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UMI

IDENTIFYING CATALYSTS FOR

SUSTAINED INNOVATION

OF INCLUSION TEACHERS

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A Dissertation

Presented to

The Faculty of the Department of

Educational Leadership and Policy Analysis

East Tennessee State University

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In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

―――――――――

by

Laura Jean Switzer

May 1999

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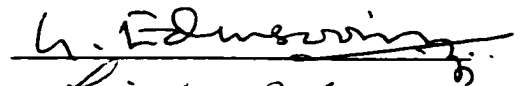
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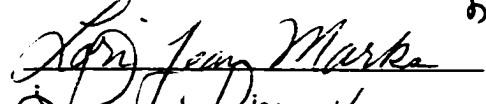
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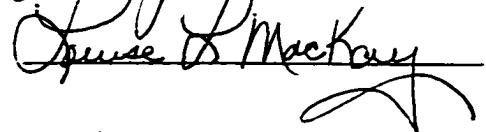
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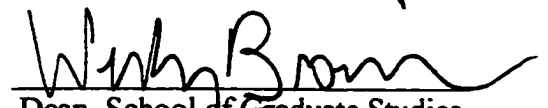
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ABSTRACT

IDENTIFYING CATALYSTS FOR

SUSTAINED INNOVATION

OF INCLUSION TEACHERS

by

Laura J. Switzer

The researcher examined nine areas of support that can be of assistance to sustaining innovative methodology in four school systems in Upper East Tennessee. Five types of innovation were examined. This study looked at nine supports as well as years of involvement by the practicing educator. The research design was a comparative study with forty hypotheses used to test differences in perceived degree of assistance to commitment.

Teachers were surveyed and asked to rate supports for sustained innovation. Teachers also rated actual and ideal involvement. The research questions were tested and statistically analyzed using t-test and analysis of variance. Significant differences were found between demographic groups. Teachers sustaining child-centered instruction rated seven of the nine areas of support significantly higher than peer teachers. The methodology of student assessment had five areas of support rated significantly higher, alternative scheduling had two areas of support rated significantly higher, and the thematic approach had one area. Training/conference/workshops was the only area of support that had a significant difference common to all four of these methodologies. Recommendations for further research were made to augment the study.

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DEDICATION

To the man who made this all possible,

my husband, Craig.

Without his love and support this dissertation

would not exist.

To my cheerleader.

The wisest man I have ever known, my father:

Raymond Kenneth Kiliany, Sr.

ACKNOWLEDGMENTS

Many people assisted me with this study.

My committee members, my family, my friends, and co-workers

assisted me in realizing this dream.

A special thanks goes to Dr. Susan Twaddle, Dr. Peggy Rochelle, and my special friends

at Indian Trail Middle School. Their patience and support made this dream a reality.

The many prayers said in my behalf calmed many storms throughout this endeavor.

I thank those who sent them and especially the one who received them.

A special thanks goes to Dr. Darcey Cuffman for always lightening the mood and

keeping me going. Footnotes--That is still a riot.

Dr. Gresso your perseverance saved my sanity many times.

Thank you so much.

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CHAPTER 1

INTRODUCTION

Throughout American history, schools have been targeted as the battlefields on which to wage various fights to solve society's problems. For instance, in the 1960s, schools reverberated with challenges to reduce disparity and inequity. In 1983, the National Commission on Excellence in Education began a new era of reform with the challenge to compete globally by improving quality and by changing the ways in which schools function (Rich, 1991).

Well intentioned reports were produced by commissions such as the National Commission on Excellence in Education, the Business-Higher Education Forum, the National Science Board Commission, the College Board, the Educational Commission of the States, and the Twentieth Century Fund. Prominent figures such as Mortimer Adler, Ernest Boyer, John Goodlad, and Theodore Sizer joined the reform movement (Rich, 1991). Many of these educators were actually rejoining for they had been involved in efforts to change schools prior to this national call to reform. "Some of these critics were well-meaning and scholarly. But many were not, and in aggregate they succeeded in undermining faith in our nation's schools" (Berliner & Biddle, 1996 p. 36).

Past efforts to reform schools have usually resulted in little success or lasting change (Bintz, 1995). Everyone knew schools needed help and each reform had some appeal, but the right combination was not assembled to effect lasting change (Rich, 1991).

Although school improvement is a task that is both difficult and time consuming,

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research provides tools and suggestions to help schools get started, stay on track, and see results (Barth, 1990; Elmore, 1990; Fullan, 1991; Louis & Miles, 1990; Sizer, 1992). As schools attempt reform, they must reduce reliance on standardized norm-referenced tests for verification of achievement. Activities and goals must become increasingly child-centered and disciplines must be integrated (Northern & Bailey. 1991). Schools must find the most effective use of time and personnel. Accordingly, the five innovative methodologies this study examined were student assessment, alternative scheduling, integrated or thematic approach, student use of technology and child-centered instruction.

As a direct result of the public outcry to improve, schools are continuously implementing innovations. Unfortunately, a lack of interest, lack of motivation, loss of funding, and lack of enthusiasm produce short-term implementation of innovations. To combat this problem, this study looked at the following nine areas of support that could assist teachers in their ability to sustain innovative methodology; student participation, student academic success, training/conference/workshops, encouragement from administrators, classroom assistants (volunteer or staff), peer/teacher support, IEP requirements, community/parent support, and student discipline.

Schools are under tremendous pressure to reform. Reform and innovation are big business, politically and economically. It is tempting for schools to latch on to the quick fix, to go along with the trend and to react uncritically to endorsed innovations. Educators experience most school reforms as fads because of two underlying problems. One problem is that mistaken or superficial solutions are introduced; the other is that, even when the

solution is on the right track, hasty implementation leads to failure. Fullan and Miles (1992) stated:

> A steady stream of episodic innovations - cooperative learning, effective schools research, classroom management, assessment schemes, career ladders, peer coaching, etc., etc. - come and go. Not only do they fail to leave much of a trace, but they also leave teachers and the public with a growing cynicism that innovation is marginal and politically motivated. (p. 751)

Wu (1988) found that change, only for the sake of change is detrimental, but some administrators think that there is no progress unless things are in turmoil. Historically, reform has been a hot topic and, occasionally, change is implemented solely to be faddish. People will develop resistance to the concept of change if they are made to change for no apparent reason. Considering the innovations such as instructional television, programmed instruction, behavioral objectives, and individualized instruction imposed upon teachers, it is remarkable that any new idea is accepted at all.

Students have not always benefited from these reforms. Although some innovations have had positive effects, Geis (1968) noted that:

> The history of educational innovation, as we read it, was dismal. It was marked by disappointment, disillusionment and despair, both on the part of the innovators and those for whom the innovations were designed. Repeatedly, under quite different conditions innovations were introduced only to fail a short time later. (p. 3)

The best intentioned reform efforts do little good if they cannot be sustained long enough to become productive. Fullan (1991) and Cunningham and Gresso (1993) note

that innovation must be sustained three to five years for moderately complex changes to occur. Tennessee grants tenure to a teacher upon being re-employed at the end of the three-year probationary employment period. Therefore, this study applied the term sustained to those teachers with four or more years of involvement in an innovative methodology. Even with all the support schools currently provide, few teachers have the individual ability to sustain an innovation. This study found teachers who have sustained an innovation and discovered the supports that best assisted in that special ability. With this knowledge future innovations may have better chances of being sustained long enough to become productive.

Statement of the Problem

School reform efforts have often proven to be minimally successful due to a lack of support sustained over an adequate period of time. However, selecting the most effective supports for teachers to use when implementing innovative methodology can help facilitate long-term change. A good "fit" among the innovation or chosen reform and the support system is essential to optimize results.

Purpose of the Study

The purpose of this study was to create a listing of supports inclusion teachers consider of assistance to their commitment to innovation. The resulting information can purposefully be used by administrators in existing systems to support teachers who are implementing innovative methodology. Special education personnel can use the information to assist inclusion teachers in acquiring greater ability to sustain reform.

In addition, a comparison was made between the current and the ideal degree of involvement in an innovative methodology. This information could support decisions of future implementations in schools or districts.

Research Questions

The following questions and the related hypotheses will guide the study:

1. Which classroom innovations are used by inclusion teachers?

2. Which classroom innovations would inclusion teachers like to use?

3. What do inclusion teachers who champion an innovation believe influences sustained practice?

To answer these questions, data were collected through a survey from elementary schools in four Upper East Tennessee school districts. The respondents were teachers who have students with special needs included in their regular classroom for at least part of the school day. A copy of the survey is attached in Appendix A.

Hypotheses

H 1: There is no statistically significant difference between males and females in the use of the five areas of classroom innovation.

H 2: There is no statistically significant difference between age groups in the use of the five areas of classroom innovation.

H 3: There is no statistically significant difference between degree earned in the use of the five areas of classroom innovation.

H 4: There is no statistically significant difference between working with multi-age students and not in the use of the five areas of classroom innovation.

H 5: There is no statistically significant difference between school districts in the use of the five areas of classroom innovation.

H 6: There is no statistically significant difference between years of involvement in the use of the five areas of classroom innovation.

H 7: There is no statistically significant difference between males and females in the five areas of classroom innovation inclusion teachers would like to use.

H 8: There is no statistically significant difference between age groups in the five areas of classroom innovation inclusion teachers would like to use.

H 9: There is no statistically significant difference between degree earned in the five areas of classroom innovation inclusion teachers would like to use.

H 10: There is no statistically significant difference between working with multi-age students and not in the five areas of classroom innovation inclusion teachers would like to use.

H 11: There is no statistically significant difference between school districts in the five areas of classroom innovation inclusion teachers would like to use.

H 12: There is no statistically significant difference between years of involvement in the five areas of classroom innovation inclusion teachers would like to use.

H 13: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Student Assessment.

H 14: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Student Assessment.

H 15: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Student Assessment.

H 16: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Student Assessment.

H 17: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Student Assessment.

H 18: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Student Assessment.

H 19: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 20: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 21: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 22: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 23: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 24: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 25: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 26: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 27: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 28: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 29: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 30: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 31: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 32: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 33: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 34: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 35: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 36: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 37: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 38: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 39: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 40: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 41: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 42: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

Significance of the Problem

One reason much educational reform has not been effective is because it has not been sustained long enough to become productive. Results of this study provide information describing the supports teachers believe assist them in sustaining innovative methodology. This information may help administrators influence sustained implementation of innovation in the future. This information also may help special education personnel influence successful inclusion of special needs students within the regular classroom. Identifying the most effective supports for currently sustaining innovative methodology can possibly help in the future process of change in education.

Limitations

The findings of this study are applicable only to Upper East Tennessee. The supporting factors for inclusion teachers who were able to sustain reform are applicable to elementary teachers in Upper East Tennessee. Results are limited to inclusion teachers selected by a resource teacher to complete the survey.

Definitions

"Capacity refers to the power, ability, or faculty for doing some particular thing" (Goertz, 1996, p. 110).

"Innovation is any new idea, method, or device that, in contrast to change, is introduced deliberately, usually for some purpose. One could be an innovator but not a reformer, but every programmatic reformer is an innovator" (Rich, 1991, p. 153). "Knowledge of the goal helps to distinguish reform from innovation" (p. 154).

"Plateauing is a unique form of career stall that can occur if one has been in a long period of work stability. Plateauing can reduce employees' enthusiasm and satisfaction and can negatively affect the ability of organizations to achieve their goals" (Milstein, 1990, p. 48). Professional Development refers to improving skills; implementing curricula, procedures; expanding subject matter knowledge; planning and organizing instruction; and increasing personal effectiveness which contribute toward an individual's being more competent and satisfied in an assigned professional role (Dale, 1982).

