	2	AM	53	54	41	9	59	59	65
112	5	TM	99	72	76	56	5	36	22
113	5	TF	37	40	48	47	33	84	52
114	1	TF	72	19	31	27	24	52	34
115	2	TF	46	84	52	73	71	64	52
116	2	TF	23	75	76	69	33	9	14
117	5	TF	46	57	52	27	19	16	30
118	5	AF	84	88	85	65	71	55	57
119	3	TF	84	80	85	77	54	52	30
120	3	TM	37	88	95	11	43	28	38
121	3	AM	53	95	95	52	86	88	60
122	1	TF	53	27	17	39	76	16	9
123	5	TM	77	95	91	56	71	84	47
124	1	AF	86	27	78	65	21	76	47
125	6	TF	77	90	57	52	13	36	22
126	4	AF	72	54	72	60	16	31	47
127	2	TM	86	95	87	83	71	95	60
128	1	TF	81	63	72	47	30	14	69

Case	KOC	Role	Concern Stage Percents						
			0	1	2	3	4	5	6
129	1	TM	66	91	95	77	86	68	77
130	1	TM	77	88	91	69	66	64	47
131	6	AM	81	27	25	15	3	5	5

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