Reform is "a family of processes whose principle of unity is the contribution to the general end of being better" (Peters, Dearden, & Hirst, 1972, p. 1).

Organization of the Study

Chapter 1 includes the introduction, statement of the problem, significance and purpose of the problem, research questions, hypotheses, limitations, definitions, and the overview of the study.

A review of the related literature concerning reform in American education can be found in Chapter 2. Chapter 2 is organized with supporting literature that first reviews past reform failures and successes then obstacles and needs for continued reform. Next, the specific factors that pertain to individuals and are known to influence reform are discussed. A review of five specific innovative methodologies influencing American schools today follows. Finally, the nine areas of support for teachers are reviewed.

Chapter 3 consists of a description of the population, the sampling method, the design

of the study, pilot study procedures, procedures for data collection, and procedures for data analysis.

Research findings of the study are presented in Chapter 4. Conclusions and recommendations for further study are presented in Chapter 5.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

Public schools are often viewed as conservative institutions. Parents turn to public schools for the task of introducing their children to community culture. Schools provide both instruction in the traditional academic disciplines and subjects that reflect the depth and diversity of America's history, peoples, and relations with the rest of the world.

Public schools have, at the same time, been expected to conserve values and standards, while also expected to reflect the fact that the world is constantly changing. Thus, public schools must develop a way to incorporate change into both the curriculum and instructional methodology. "As educators we are first and foremost perpetrators of the culture" (Leinwand, 1992, p. 467).

Chapter 2 reviews existing literature on the successes and failures of America's schools to implement and sustain reform. Chapter 2 also looks at the historical attempt to teach all students equally and the methodology of regular classroom teachers who include students with special needs. Nine supports to assist teachers in their challenge to sustain innovative methodology will also be identified.

The literature review on reform identified many innovative methodologies being used in schools today. To choose the methodologies for this study, particular consideration was given to those that emphasized effectiveness for the regular education classroom including

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students with special needs. Those commonly implemented at the elementary level reduced the list even further.

The nine areas of assistance to teachers in their commitment to innovation were then selected from the literature review on the 5 chosen methodologies. The resulting list of possible supports was then scrutinized for application to the elementary inclusion teacher.

Reform In American Schools

Organizations build cultures. Culture is defined as a set of strongly imbedded assumptions, values, and customs that ensure continuity and sustain meaning to preserve stability. Fundamental conservatism in the culture of institutions shapes the institution's responses to demands for change. Schools, like most organizations, adapt in ways that require the least modification (Sarason, 1990). "The strength of the status quo--its underlying axioms, its pattern of power relationships, its sense of...what seems right, natural, and proper--almost automatically rules out options for change" (Evans, 1993, p. 5).

Therefore, organizational culture shapes the work force. "The energy and spirit of the organization, as well as its performance, is born out of the culture" (Cunningham & Gresso, 1993, pp. 33-34).

Common characteristics of an effective school culture have been identified in studies by the Danforth Foundation, the Institute for Development of Educational Activities, Inc., the American Association of School Administrators, the National School Board Association, National Association of Secondary School Principals, the National Association of Elementary School Principals, and the University Council for Educational Administration.

"The overall conclusion of these studies is that the shared culture provides the cohesion

needed to sustain individual excellence in the teaching profession" (Cunningham &

Gresso, 1993 p. 33). Further, "Changing behavior and structure directly, has at best

haphazard, temporary, or random effects on performance, and is seldom long-lasting

unless a corresponding supporting change occurs in the culture" (Cunningham et al., p

33). To implement successful reform "we are often dealing with the things most difficult to

change: attitudes, behaviors, and beliefs" (Wu, 1988, p. 13). "Whether we are on the

receiving or initiating end of change (as all of us are at one time or another), we need to

understand why education reform frequently fails" (Fullan & Miles, 1992, p. 745). In fact,

Fullan and Miles further contend that "anxiety, difficulties, and uncertainty are intrinsic to

all successful change" (p. 749).

Teachers need support in a variety of ways to attempt and sustain change. To

accomplish needed change, teachers are expected to go above and beyond in surpassing

the lack of support. Reformers have underestimated the difficulty of achieving genuine

changes in the ways teachers teach (Sarason, 1971, 1990). If reform is to be

accomplished, the factors that are supports must be identified and reinforced. Resistance,

in the form of lack of support, must be studied, defined, and conquered.

The Importance of the Individual to Reform

Resistance to innovation is deeply rooted in individual psychology and group culture

(Schein, 1985). Human beings are ambivalent about change. In principle, change sounds

good. It has become an icon in mission statements. Yet, it is opposed in practice.

Variations in even the smallest daily routines are disliked. Therefore, change possesses a

double standard. Change is prized, but only if it can be passed to someone else to implement. Change raises hope because it offers growth, mastery, and novelty, but it also stirs fear because it challenges competence and power, creates confusion and conflict, and risks the loss of continuity and meaning (Bolman & Deal, 1991).

When institutions implement reform tensions increase. As Badaracco and Ellsworth (1989) observe, few teachers and institutions can switch styles effectively. We are creatures of habit, experience, and personality. Radical change reshapes roles and disrupts the stability of the workplace. It can even threaten one's sense of purpose. Marris (1986) equates change with loss. He describes loss as suffering bereavement, not only from the death of loved ones but from the discrediting of the assumptions by which we live and make sense of our world and our work.

Change is not likely to occur unless at least one highly motivated, goal-oriented individual takes the first step to change (National Association of Elementary School Principals, 1990). Some determined individuals are able to stretch their capacity and to change the way they teach. Kanter (1983) suggested using identified teachers within an organization as initiators of change. Chosen individuals must possess characteristics that allow change to be perceived as an opportunity, not as a threat. Duke (1993) found that some factors serve to inhibit individual change. These factors include the lack of awareness, disillusionment, distrust, pessimism, high comfort level with current practice, preoccupation with other concerns, stress, fear of failure, impatience, and poor time management. If these factors inhibit individuals from growing professionally, then reaching beyond self and implementing effective change for a school may seem impossible.

Teachers need to be aware of these inhibitors and supported in their attempts at change.

Goertz (1996) suggested that a teachers' capacity to change practice is related to their views of self, their belief about their role in classroom activity, and the persona they adopt in the classroom. The connection between a teacher's capacity to change and view of self creates a commitment to the learning process of students. Also critical were teachers' views of themselves as learners, including what, where, and how they learn. Consequently, "without committed, educated teachers, any reform efforts will be blunted and short-lived" (Valencia & Killion, 1988, p. 2).

According to Hendricks-Lee, Soled, and Yinger (1995), teachers are in the best position to design and implement the kind of changes that will really make a difference. "Teachers who perceive themselves as a community of leaders have the ingenuity, the skills, and the adventurous spirit (not to mention the stamina and the sense of humor) necessary to enact successful and enduring reforms" (p. 291).

Teaching "All" Students

The history of American education shows a gradual acceptance of students with special needs. Special needs students could have learning disabilities, physical impairments, medical needs, visual/auditory acuity disorders, and/or attention deficits. Skill levels range from gifted/talented to moderate/severe delays, including students 'at risk' due to cultural differences, environmental deprivation, stress, and/or health issues (Spinelli, 1998).

In the early 1800s, students with disabilities were excluded from any form of public education. Late in the 19th century, residential programs for special needs children were instituted. By the early 20th century, some initiatives for special education schools or

community residential facilities were created (D'Alonza & Boggs, 1990). In 1954 litigation

of the case of <u>Brown v Board of Education</u> brought attention to the rights of students with

special needs. Until 1975, most students with special needs were educated separately from

regular students. In 1975, federal legislation in the form of the Education for All

Handicapped Children Act, Public Law 94-142, was enacted.

As of October 1990, Public Law 94-142 became the Individuals with Disabilities

Education Act, which incorporates the following tenets: (1) a free appropriate public

education, (2) an individualized education program, (3) special education services, (4)

related services, (5) due process procedures, and (6) the least restrictive environment

(LRE) in which to learn. (Alexander & Alexander, 1992, p.367)

The least restrictive environment is not specifically defined but the directive of the law

is: placement where students with disabilities can be educated with their non-disabled

peers to the maximum extent possible (Waldman & Almazan, 1998). Placement includes

the regular classroom as a placement possibility. The <u>1995 Deskbook Encyclopedia of</u>

<u>American School Law</u> states, "Students with disabilities must be educated with regular

students, to the greatest extent possible" (p.407). However, the appropriate degree of

inclusion, is a source of debate (Fuchs & Fuchs 1991; Stainback, Stainback, & East,

1994). "Full inclusion as a special education strategy for equity promotes the total

integration of special education students within the general education domain regardless of

the severity of the disability" (Malloy, 1996, p. 228). Each student's level of inclusion in

the regular program is a decision made on an individual basis by the members of the multi-

disciplinary team. This team is comprised of a regular classroom teacher, a special

education teacher, the parent or guardian and a representative of administration who is able to allocate funds. In addition, personnel involved with supplementary aids and services may be present. Any other support persons the parent wishes to include may be involved in the meeting also. The members of the m-team collectively decide on the appropriate placement for the student.

Methodology of Regular Classroom Teachers
with Special Needs Students

Student Assessment

Evaluation of student growth is basic to education. However, the commonly accepted standardized tests do not necessarily effectively evaluate student learning and often produce unnecessary, even undesirable, anxieties. Standardized testing has not increased public confidence in education. Accountability of students to teachers, parents, and community created a need to organize the data of the classroom in comprehensible and credible ways. However, the gap between classroom instruction and traditional testing is cause for concern. A criticism of standardized testing is that results are unrelated to performance. The tests are often disconnected from the essential purpose of teaching. Higher test scores do not always equal educational competence; for example, a high score on a language arts test does not guarantee a student is an effective reader or writer. Teachers have a high level of discontent with the degree to which standardized tests assist in the process of educating students (Lewis, 1998). Teachers express concern that the test reports are often difficult to comprehend, do not offer useful results, and lack useful

recommendations (Lewis, 1998).

Assessment is the process of gathering information to meet a variety of evaluation needs. Forms of assessment other than standardized or norm referenced tests are commonly referred to as alternative assessment, authentic assessment, portfolio assessment, or performance assessment. Assessment may include any form of evaluation, such as observation, performance sampling, communications, products, and tests, but not necessarily only standardized, norm-referenced tests.

On the other hand, instructors have found authentic assessment to be extremely helpful for evaluating student strengths and progress as well as assisting the development of more effective teaching strategies (Nefsky, 1997). Perrone (1991) stated:

There are indications, however, that policymakers at all levels are beginning to understand that conventional assessments reduce the decision-making potential of educators in schools and may well be negatively influencing the direction of curricular and pedagogical practices. The changing discourse is providing an opening for teachers and administrators at the local school level to develop student evaluation processes worthy of the name--processes that are rooted principally in instructional programs, not apart from them, and that benefit students as they inform teachers. (p. vii)

Although often referred to as new, differentiated forms of assessment began in the 19th century. Early progressive schools, influenced by John Dewey, William Kilpatrick, Marietta Johnson, and Caroline Pratt, evaluated students by non-standardized exhibits of learning (Perrone, 1991, p.viii).

Students with special needs who have varied abilities to express their knowledge can

benefit from alternative forms of assessment. If given an option of assessment methods,

classroom teachers can more accurately evaluate the growth of "all" students.

Alternative Scheduling

Alternative scheduling is also known as flexible scheduling, modular scheduling, or

block scheduling. Each is an alternative way to use time within the school day.

Rainforth (1996) found the following three key strategies for successfully including

students with special needs in the regular classroom: (a) interdisciplinary instruction, (b)

team teaching, and (c) block scheduling. Although block scheduling is commonly

implemented at the middle or high school level, at the elementary level it refers to the way

related services are scheduled so students with special needs can be supported during

longer periods of time in the general classroom activities. Students with special needs do

not fare well with traditional scheduling because it does not allow for much

individualization of instruction. However, not everyone feels that alternative scheduling is

beneficial to all students. Muse (1997) conducted a comparison study of teachers'

practices and student learning as perceived by the teachers. The teachers had participated

in both a traditional schedule and a block schedule setting, and their perception was that

only the higher achievers benefit from scheduling innovations. Malloy (1996) still

contends,

> Flexible scheduling provides ample opportunity for teachers to engage in the extensive
>
> collaboration needed to structure a learning community that is founded on inclusionary
>
> rather than exclusionary practices, engendering respect for all experiences that students
>
> bring to the class or subject by providing ample time for students to share diverse

experiences while pursuing individually focussed learning activities. The additional time

also enhances coaching techniques that are student-centered, motivating students to

achieve to the best of their potential. (p. 231)

However, "the schedule is often the hardest thing in education to change, but teachers

trying to build more depth and new learning styles into their courses find that traditional

time slots just don't work anymore". (Cushman, 1989, p. 3)

The Thematic Approach

Ellis and Fouts (1997) define the philosophy of whole language as an interconnection

of all language concepts. To separate these concepts is artificial. Language concepts are

best learned in a natural or "whole" manner. The traditional reductionist method focuses

on separated skills, teaching first letter recognition then sound-letter relationships from

simple to complex. Goodman (1996) argues that reductionism focuses on the recognition

of bits and pieces of language. We can't assume that perception of letters and words in the

process of making sense of real meaningful texts is the same as recognizing letters and

words in isolation. And we can't assume that comprehension follows successive

recognition of words. Whole language theory teaches that "acquired language through

actually using it for a purpose, not through practicing its separate parts until some later

date when the parts are assembled and the totality is finally used" (Altwerger, Edelsky, &

Flores 1987, p. 145).

Traditionally, the content areas such as science, math, and language arts have been

taught separately. Whole language is the integration of two or more subject areas around a

common theme using literature to tie them together. This is also known as the thematic or

unit approach. The strategy of teaching through themes or broad topics has recently been revived in American schools, but it has been the core of British primary and middle schools for years. The philosophy of this approach can be traced back to Pestalozzi, Froebel, Dewey, and Piaget, all of whom suggested that young children need to be active participants in their learning process (Strickland & Morrow, 1990).

Providing an alternative to compartmentalizing curriculum allows teachers to combine content areas rather than separate them into discrete subjects to be studied at designated times during the day. Math, social studies, language arts, science, art, drama, and cooking become tools to help students of all ages and abilities represent real life and build knowledge about a particular topic.

Exploring a thematic topic provides many opportunities for children to build on prior knowledge and on newly acquired knowledge in their lives in meaningful ways. Projects are planned, researched, and carried out collaboratively by all students to create concrete and realistic experiences as they become "experts" on a topic.

Experiences can promote critical thinking skills, problem-solving abilities, cooperation among peers, productivity, self-discipline, and self-esteem. Through demonstrations and presentations in a variety of formats, children learn to share their unique perspective about a topic with their classmates. This in turn contributes to a common body of information and knowledge. The thematic approach provides interactive, real-world, student ownership that furthers a child's understanding of the world. Through this approach children of all ages are able to bridge the learning between school and home. "If students feel ownership in their learning, they will invest in successfully working within the

curriculum" (Hertzog & Diamond, 1994, p. 9).

Further, "Using thematic units of study teaches students of all age and ability levels that learning is meaningful and relevant to everyday life" (Johns & Olsen, 1995, p. 1). Due to the varied age and ability levels represented within the regular classroom this teaching method is appropriate for "all" students. Skills that are usually taught in one subject area can be taught in the combined context of a given theme. Students with learning disabilities can develop a "dislike" for a specific subject. Teaching around a theme instead of a subject area keeps students motivated during lessons. This method can bridge gaps by reaching students who have different strengths and learning styles therefore, can be especially effective for classrooms that include special needs students.

Student Use of Technology

"Even though the pace of technological innovation continues to accelerate in our society as a whole, in schools such innovation lags far off the pace" (Hancock & Betts, 1994, p. 24). The United States Congressional Office of Technology Assessment (1995) reports that computers are not being used to their highest potential in schools. Sheingold and Hadley (1990), concluded that three outstanding factors contribute to achievements in the use of computers: (a) teachers' motivation and commitment to their students' learning and to their own development as teachers; (b) the support and collegiality they experience in their schools and districts; and (c) access to sufficient quantities of technology. The 21st Century Tennessee State Initiative attempted to create access to sufficient quantities of technology.

The Tennessee State Board of Education (1991) contracted with an outside consulting firm that established a plan to move Tennessee schools into the 21st Century technologically. As a result, the following vision and implementation plan were established:

Teachers and students will be supported by a new kind of classroom, a learning environment organized to facilitate cooperation among teachers and equipped with state-of-the-art technology that will change the way students learn and the way teachers teach. Technology will not be thought of as an end in itself, but as a means to bring the world to the classroom and to make possible the targeting of individual interests and needs. Educators will finally be freed to go beyond providing for groups of students and allowed the opportunity to focus on individuals. They also will accept responsibility to do well for all of their students, regardless of the problems these children may bring with them. (p. 8)

The 21st Century Classroom project defined the learning environment to promote success for students and to prepare them for careers of the future and the competition of a global economy. Rapp (1997), in summarizing the project's benefits, stated that the vision is forward looking and is a milestone for education in Tennessee. Computer technology can make students more active learners, help students work at their own pace, and encourage creative original expression. Computer use can empower students to take on new roles as tutors, leaders in learning explorations and as organizers of spontaneous work groups. Students using computers improve their higher order thinking skills and increase their opportunities to use today's real business world technologies.

More than $108 million in special funds have been spent on educational technology for Tennessee schools since the 1993-94 school year. Over $84 million has been spent for state-of-the-art technology and training in 5,459 classrooms and $3 million for additional annual training. In 1996, a survey of 77% of the 139 local school systems and special schools showed an average of one computer for every 9.7 students in Tennessee. Additionally, this averaged to one computer for every 5.9 teachers According to the Tennessee State Department of Education survey in 1996. there are 87,603 computers in schools, including 8,523 teacher workstations, 67,804 student workstations, and 4,551 other computers, used by both teachers and students. The United States Department of Education now places Tennessee among the top five states in the nation in terms of state funding for technology in schools (Rapp 1997).

Technology can help reduce performance gaps among subgroups of students including special needs students. Coley, Cradler, and Engel (1997) noted that opportunity gaps can decrease by granting students from different ability levels equal access to computers. However, at the same time, that gap can be widened if access is inequitably distributed.

Child-Centered Instruction

Child-centered instruction includes standards-based instruction, the constructivist approach, independent learner, or teacher-guided instruction. Implicit in this method are curriculum elements of purpose, content, activities, materials and evaluation (McNeil, 1995). In child-centered instruction, although the teacher helps structure the learning environment, instruction is student-lead. The teacher guides students by offering a selection of options, such as lesson topics, learning activities/experiences, or projects that

will provide the basis for curriculum decisions. Teachers do not cover subject matter and pass it on to the students. Students fuse their personal ideas and experiences with the concept being investigated. Instead of the teacher giving direct feedback, students lead the analysis and discussion. The teacher asks questions about content and context, while allowing the students to find problems and develop corrections. Teachers place emphasis on having students justify what they say and do while helping students reveal their theory and logic. By involving students in the learning process, teachers expect not memorization but rather the construction of their own understanding of information. The teacher helps students want to acquire new skills or to become interested in a topic (Larkin, 1995).

The premise of constructivism is that the learner constructs all knowledge. Through interaction with the social and physical environment the student personally and socially incorporates prior knowledge and the new lessons. The development of the constructivist curriculum starts with what the students understand about a particular phenomenon of life situation and builds upon that knowledge (McNeil, 1995). Therefore, learning is subjective and no two people can or should construct the same knowledge, although the knowledge may be similar. Each of us has unique experiences, our own knowledge structure, our own learning style and our own particular motivation to learn. Therefore, each individual constructs his own reality of knowledge. Experience is the key to meaningful learning not reading about someone else's experience abstracted and condensed into a textbook.

Historically, Rousseau and Pestalozzi believed that reading and memorizing prevented students from being active, which in turn caused them to be passive, destructive, deceitful, selfish, and stupid. Dewey and Kilpatrick believed that the traditional content method did

not involve problem solving or reflective thinking. Piaget and Bruner rejected the teacher-as-knowledge-dispenser model of classic education (Bruner, 1971).

Dewey opposed the factory-like efficiency model which schools depended upon. In fact, he felt the traditional, artificial instruction and learning methods used were so unlike the real world that it had little or no meaning to the average child. Dewey (1913) wrote:

Our whole policy of compulsory education rises or falls with our ability to make school life an interesting and absorbing experience to the child. In one sense, there is no such thing as compulsory education. We can have compulsory physical attendance at school; but education comes only through willing attention to and participation in school activities. It follows that the teacher must select these activities with reference to the child's interests, powers and capabilities. In no other way can she guarantee that the child will be present. (p. ix)

Marlowe and Page (1998) state that past and contemporary research results on the use of active learning methods associated with the tenets of constructivism are overwhelmingly positive. As a whole, active learning methods are superior to teacher-dominated approaches in measures of academic learning, affective learning, and skill learning. Today "students with a history of academic and/or behavioral challenges (for whatever reason) need good teachers and the kind of classroom experiences supported by and driven by constructivist propositions, including the proposition that student talent and ability can be key to developing knowledge" (Marlowe & Page, 1998). The child-centered approach to learning places great emphasis on creativity, activities, naturalistic learning, real world outcomes, and above all, experience (Ellis & Fouts, 1997). McNeil (1995)

states, "Most teachers of the constructivist persuasion have as a purpose students constructing increasingly abstract concepts and procedures and recognizing their current beliefs in the interest of resolving student problems and attaining personal and group goals" (p. 4). Developing a classroom community that promotes student communication, collaboration, and reflection helps students construct new meanings and resolve conflicting points of view both in the classroom and in the community (McNeil, 1995).

Areas of Support for Teachers Able to
Sustain Innovative Methodology

Student Participation and Academic Success

Hendricks-Lee, Soled, and Yinger (1995) found that teachers work to structure their classrooms for participation and interaction supportive of student learning. When teachers see themselves primarily as learners and not simply as teachers, they tend to create the intellectual environment necessary for learning for both students and teachers. "Teachers who see themselves as learners create a supportive environment and are much better prepared for the massive challenges, for the continual setbacks, and the incremental successes that enduring educational reform entails" (p. 289). Furthermore, "teachers who are learners will be the ones to enact enduring change" (p. 291).

Wilson (1993) expresses the hope that the school will be a place where the pulse and rhythm of teaching and learning are driven by the capabilities of innovative teachers. "Only then will we genuinely begin the work of fashioning school environments within which it is possible for every student to achieve" (p. 27).

Because students with special needs are included in the regular classroom, their participation must be considered as well. Due to changes in federal regulations and the progressive phasing out of institutions, the range of academic ability within the comprehensive development classroom or special education classroom in public schools has fallen dramatically. Students with mild mental retardation may no longer be appropriately placed in the self-contained class and may participate in the regular classroom. Therefore, regular classroom teachers experience a greater span of academic ability within their student population. Past practices of separating special needs students may have left the general education teacher with the perception of not having the skills to challenge such a mixed-ability group of students (Simpson, Whelan, & Zabel 1993; Vautour, 1993). Maloney, (1995) found that students with special needs would have more academic and social success in the regular education setting if strategies such as collaborative learning, cooperative teaching, peer tutoring, and some of the innovative scheduling and planning developed in educational reform models became commonplace, rather than showpieces.

Participation in programs separated from the regular classroom label students as different and facilitates a devaluing of their academic capabilities (Zola, 1993). Lee and Smith (1994) state:

> The array of courses and choices tends to stratify the student body into high-track and low-track students, with lower expectations for those in the lower-track classes. Less advantaged students (economically, socially and academically) tend to end up in less

demanding courses. Over time, this increases the educational differences between

students. (p. 233)

Participation in the regular classroom is not a guarantee of academic success for all

students. In fact, in the recent past administrators "concerned about having high school-

wide achievement scores often deny students with disabilities the opportunity to take tests

or have their scores recorded". "They also tend to reward teachers of high-achieving

students and neglect teachers of low-achieving students" (Maloney 1995). The

Educational Testing Service asserted that the rhetoric of instructional innovation far

surpassed the reality of classroom change. (Goldenberg & Gallimore, 1991). But this was

nothing new. As far back as 1966 the Coleman Report findings raised considerable doubt

about the effects that increased inputs have on outputs (student academic success on

standardized verbal and mathematical achievement test scores). That report showed that

the effects were considerably less than expected. Jencks (1972) claimed schools did very

little to close the gap between the disadvantaged and the advantaged and that achievement

depended upon cognitive skill. However, Rowan, Bossert, and Dwyer (1983) questioned

such studies by showing that schools do affect student's academic achievement. "A host of

variables contribute to this effect: school climate, emphasis on basic skills, clear

instructional objectives, a principal who is a strong pragmatic leader, and others" (Rich,

1991, p. 150).

Bintz (1995) predicts, "unfortunately, the movement toward national standards and

assessment reform, as they are currently being conceptualized, raises serious questions not

only about the current status of educational reform, but also about our ability to change

the future direction of educational reform" (p. 1). Also of concern, is the effect special

needs students have on the academic achievement level expected of the rest of the

students in the class. Student success may be perceived differently in the future. Once this

reality is accepted, implementation of innovations will enjoy greater success (Coletti &

Russell, 1988).

Training, Conference, Workshops

Unfortunately, the history of professional development for educators is dismal.

Training is often too short, too intimidating, too infrequent, and not individualized enough

to be useful (Hurst, 1994). Common professional development requires little of teachers in

the way of intellectual struggle or emotional engagement and takes only superficial

account of their histories or circumstances. Goertz (1996) states, "Our data and that of

other researchers suggest that the model of professional development reflects a limited

conception of the dimensions of teacher capacity necessary to support and sustain

instructional reform" (p. 110). Professional development cannot be a one-shot deal. The

key message is that teachers, like everyone else, vary in their motivation and capacity to

grow. Likewise, this capacity varies for the individual at different stages of life. It does not

matter how involved teachers are with the professional growth training provided by a

school, only a certain few will internalize reform. "Staff developers should consider the

personal feelings, needs, and concerns of individual teachers as the starting point in any

change effort" (Coletti & Russell, 1988, p. 20). "School systems that are serious about

promoting professional development must design and implement programs that are

sufficiently flexible to permit teachers periodically to opt out of growth activities" (Duke,

1993 p. 711). After all, "educators vary widely in their competencies and readiness to learn" (Wood, McQuarrie, & Thompson, 1982, p. 28).

Indeed, we know that change will be more lasting if we work with teachers on a number of occasions over an extended period of time with proper follow-up (Joyce & Showers, 1983; Rosenholtz, 1985). Levinson, Doyle, and Benjamin (1993) also found that "staff members volunteerism or willingness to undertake new projects set them apart from the others and predisposed them to success" (p. 23).

Wu (1988) states "Once teachers learn a particular instructional approach, it might be difficult to unlearn the approach in favor of a new one learned in a staff development program" (p.13). Rubin (1969) found that the most crucial pedagogical learning occurs during a teacher's first two years. Beyond this point in a teacher's career, professional development becomes a matter of unlearning as well as learning. Teacher choice of strategies and techniques utilized will have originated from how the teacher was instructed in college. Therefore, "Only knowledge that confirms prior beliefs and assumptions tends to be absorbed" (Duke, 1993, p. 703).

Another consideration stressed in the literature is plateauing and a teacher's ability to move beyond it. As teachers gain years of experience and tenure, they often place no emphasis on growing professionally. Routine and comfort in the work place begin to stagnate techniques, methodology, and strategies for instruction. Teaching becomes monotonous and merely a way to make a living. Like other professionals who have spent years in the same job, teachers' personal lives have grown more complex and they are naturally prone to a loss of motivation and a leveling off of performance in their job

(Schein, 1978). Evans (1993) states,

These tendencies are reflected in:

1) a shift away from work priorities toward personal concerns, including one's health,

mortality, and transitions in one's family;

2) a growing focus on material—v. intrinsic—job rewards;

3) loss of the experience of success with consequent damage to morale—mastery

lessens both the challenge in the job and recognition for performance;

4) reduced flexibility and openness—resistance to change increases. (p. 5)

The loss of interest in teaching is a barrier to change. For a few individuals, however,

this resistance or "plateauing" is temporary with a chance to try new reform as their

escape. "It can be a time for reassessment, decision making, and change" (Milstein, 1990,

p. 51). "They continue to teach in many cases because they feel that they posses certain

unique talents and because they wish to grow professionally" (Duke, 1993, p. 703).

Certainly, "Teachers, like other human beings, vary in their motivation and in their

capacity to grow. Moreover, individual teachers vary over time, depending on life

circumstances, personal health, and work-related commitments" (p. 711). The ability to

escape stagnation is supported by Wilson (1993) in the results from a study of teachers

nominated as leaders by their colleagues. "A typical leader is 42 and has taught for 18

years, at the same school for almost 13 years" (p. 24). In fact, "they were the ones

who...were looking for something to re-energize their life and their teaching" (p. 26).

"Unfortunately, these teachers do not as yet seem to lead colleagues" (p. 25). Wilson

continues to describe the teacher with the capacity to change in the following way: "using leadership jargonese, they are risk-oriented and collaborative" (p. 5).

Encouragement from Administrators

"To implement reform in the face of resistance is an enormous challenge, one that falls heavily on school leaders" (Evans, 1993, p. 3). Support and leadership are critical components in the change process. Badaracco and Ellsworth (1989), Sergiovanni (1991), and Schlechty (1992) all stress that leaders must aim not at manipulating subordinates, but at motivating followers who invest themselves actively and become self-managing, engaged participants. Motivation requires leaders who are skillful and credible. To be credible, one must be authentic, that is, distinguished by integrity, and have a fundamental consistency between beliefs, goals, and actions.

Lack of support can quickly derail change. Without the backing needed from administrators and colleagues, few teachers will take the necessary risks to implement change.

Yet, when teachers see that the administrator is truly invested in reform and totally supportive of their efforts to change, teachers are far more likely to take the risks.

Indeed, school administrators can enhance the teacher's ability to implement reform by involving school personnel in decision making. "Participatory decision making is critical" (Wilson, 1993, p. 27). Adults will seldom learn if they have not participated in identifying the questions or have not participated actively in arranging the learning conditions (Andrews, Houston, & Bryant, 1981).

When budgets get tight administrators cut planning time and professional development. They resist allowing flexibility in scheduling that could accommodate collaboration between the classroom teacher and special education personnel (Maloney 1995).

On the other hand, administrators can support teachers in inclusion efforts by providing them with training. They can listen to teacher concerns, help them solve problems. adjust schedules so they can collaborate, and give them feedback. Administrators can also make sure teachers get the resources--technological, material, and human--that they need to make inclusion work (Villa, 1996). Burello, Schrup, and Barnett (1992) claimed that principals in the role of special education instructional leader can help shape new agendas and direct teacher attention to vital linkages between regular and special education.

Classroom Assistants--Volunteer or Staff

Teachers are challenged to respond to a variety of often divergent mandates and realities with a limited amount of resources (Trader, Chapple, & Eosco 1998). To help meet these challenges teachers may recruit volunteers from parents, students in other classrooms, local businesses, local colleges, etc. These individuals provide assistance in a multitude of ways. The school may also employ persons who can fill this capacity. In addition, the Individual Education Plan (IEP), written for each special needs student, could include an assistant to be present within the regular classroom.

One implication of implementing change is the demand for additional teacher time. The demands on a teacher increase with changes such as a greater range of student ability levels and the implementation of innovative methodology (Ellis & Fouts, 1997). "The greater diversity within a class, the less likely it will be that even a competent teacher will

be able to effectively teach all the children most of the time" (Hertzog & Diamond, 1994,

p. 15).

Having an additional person in the room could be considered a help or a hindrance.

The teacher may be uncomfortable with another adult in the classroom (Maloney, 1995).

A teacher without strong leadership skills may have an aggressive or more experienced

assistant who can be intimidating. The assistant may actually take the leadership role in the

classroom. The newer teacher may struggle with directing other adults for the first time

and feel resentful of the assistant. Implementing innovative methodologies is difficult and

may make it difficult to instruct others on how to assist the teacher's efforts.

Peer Teacher Support

One obstacle to change that school personnel face is the isolation caused by limited

access to other classrooms. The isolation resulting from teaching within four walls with a

closed door does not promote professional collegiality, collaboration or communication.

Change is enhanced through communicating and collaborating with everyone possible.

Fullan (1993) claims, "Especially in moral occupations like teaching, the more one takes

the risk to express personal purpose, the more kindred spirits one will find" (p. 13).

Collaboration among teachers is an essential support needed in the change process.

"Initiating change in schools is a challenge not only to the creative dynamism of

individuals, but also to the collective spirit of all those charged with the formal

responsibility of educating our nation's children" (National Association of Elementary

School Principals, 1990, p. 2).

Related issues and needs are the same for "typical" and special needs children (Guzman, 1994). Inclusive practices require that through collaboration general and special educators conjointly provide educational experiences that embrace the individual needs of all students (Burello & Lashley, 1992). Malloy (1996) states, "All students, not just special education students, benefit from most inclusionary practices: collaborative teaching, integrated curriculum, in-class consultation with special education teachers, and peer tutoring" (p. 228).

Most recently, reform has placed the emphasis on the individual abilities of the teacher in the classroom to champion lasting reform. Unfortunately, the lone teacher-leader can be perceived as a threat to others because he/she is a risk-taker and influential. Collegiality among staff is critical to lessen this threat. Accordingly, Wilson (1993) found, "The label of 'leader' sets a person apart from peers and diminishes his or her ability to bring about change" (p. 27). "The very capabilities that distinguish teacher leaders from others--risk-taking, collaboration, and role modeling--produce tensions between them and colleagues" (Wilson, 1993 p. 26). These teachers may not lead peers but "They are potent leaders of students" (p. 25).

Hendricks-Lee, Soled, and Yinger (1995) discovered that schools usually neglect the social interaction necessary for teacher learning. Yet, creative, visionary school systems are able to compile their dreams for the future and create a foundation upon which collegiality can be fostered.

IEP Requirements

The Individualized Education Plan is designed to ensure that special needs students receive the special education and related services they deserve. As a member of the multi-disciplinary team, the teacher signs the Individual Education Plan (Smith & Luckasson, 1995). This is a binding contract as well as a management tool. Written in the contract are the results of decisions which may include, among other things, assignment of assistants to the classroom, curriculum adaptations, adapted or modified materials, itinerant instruction, consultation with special education personnel, technology use, direct/indirect instruction and assessment alternatives (Waldman & Almazan, 1998). "There are some students who may need alternative instructional environments, different teaching strategies and special materials" (Maloney, 1995, p. 25). The provisions in the IEP must be met by the regular classroom teacher in collaboration with the special education personnel.

Community and Parent Support

When a school does not have the financial resources needed, other resources can be tapped. Goertz (1996) claims fiscal constraint forces policy makers and educators to look at creative ways to expand human, material, and temporal resources. One such way is by building partnerships with professional organizations, universities, and other institutions such as museums. In this way the school becomes part of the community.

Fullan and Miles (1992) discovered innovative schools may enjoy external support from a critically important sponsor or from a given agency only to see that support disappear when the sponsor moves on or the agency changes policies. This disappearance

of support underlies the disappearance of many reforms. For this reason, teachers should

procure a variety of community resources in support of reform efforts.

Change can cause a temporary feeling of incompetence in even the most competent

teachers and is likely to be met with defensive behaviors and resistance to change

(Valencia & Killion, 1988). As a consequence, a single reactive or disgruntled parent can

stop an innovation before it has a chance to succeed. Parent support in the reform effort

could eliminate this problem.

The parents of a special needs student can, as a required member of the multi-

disciplinary team, have the right to request adaptations or changes in the regular classroom

that could prove difficult to accommodate. Common violations of the IEP are deficiencies

or failure to properly develop direct and indirect instruction (Waldman & Almazan, 1998).

Good rapport with parents could assist decisions on instruction and curriculum

adaptations.

Student Discipline

No one likes to fail, and the temporary unsettling of a classroom may be perceived as

failure. Thus, teacher behavior is carefully orchestrated not to cause the failure. Leinwand

(1992) states, "Whereas 'nothing ventured, nothing gained' is an apt aphorism for much of

life, 'nothing risked, nothing failed' is a far more powerful descriptor of what we do in

school" (p. 467). The problem here is that education does indeed fail merely by not trying.

The fear of failure is an obstacle to change. Though normal, Evans (1993) found fear

has enormous, largely ignored implications for reform. Fear makes teachers more

vulnerable to stress and more sensitive to criticism. This can reduce teachers' appetite for

change and leave them less able and willing to respond to reform (Evans, 1993). Leinwand

(1992) states, "Too often, maintaining the mediocrity of the status quo is much safer than

risking the failure that change might incur" (p. 467). It is safer not to try new things. Why

risk the comfort of the status quo? "The anxiety and uncertainty caused by major changes

in role and structure guarantee confusion and misunderstanding. Yet schools often plunge

into reform without adequate provision for transition management, for monitoring and

feedback" (Evans, 1993, p. 11). Unfortunately, feedback from the students may

temporarily be perceived as a lack of discipline within a classroom.

Summary

Non-traditional methodology provides an inviting atmosphere for introducing

responsible inclusion. Unfortunately, traditional methodology has been in place for

decades. Malloy (1996) states:

> Teachers may be uncomfortable with the compromise and understand that some
>
> change is necessary, but they comply with established routines-inflexible schedules,
>
> delivery of instructional services, standardized testing, uniform use of texts,
>
> homogenous grouping, and heavy reliance on a special model of teaching-
>
> regardless of their ineffectiveness. (p. 229)

A true change requires a true commitment to "all" students, not only the normal ones.

American schools need reform. Inclusion may present challenges to traditional

instructional strategies of lecturing within a competitive educational atmosphere.

Replacing traditional strategies with student-centered strategies makes sense, draws upon

student background (Cushman, 1988; 1990), and does not highlight student dissimilarities.

Inclusion has been most successful where it has been part of the broad reform of general education. In many schools the presence of children with disabilities has sparked other reform initiatives such as team teaching, peer teaching, cooperative learning, authentic assessment, and thematic and child-centered instruction. Inclusion tends to thrive where there are strong lines of communication and a culture of innovation and reform. Thus, school reform and inclusion are synonymous (Roach, 1995).

There are no magical programs that are a "one size fits all." Each school system, each individual school, indeed, each individual teacher must find those reforms that will best fit the needs of the inclusion classroom. Teachers are facing new challenges that require varying degrees of support. Teachers are trying to meet the physical, mental, and emotional needs of students who, in the past, were the responsibility of someone else. This review covered nine areas of support that can enhance the possibility of an innovation being sustained over time.

Chapter 3 explains the research methodology used for investigating teacher involvement in innovative methodology and the supports that help sustain innovation over time. Also discussed are the design, instrumentation, and procedures used for data analysis.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

A major concern in school reform since the 1980s has been the ability to sustain innovation long enough for it to change practice. As shown in the literature, innovation has historically been difficult to implement and to sustain in our schools.

This study investigated the support systems used by teachers who have sustained an innovation long enough to influence improved practice. Also investigated was the degree to which teachers would like to be involved in innovations. (See Table 1) Teachers identified by resource teachers as having special needs students in their regular classroom were surveyed. Responses were then compared to discover the relationship to the areas of support.

Babbie (1973) identified the appropriate use of surveys to make "descriptive assertions" (p. 57) and for "discovering the distribution of certain traits and attributes" (p. 58). Survey responses revealed the traits and attributes teachers stated were effective in supporting them to sustain innovation over four years or longer. Also revealed was the current and the ideal degree of involvement with innovative methodology.

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TABLE 1

Catalysts of Sustained Innovation for Inclusion Teachers

Questions	Variables
Which classroom innovations are used by inclusion teachers?	1. Student Assessment 2. Alternative Scheduling 3. The Thematic Approach 4. Student Use of Technology 5. Child-Centered Instruction
Which classroom innovations would inclusion teachers like to use?	1. Student Assessment 2. Alternative Scheduling 3. The Thematic Approach 4. Student Use of Technology 5. Child-Centered Instruction
What do inclusion teachers who champion an innovation believe influences sustained practice?	1. Student Participation 2. Student Academic Success 3. Training/Conference/Workshop 4. Encouragement from Administrator 5. Classroom Assistant (Volunteer/Staff) 6. Peer/Teacher Support 7. IEP Requirement 8. Community/Parent Support 9. Student Discipline

Research Design

This was a quantitative research design study. I collected the data by a survey

instrument and the results were analyzed using the t-test or analysis of variance tests of

significance. Where the analysis of variance test found a statistically significant difference

the least significant difference post hoc test was used to identify the exact variables

between which there was a statistically significant difference. "Survey research typically

employs questionnaires or, in some cases, interviews to determine people's opinions,

attitudes, and perceptions about the situation being studied" (Long, Convey, & Chwalek,

1985).

This study used a comparative research design to assess the current degree of

involvement in innovative methodology and the ideal degree of involvement. The

comparative research design investigates the relationships between variables (Hittleman &

Simon, 1992). According to Brophy (1995), one factor determining the research method

used, is the type of data needed. This study needed data that could be objectively

measured on a scale from zero to two.

Also assessed was the degree that teachers believed the areas of support assisted their

commitment to sustaining innovative methodologies. Patton (1990) states that basic

research is judged by its contribution to theory and explanations of why things occur as

they do. Also he describes seeking knowledge through research as the most useful of all

human capacities, the capacity to learn from others.

Instrumentation

The Classroom Strategies to Meet the Needs of All Students instrument was designed for this study. Gall, Borg, and Gall (1996) state a survey must cover a representative sample of the content domain to be have content validity. As the content validity for this study a literature review emphasized specific methodologies considered to be innovative as well as possible areas of support for teachers. The instrument included the following five instructional methodologies: Student Assessment, Alternative Scheduling, the Thematic Approach, Student Use of Technology, and Child-centered Instruction. Also indicated through the literature review were the following nine areas of support: Student Participation, Student Academic Success, Training/Conference/Workshop, Encouragement from Administrator, Classroom Assistant (Volunteer/Staff), Peer/Teacher Support, IEP Requirement, Community/Parent Support, and Student Discipline.

Each section used a three-point Lickert-type continuum ranging from "0" to "2". "0" meaning No Involvement and "2" meaning Full Involvement. The instrument allowed the respondents to rate the degree of assistance each area gave in support of the sustained innovation. There were 67 questions requiring a response and five more questions where respondents had the opportunity to make additional comments at the end of each section. Measurement error was minimized by 55 of the responses requiring the exact same type of answer. Data collected from surveys were used to compare the actual level of innovation involvement teachers had and the preferred level. Also compared were the degree which teachers believed each area of support assisted their commitment to an innovative methodology.

Reliability is a necessary component of validity. While an instrument that is valid measures what it is intended to measure, an instrument is reliable if it measures the proposed content, or items in a survey, consistently. The survey instrument was revised after a critical review was conducted with Dr. Susan Twaddle to determine ease of response. A panel of six fellow teachers was consulted to provide clarification on term validity. The panel found one term used in the description of a methodology in question for its applicability to the population. A difficulty index from the pilot study results did not show the term in question to be a problem. Gall, Borg, and Gall (1996), describe a difficulty index as a frequency tally for each item of the number of individuals who answered it correctly or as expected. Thus, predictive validity was established. Gall, Borg, and Gall, describe predictive validity as "the degree to which the predictions made by a test are confirmed by the later behavior of the individuals to whom the test was administered" (p. 251). Dr. Robbie Anderson was also consulted for face validity. Reliability was confirmed after a pilot study was conducted. No adjustments were made to the instrument at that time.

<div align="center">Pilot Study</div>

A copy of the survey instrument, a cover letter of request, (see Appendix B), and a self-addressed stamped envelope were hand delivered to seven inclusionary, elementary teachers in the Johnson City School System. These seven served as a panel of judges to evaluate the reliability, the amount of time needed to complete the survey, and determine clarity of instructions and terminology. The purpose of the panel of judges was to determine if revisions were needed. No revisions to the instrument were indicated.

Population

Borg and Gall (1991) stated the importance of selecting the appropriate population. "The target population can represent a large group scattered over a wide geographical area or a small group concentrated in a single area" (p. 216). The target population for this study was all regular classroom teachers in four Tennessee school systems who had any students with special needs included in their room for any portion of the day. The list of teachers was obtained from the resource teacher at each elementary school.

The population (sampling frame) for this study included 391 teachers. The teachers were selected from elementary schools in Sullivan County, Unicoi County, Johnson City, and Kingsport City school systems. My observed sample was the 231 returned surveys.

Sampling Method

Elementary teachers from four local school systems were chosen for this study. A 60% rate of return was targeted. The study obtained an actual 59% return rate.

Data Collection

Permission to implement this study was secured from the Institutional Review Board of East Tennessee State University. Next, the Directors of Schools in Unicoi County, Sullivan County, Johnson City, and Kingsport City were contacted. A letter of request, a copy of the survey, a form for written permission, and a self-addressed, stamped envelope were sent as the initial contact. The written permission was obtained from each. A copy of the letters and permission are in Appendix B. A list of resource teachers in each elementary school was obtained by phone from the special education coordinator of each

system. Verbal permission was granted for the resource teachers to provide a list of teachers who fit the criterion of my sample. That criterion was: all regular classroom teachers who have any special needs students included in their room for any portion of the day.

A list of elementary principals was obtained from the State Department of Education directory of public schools in Northeast Tennessee. A letter of request and a copy of the survey instrument were then hand delivered to each principal (see Appendix B). At this meeting the principal was presented with the list of appropriate teachers provided by the resource teacher. I was then given verbal permission to continue my study.

Respondents provided data through the survey via the United States Postal Service. The instrument was placed directly in teacher mailboxes at each school. Surveys were accompanied by a cover letter of request that appears in the Appendix B. A self-addressed, stamped envelope was included for returning surveys. I found that several resource teachers requested a copy of the written permission obtained from the Director of Schools prior to providing the needed teacher list. A copy of that permission was faxed to their school. Subsequently, all surveys delivered to the schools in that district also included a copy of the written permission (see Appendix B).

One school had a policy of not allowing access to teacher mailboxes. That principal informed the teachers of the request and supplied the survey if a teacher responded.

Two days after the deadline for return of the initial survey, a second survey was delivered to each teacher who had not yet responded. The second survey, cover letter, and a self-addressed stamped envelope were delivered in the exact same manner as the first.

Principals who I met with the second time said they would encourage the teachers to respond.

Data Analysis

The relationships between variables were tested by t-test or analysis of variance and post hoc testing was by least significant difference. The alpha level of .05 was used. The data were analyzed using the computer program Statistical Package for the Social Sciences version 8.0.

The Hypotheses were analyzed using the t-test or analysis of variance. The mean, standard deviation, degrees of freedom, t value or f value, and probability level were calculated. To minimize the possibility of missing or incorrect data during the input of information the following steps were taken. A linear printout of each case was obtained and visually compared with the actual corresponding survey. Corrections were then made in the computer program prior to analysis.

Hypotheses

H 1: There is no statistically significant difference between males and females in the use of the five areas of classroom innovation.

H 2: There is no statistically significant difference between age groups in the use of the five areas of classroom innovation.

H 3: There is no statistically significant difference between degree earned in the use of the five areas of classroom innovation.

H 4: There is no statistically significant difference between working with multi-age students and not in the use of the five areas of classroom innovation.

H 5: There is no statistically significant difference between school districts in the use of the five areas of classroom innovation.

H 6: There is no statistically significant difference between years of involvement in the use of the five areas of classroom innovation.

H 7: There is no statistically significant difference between males and females in the five areas of classroom innovation inclusion teachers would like to use.

H 8: There is no statistically significant difference between age groups in the five areas of classroom innovation inclusion teachers would like to use.

H 9: There is no statistically significant difference between degree earned in the five areas of classroom innovation inclusion teachers would like to use.

H 10: There is no statistically significant difference between working with multi-age students or not in the five areas of classroom innovation inclusion teachers would like to use.

H 11: There is no statistically significant difference between school districts in the five areas of classroom innovation inclusion teachers would like to use.

H 12: There is no statistically significant difference between years of involvement in the five areas of classroom innovation inclusion teachers would like to use.

H 13: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Student Assessment.

H 14: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Student Assessment.

H 15: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Student Assessment.

H 16: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Student Assessment.

H 17: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Student Assessment.

H 18: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Student Assessment.

H 19: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 20: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 21: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 22: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 23: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 24: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Alternative Scheduling.

H 25: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 26: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 27: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 28: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 29: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 30: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of the Thematic Approach.

H 31: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 32: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 33: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 34: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 35: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 36: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Student Use of Technology.

H 37: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 38: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 39: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 40: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 41: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

H 42: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

Chapter 3 presented the methodology and procedures that were used in this study to create and implement the <u>Classroom Strategies to Meet the Needs of All Students</u> survey. Chapter 4 will present the demographic distribution of the sample, a discussion of the results of hypothesis testing from data collected and the tabular form of the test statistics. Also listed are the responses to the open-ended questions on the survey.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this study was to examine regular classroom teachers who work with special needs students and who sustained an innovation for four years or more. The research questions that guided the study were:

1. Which classroom innovations are used by inclusion teachers?

2. Which classroom innovations would inclusion teachers like to use?

3. What do inclusion teachers who champion an innovation believe influences sustained practice?

The data collected for the study were obtained from the <u>Classroom Strategies to Meet the Needs of All Students</u> survey. The process used to determine the variables in the survey was a literature search related to the research questions. The literature search emphasized the following five methodologies considered to be innovative: Student Assessment, Alternative Scheduling, the Thematic Approach, Student Use of Technology, and Child-Centered Instruction. Nine areas of possible support for teachers sustaining innovation were also emphasized. Those areas are Student Participation, Student Academic Success, Training/Conference/Workshops, Encouragement from Administrators, Classroom Assistants, Peer/Teacher Support, IEP Requirement, Community/Parent Support, and Student Discipline.

The instrument was revised after a critical review. The pilot study indicated no needed

revisions. A likert-type scale was used to gather information regarding the variables.

Additional demographic information was gathered to assist in establishing differences

between groups. The years of teaching experience and years of involvement with an

innovation had to be subdivided after the information was collected. Rather than asking if

teachers were sustaining an innovation, the years of usage were divided into those

involved for one to three years and those with four or more years. Each respondent

selected from three response options that indicated degrees of involvement from low to

high.

Population Characteristics

Of the 391 survey questionnaires distributed, 231 (59%) were returned. The

demographic variables were analyzed for frequency and are presented in Tables 2

through 6. Table 7 presents the minimum, maximum, mean, and standard deviation for

total years experience in teaching and at present school.

The majority (93%) of the respondents were female. Teachers 20-29 years old

represented 17.7%, 30-39 represented 21.6%, 40-49 represented 32.9%, and those 50 and

over 27.7%. There were only 4 respondents age 60 and over so that category was

collapsed into the 50 and over group. The majority (44.6%) had earned Master's degrees

followed by 37.7% with Bachelor's degrees. Of the remaining 17.7% with a Master's plus

and Ed.S., only 5 had an Ed.S. degree. Therefore, these two categories were collapsed to

form one. The majority of respondents (77%) did not work with multi-age or multi-grade

students. Johnson City teachers who returned the survey comprised the majority with

42%, next Kingsport City with 31.6%, then Sullivan County with 13.9%, and Unicoi

County with 12.6%.

Table 2

Gender Distribution of the Sample

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	16	6.9	7.0	7.0
	Female	213	92.2	93.0	100.0
	Total	229	99.1	100.0	
Missing		2	.9		
Total		231	100.0		

Table 3

Age Distribution of the Sample

Age		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 – 29	41	17.7	17.7	17.7
	30 – 39	50	21.6	21.6	39.4
	40 – 49	76	32.9	32.9	72.3
	50 and over	64	27.7	27.7	100.0
	Total	231	100.0	100.0	

Table 4

Distribution of Academic Achievement of the Sample

Degree		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's	87	37.7	37.7	37.7
	Master's	103	44.6	44.6	82.3
	Master's plus or Ed.S.	41	17.7	17.7	100.0
	Total	231	100.0	100.0	

Table 5

Distribution of Multi-Age/Multi-Grade Experience of the Sample

Multi-Age		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	53	22.9	23.0	23.0
	No	177	76.6	77.0	100.0
	Total	230	99.6	100.0	
Missing		1	.4		
Total		231	100.0		

Table 6

School District Distribution of the Sample

District		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Johnson City	97	42.0	42.0	42.0
	Kingsport City	73	31.6	31.6	73.6
	Sullivan County	32	13.9	13.9	87.4
	Unicoi County	29	12.6	12.6	100.0
	Total	231	100.0	100.0	

Table 7

Descriptive Statistics on Total Years of Experience in Teaching

Total Years of Experience	N	Min	Max	M	SD
Total Years of Experience in Teaching	230	1	33	15.83	9.37
Total Years of Experience at Present School	231	1	32	9.11	7.99

Hypotheses Testing

Three research questions guided the study and 42 null hypotheses were tested. Table 8 presents the format of the relationship of hypotheses to each research question and corresponding sample.

Table 8

Research Questions with Related Hypotheses and Corresponding Sample

Research Question	Hypotheses	Sample
1.	1 through 6	Entire sample with at least 1 year involvement in innovative methodology
2.	7 through 12	Entire sample with at least 1 year involvement in innovative methodology
3.	13 through 42	Entire sample with at least 4 years involvement in innovative methodology

The t-test or analysis of variance was used to test all null hypotheses. Where a statistically significant difference was found by the analysis of variance testing, the post hoc test of least significant difference revealed between which two categories of the variables the difference occurred.

Discussion on the results of hypotheses testing is organized in the following manner: Hypotheses that were not rejected are summarized with no detailed discussion. Hypotheses that were rejected are presented in detail. Each discussion is followed on the next page by the relevant test statistics in tabular form.

Hypotheses Testing for Student Assessment

The following explains hypotheses testing results for student assessment between male and female on 11 criterion variables.

H 1: There is no statistically significant difference between males and females in the use of the five areas of classroom innovation.

H 7: There is no statistically significant difference between males and females in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion student assessment based on gender are given in Table 9. As no statistical difference was found between males and females null hypotheses 1 and 7 failed to be rejected.

H 13: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Student Assessment.

There is no statistically significant difference between males and females. The results are in Table 9. As no statistically significant differences were found in the nine areas of assistance supporting sustained use of student assessment, null hypothesis 13 failed to be rejected.

The following explains hypotheses testing results for student assessment between age groups on 11 criterion variables.

H 2: There is no statistically significant difference between age groups in the use of the five areas of classroom innovation.

H 8: There is no statistically significant difference between age groups in the five areas of classroom innovation inclusion teachers would like to use.

Table 9

Results of Hypotheses Testing for Student Assessment

between Males and Females on 11 Criterion Variables

Gender	n	M	SD	Df	t	p
Actual Involvement						
Male	16	1.50	.52			
Female	210	1.58	.58	224	.514	.608
Ideal Involvement						
Male	16	1.75	.45			
Female	203	1.67	.54	217	.543	.588
Student Participation						
Male	11	1.36	.50			
Female	160	1.58	.54	169	1.290	.199
Student Academic Success						
Male	11	1.55	.69			
Female	161	1.70	.47	11	.713	.491
Training, Conference, Workshop						
Male	11	1.18	.40			
Female	162	1.28	.63	14	.777	.451
Encouragement from Administrator						
Male	11	1.00	.63			
Female	162	1.12	.66	171	.569	.570
Classroom Assistant						
Male	11	.82	.60			
Female	162	.79	.70	171	.130	.897
Peer/Teacher Support						
Male	11	1.27	.65			
Female	162	1.17	.64	171	.529	.597
IEP Requirement						
Male	11	1.27	.47			
Female	162	1.14	.68	171	.630	.530
Community/Parent Support						
Male	11	1.00	.63			
Female	162	.91	.60	171	.495	.621
Student Discipline						
Male	11	1.18	.60			
Female	161	1.24	.61	170	.286	.775

The results of statistical testing on the criterion, student assessment, based on age

group are given in Table 10. As no statistical difference was found between age groups

null hypotheses 2 and 8 failed to be rejected.

H 14: There is no statistically significant difference between age groups in the

nine areas of assistance supporting sustained use of Student Assessment.

Except on student participation no statistically significant difference was found. In

student participation the statistical differences were found between age groups 20-29 and

30-39, and 40-49. Testing revealed that at the .05 probability level, null hypothesis 14

was rejected.

The following explains hypotheses testing results for student assessment between

categories of academic achievement on 11 criterion variables.

H 3: There is no statistically significant difference between degree earned in the

use of the five areas of classroom innovation.

H 9: There is no statistically significant difference between degree earned in the

five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion student assessment based on degree

earned are given in Table 11. As no statistical difference was found between degree

earned null hypotheses 3 and 9 failed to be rejected.

H 15: There is no statistically significant difference between degree earned in the

nine areas of assistance supporting sustained use of Student Assessment.

There is no statistically significant difference between degrees earned. As no

statistically significant differences were found in the nine areas of assistance supporting

sustained use of student assessment, null hypothesis 15 failed to be rejected.

Table 10

Results of Hypotheses Testing for Student Assessment

between Age Groups on 11 Criterion Variables

Age	n	M	SD	Df	f	p
Actual Involvement						
20 – 29	40	1.53	.60			
30 – 39	48	1.60	.49			
40 – 49	76	1.61	.57	3		
50 and over	64	1.53	.62	224	.333	.802
Ideal Involvement						
20 – 29	40	1.80	.52			
30 – 39	48	1.73	.45			
40 –49	73	1.67	.50	3		
50 and over	60	1.57	.62	217	1.749	.158
Student Participation						
20 – 29	15	1.73	.46			
30 – 39	42	1.40	.54			
40 – 49	64	1.69	.50	3		
50 and over	52	1.52	.58	169	3.022	
						.031*
Student Academic Success						
20 – 29	15	1.47	.64			
30 – 39	43	1.63	.54			
40 – 49	63	1.75	.44	3		
50 and over	53	1.72	.45	170	1.602	.191
Training, Conference, Workshop						
20 – 29	15	1.40	.51			
30 – 39	43	1.16	.57			
40 – 49	64	1.31	.66	3		
50 and over	53	1.26	.62	171	.752	.522

Table 10, continued

Encouragement from Administrator

20 – 29	15	1.20	.68			
30 – 39	43	1.05	.65			
40 – 49	64	1.22	.65	3		
50 and over	53	1.00	.65	171	1.317	.270

Classroom Assistant

20 – 29	15	.87	.64			
30 – 39	43	.88	.66			
40 – 49	64	.78	.72	3		
50 and over	53	.68	.70	171	.767	.514

Peer/Teacher Support

20 – 29	15	1.20	.68			
30 – 39	43	1.23	.61			
40 – 49	64	1.19	.64	3		
50 and over	53	1.08	.68	171	.535	.659

IEP Requirement

20 – 29	15	1.13	.64			
30 – 39	43	1.14 ·	.68			
40 – 49	64	1.25	.64	3		
50 and over	53	1.02	.69	171	1.165	.325

Community/Parent Support

20 – 29	15	.87	.64			
30 – 39	43	.84	.61			
40 – 49	64	.92	.60	3		
50 and over	53	.96	.59	171	.376	.771

Student Discipline

20 – 29	14	1.29	.61			
30 – 39	43	1.16	.53			
40 – 49	64	1.28	.63	3		
50 and over	53	1.21	.63	170	.393	.758

*significant at the .05 level

Table 11

Results of Hypotheses Testing for Student Assessment

between Categories of Academic Achievement on 11 Criterion Variables

Degree	n	M	SD	Df	f	p
Actual Involvement						
Bachelor's	85	1.58	56			
Master's	102	1.60	58	2		
Master's Plus/Ed.S.	41	1.49	.55	225	552	557
Ideal Involvement						
Bachelor's	81	1.78	.47			
Master's	101	1.65	.56	2		
Master's Plus Ed.S.	39	1.54	.55	218	2.927	056
Student Participation						
Bachelor's	58	1.60	.53			
Master's	84	1.57	.52	2		
Master's Plus/Ed.S.	31	1.52	.63	170	261	.771
Student Academic Success						
Bachelor's	60	1.63	.52			
Master's	83	1.72	.48	2		
Master's Plus/Ed.S.	31	1.68	.48	171	581	560
Training, Conference, Workshop						
Bachelor's	60	1.22	.61			
Master's	84	1.31	.56	2		
Master's Plus. Ed.S.	31	1.26	77	172	398	672
Encouragement from Administrator						
Bachelor's	60	1.07	61			
Master's	84	1.17	.62	2		
Master's Plus/Ed.S.	31	1.03	84	172	658	519
Classroom Assistant						
Bachelor's	60	.87	65			
Master's	84	.75	66	2		
Master's Plus/Ed.S.	31	.71	86	172	702	497
Peer/Teacher Support						
Bachelor's	60	1.12	.67			
Master's	84	1.23	.59	2		
Master's Plus/Ed.S.	31	1.10	75	172	719	489
IEP Requirement						
Bachelor's	60	1.07	.66			
Master's	84	1.25	.60	2		
Master's Plus/Ed.S.	31	1.00	.82	172	2.216	112
Community/Parent Support						
Bachelor's	60	.87	.57			
Master's	84	.95	.58	2		
Master's Plus/Ed.S.	31	.87	.72	172	.429	652
Student Discipline						
Bachelor's	60	1.18	.65			
Master's	83	1.23	.55	2		
Master's Plus/Ed.S.	31	1.32	.65	171	.543	.582

The following explains hypotheses testing results for student assessment by exposure to multi-age/multi-grade experience on 11 criterion variables.

H 4: There is no statistically significant difference between working with multi-age students and not in the use of the five areas of classroom innovation.

The results of statistical testing on the criterion student assessment based on working with multi-age students or not are given in Table 12. As no statistical difference was found between degree earned null hypothesis 4 failed to be rejected.

H 10: There is no statistically significant difference between working with multi-age students or not in the five areas of classroom innovation inclusion teachers would like to use.

Testing revealed that at the .05 probability level, null hypothesis 10 was rejected.

H 16: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Student Assessment.

There is no statistically significant difference between working with multi-age students or not. The results are given in Table 12. As no statistically significant differences were found in the nine areas of assistance supporting sustained use of student assessment, null hypothesis 16 failed to be rejected.

The following explains hypotheses testing results for student assessment between school districts on 11 criterion variables.

H 5: There is no statistically significant difference between school districts in the use of the five areas of classroom innovation.

Table 12

Results of Hypotheses Testing for Student Assessment

by Exposure to Multi-Age/Multi-Grade Experience on 11 Criterion Variables

Multi-age/Multi-Grade	n	M	SD	Df	t	p
Actual Involvement						
Yes	52	1.62	.49			
No	175	1.55	.59	225	677	499
Ideal Involvement						
Yes	49	1.80	41			
No	171	1.64	.56	106	2.114	037*
Student Participation						
Yes	44	1.64	53			
No	129	1.55	.54	171	.910	364
Student Academic Success						
Yes	45	1.76	43			
No	129	1.66	.51	89	1.228	223
Training, Conference, Workshop						
Yes	45	1.31	51			
No	130	1.25	.65	173	535	593
Encouragement from Administrator						
Yes	45	1.11	65			
No	130	1.11	.66	173	030	976
Classroom Assistant						
Yes	45	87	69			
No	130	75	69	173	940	349
Peer/Teacher Support						
Yes	45	1.20	.63			
No	130	1.15	65	173	413	680
IEP Requirement						
Yes	45	1.13	69			
No	130	1.15	.66	173	111	912
Community/Parent						
Yes	45	96	60			
No	130	89	60	173	609	543
Student Discipline						
Yes	45	1.18	61			
No	129	1.25	60	172	.673	502

*significant at the .05 level

H 11: There is no statistically significant difference between school districts in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion student assessment based on school district are given in Table 13. As no statistical difference was found between school districts, null hypotheses 5 and 11 failed to be rejected.

H 17: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Student Assessment.

Except on training/conference/workshop, IEP requirements and community/parent support no statistically significant difference was found. On the items I found a statistically significant difference. I conducted a post hoc test of least significant difference. In the training/conference/workshop the statistical differences were found between Johnson City and Kingsport City, and between Kingsport City and Sullivan County, and between Kingsport City and Unicoi County.

In IEP requirements statistical differences were found between Johnson City and Kingsport City and between Johnson City and Sullivan County. In community/parent support statistical differences were found between Johnson City and Kingsport City, between Johnson City and Unicoi County, and between Sullivan County and Unicoi County. Testing revealed that the .05 probability level, the null hypothesis 17 was rejected.

The following explains hypotheses testing results by years of involvement in the use of student assessment on 11 criterion variables.

H 6: There is no statistically significant difference between years of involvement in the use of the five areas of classroom innovation.

Table 13

Results of Hypotheses Testing for Student Assessment

between School Districts on 11 Criterion Variables

School District	n	M	SD	df	f	p
Actual Involvement						
Johnson City	96	1.47	.56			
Kingsport City	73	1.64	.56			
Sullivan County	30	1.53	.68	3		
Unicoi County	29	1.76	.44	224	2.566	.055
Ideal Involvement						
Johnson City	90	1.62	.53			
Kingsport City	73	1.71	.54			
Sullivan County	29	1.59	.63	3		
Unicoi County	29	1.86	.35	217	1.901	.130
Student Participation						
Johnson City	72	1.57	.53			
Kingsport City	58	1.55	.54			
Sullivan County	18	1.50	.62	3		
Unicoi County	25	1.68	.56	169	.462	.709
Student Academic Success						
Johnson City	72	1.67	.50			
Kingsport City	57	1.65	.52			
Sullivan County	20	1.75	.44	3		
Unicoi County	25	1.76	.44	170	.443	.723
Training, Conference, Workshop						
Johnson City	72	1.21	.58			
Kingsport City	58	1.48	.57			
Sullivan County	20	1.00	.65	3		
Unicoi County	25	1.16	.69	171	4.303	.006*

Table 13, continued

Encouragement from Administrator

Johnson City	72	1.07	.64			
Kingsport City	58	1.19	.63			
Sullivan County	20	.95	.69	3		
Unicoi County	25	1.16	.75	171	.818	.485

Classroom Assistant

Johnson City	72	.67	.65			
Kingsport City	58	.90	.72			
Sullivan County	20	.85	.81	3		
Unicoi County	25	.80	.65	171	1.266	.288

Peer/Teacher Support

Johnson City	72	1.10	.61			
Kingsport City	58	1.28	.62			
Sullivan County	20	1.10	.72	3		
Unicoi County	25	1.16	.75	171	.905	.440

IEP Requirement

Johnson City	72	.97	.65			
Kingsport City	58	1.22	.62			
Sullivan County	20	1.40	.60	3		
Unicoi County	25	1.24	.78	171	3.136	.027*

Community/Parent Support

Johnson City	72	.78	.59			
Kingsport City	58	1.00	.56			
Sullivan County	20	.80	.62	3		
Unicoi County	25	1.16	.62	171	3.413	.019*

Student Discipline

Johnson City	72	1.18	.59			
Kingsport City	58	1.26	.55			
Sullivan County	20	1.25	.64	3		
Unicoi County	24	1.29	.75	170	.293	.831

* significant at the .05 level

H 12: There is no statistically significant difference between years of involvement in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion student assessment based on years of involvement are given in Table 14. Testing revealed that at the.05 probability level, the null hypothesis 6 was rejected. As no statistical difference was found between years of involvement for null hypothesis 12 it failed to be rejected.

H 18: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Student Assessment.

The results of statistical testing on the criterion student assessment based on years of involvement are given in Table 14. Except on student participation, student academic success, training/conference/workshop, IEP requirement and student discipline no statistically significant difference was found. Testing revealed that at the .05 probability level, the null hypothesis 18 was rejected.

Hypotheses Testing for Alternative Scheduling

The following explains hypotheses testing results for alternative scheduling between male and female on 11 criterion variables.

H 1: There is no statistically significant difference between males and females in the use of the five areas of classroom innovation.

H 7: There is no statistically significant difference between males and females in the five areas of classroom innovation inclusion teachers would like to use.

Table 14

Results of Hypotheses Testing by Years of Involvement

in the use of Student Assessment on 11 Criterion Variables

Years of Involvement	n	M	SD	df	t	p
Actual Involvement						
1 – 3	40	1.38	.54			
4 or more	174	1.68	.47	54	3.342	002*
Ideal Involvement						
1 – 3	39	1.67	.53			
4 or more	169	1.75	.44	51	.865	391
Student Participation						
1 – 3	40	1.33	.57			
4 or more	173	1.57	.54	211	2.577	011*
Student Academic Success						
1 – 3	40	1.45	.50			
4 or more	174	1.68	.49	212	2.706	007*
Training, Conference, Workshop						
1 – 3	40	1.02	.58			
4 or more	175	1.27	.62	62	2.377	021*
Encouragement from Administrator						
1 – 3	40	1.02	.73			
4 or more	175	1.11	.66	213	711	478
Classroom Assistant						
1 – 3	40	.55	.68			
4 or more	175	.78	.69	213	1.923	056
Peer/Teacher Support						
1 – 3	40	1.02	.70			
4 or more	175	1.17	.64	213	1.227	221
IEP Requirement						
1 – 3	40	.83	.78			
4 or more	175	1.14	.67	213	2.631	009*
Community/Parent Support						
1 – 3	40	.73	.68			
4 or more	175	.91	.60	54	1.575	121
Student Discipline						
1 – 3	40	1.00	.55			
4 or more	174	1.23	.60	62	2.325	023*

*significant at the .05 level

The results of statistical testing on criterion alternative scheduling based on gender are given in Table 15. As no statistical difference was found between males and females the null hypotheses 1 and 7 failed to be rejected.

H 19: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Alternative Scheduling.

There is no statistically significant difference between males and females. As no statistically significant differences were found in all nine areas of assistance supporting sustained use of alternative scheduling, null hypothesis 19 failed to be rejected.

The following explains hypotheses testing results for alternative scheduling between age groups on 11 criterion variables.

H 2: There is no statistically significant difference between age groups in the use of the five areas of classroom innovation.

H 8: There is no statistically significant difference between age groups in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on criterion alternative scheduling based on age groups are given in Table 16. As no statistical difference was found between males and females the null hypotheses 2 and 8 failed to be rejected.

H 20: There is no statistically significant difference between age groups in the nine areas of assistance supporting sustained use of Alternative Scheduling.

There is no significant difference between age groups. As no statistically significant differences were found in all nine areas of assistance supporting sustained use of alternative scheduling, null hypothesis 20 failed to be rejected.

Table 15

Results of Hypotheses Testing for Alternative Scheduling

between Male and Female on 11 Criterion Variables

Gender	n	M	SD	df	t	p
Actual Involvement						
Male	16	.56	.73			
Female	198	.51	.74	212	.300	765
Ideal Involvement						
Male	16	.81	75			
Female	172	.77	.73	186	236	814
Student Participation						
Male	4	1.50	.58			
Female	45	1.47	.63	47	.103	919
Student Academic Success						
Male	4	1.75	50			
Female	45	1.53	59	47	713	479
Training, Conference, Workshop						
Male	4	1.25	.50			
Female	45	1.13	.63	47	362	719
Encouragement from Administrator						
Male	4	1.25	50			
Female	45	1.31	70	47	170	866
Classroom Assistant						
Male	4	1.00	.82			
Female	45	.67	.71	47	.894	376
Peer/Teacher Support						
Male	4	1.25	.96			
Female	45	1.33	.67	47	.230	819
IEP Requirement						
Male	4	1.25	96			
Female	45	1.09	76	47	397	693
Community/Parent Support						
Male	4	1.25	96			
Female	45	.89	.68	47	985	330
Student Discipline						
Male	4	1.25	96			
Female	45	1.11	75	47	.350	728

Table 16

Results of Hypotheses Testing for Alternative Scheduling

between Age Groups on 11 Criterion Variables

Age	n	M	SD	df	f	p
Actual Involvement						
20 – 29	37	.43	.73			
30 – 39	48	.63	.79			
40 – 49	70	.43	.67	3		
50 and over	61	.56	.76	212	.900	.442
Ideal Involvement						
20 – 29	33	.82	.68			
30 – 39	42	.76	.82			
40 – 49	62	.66	.70	3		
50 and over	53	.85	.72	186	.709	.548
Student Participation						
20 – 29	3	1.67	.58			
30 – 39	13	1.31	.63			
40 – 49	15	1.47	.64	3		
50 and over	18	1.56	.62	45	.503	682
Student Academic Success						
20 – 29	3	1.67	.58			
30 – 39	13	1.38	.51			
40 – 49	15	1.53	.64	3		
50 and over	18	1.67	.59	45	.626	.602
Training, Conference, Workshop	3	1.67	.58			
20 – 29	13	1.08	.49			
30 – 39	15	1.13	.74	3		
40 – 49	18	1.11	.58	45	.789	.507
50 and over						

Table 16, continued

Encouragement from administrator

20 – 29	3	2.00	.00			
30 – 39	13	1.31	.48			
40 – 49	15	1.27	.80	3		
50 and over	18	1.22	.73	45	1.149	.340

Classroom Assistant

20 – 29	3	1.00	1.00			
30 – 39	13	.69	.63			
40 – 49	15	.60	.74	3		
50 and over	18	.72	.75	45	.268	.848

Peer/Teacher Support

20 – 29	3	1.67	.58			
30 – 39	13	1.15	.55			
40 – 49	15	1.40	.74	3		
50 and over	18	1.33	.77	45	.558	.646

IEP Requirement

20 – 29	3	1.67	.58			
30 – 39	13	.85	.69			
40 – 49	15	1.07	.80	3		
50 and over	18	1.22	.81	45	1.185	.326

Community/Parent Support

20 – 29	3	1.00	1.00			
30 – 39	13	.77	.73			
40 – 49	15	1.07	.70	3		
50 and over	18	.89	.68	45	.427	.735

Student Discipline

20 – 29	3	1.67	.58			
30 – 39	13	.77	.73			
40 – 49	15	1.13	.74	3		
50 and over	18	1.28	.75	45	1.817	.158

The following explains hypotheses testing results for alternative scheduling

between categories of academic achievement on 11 criterion variables.

H 3: There is no statistically significant difference between degree earned in the

use of the five areas of classroom innovation.

H 9: There is no statistically significant difference between degree earned in the

five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion alternative scheduling based on degree

earned are given in Table 17. As no statistical difference was found between degree

earned the null hypotheses 3 and 9 failed to be rejected.

H 21: There is no statistically significant difference between degree earned in the

nine areas of assistance supporting sustained use of Alternative Scheduling.

There is no statistically significant difference between degree earned. The results are

in Table 17. As no statistically significant differences were found in all nine areas of

assistance supporting sustained use of alternative scheduling, null hypothesis 21 failed to

be rejected.

The following explains hypotheses testing results for alternative scheduling by

exposure to multi-age/multi-grade experience on 11 criterion variables.

H 4: There is no statistically significant difference between working with multi-

age students and not in the use of the five areas of classroom innovation.

H 10: There is no statistically significant difference between working with multi-

age students or not in the five areas of classroom innovation inclusion teachers

would like to use.

Table 17

Results of Hypotheses Testing for Alternative Scheduling

between Categories of Academic Achievement on 11 Criterion Variables

Degree	n	M	SD	df	f	p
Actual Involvement						
Bachelor's	79	.51	.75			
Master's	97	.51	.75	2		
Master's Plus Ed.S.	40	.53	.68	213	.011	.989
Ideal Involvement						
Bachelor's	67	.81	.72			
Master's	87	.74	.75	2		
Master's Plus Ed.S.	36	.75	.69	187	.182	.834
Student Participation						
Bachelor's	17	1.41	.62			
Master's	21	1.48	.68	2		
Master's Plus Ed.S.	11	1.55	.52	46	.154	.858
Student Academic Success						
Bachelor's	17	1.59	.51			
Master's	21	1.52	.68	2		
Master's Plus Ed.S.	11	1.55	.52	46	.056	.945
Training, Conference, Workshop						
Bachelor's	17	1.00	.61			
Master's	21	1.19	.68	2		
Master's Plus Ed.S.	11	1.27	.47	46	.766	.471
Encouragement from Administrator						
Bachelor's	17	1.41	.62			
Master's	21	1.24	.77	2		
Master's Plus Ed.S.	11	1.27	.65	46	.311	.734
Classroom Assistant						
Bachelor's	17	.65	.70			
Master's	21	.81	.68	2		
Master's Plus Ed.S.	11	.55	.82	46	.541	.586
Peer Teacher Support						
Bachelor's	17	1.29	.77			
Master's	21	1.29	.72	2		
Master's Plus Ed.S.	11	1.45	.52	46	.238	.789
IEP Requirement						
Bachelor's	17	1.12	.86			
Master's	21	1.10	.77	2		
Master's Plus Ed.S.	11	1.09	.70	46	.005	.995
Community/Parent Support						
Bachelor's	17	.88	.78			
Master's	21	.90	.70	2		
Master's Plus Ed.S.	11	1.00	.63	46	.097	.908
Student Discipline						
Bachelor's	17	.94	.83			
Master's	21	1.19	.75	2		
Master's Plus Ed.S.	11	1.27	.65	46	.789	.460

The results of statistical testing on the criterion alternative scheduling based on working with multi-age students or not are given in Table 18. The testing revealed that at the .05 probability level, both null hypotheses 4 and 10 were rejected.

H 22: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Alternative Scheduling.

There is no significant difference between working with multi-age students or not. As no statistically significant differences were found in all nine areas of assistance supporting sustained use of alternative scheduling, hypothesis 22 failed to be rejected.

The following explains hypotheses testing results for alternative scheduling between school districts on 11 criterion variables.

H 5: There is no statistically significant difference between school districts in the use of the five areas of classroom innovation.

H 11: There is no statistically significant difference between school districts in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion alternative scheduling based on school district are given in Table 19. The testing revealed that at the .05 probability level, both null hypotheses 5 and 11 were rejected. For actual involvement the statistically significant differences were found between Johnson City and Kingsport City and between Johnson City and Sullivan County. For ideal involvement the statistically significant differences were found between Johnson City and Kingsport City, between Johnson City and Sullivan County, between Sullivan County and Unicoi County, and between Unicoi County and Kingsport City.

Table 18

Results of Hypotheses Testing for Alternative Scheduling

By Exposure to Multi-Age/Multi-Grade Experience on 11 Criterion Variables

Multi-age/Multi-Grade	n	M	SD	df	t	p
Actual Involvement						
Yes	49	.86	.89			
No	166	.41	.65	64	3.271	.002*
Ideal Involvement						
Yes	41	1.00	.84			
No	148	.70	.69	187	2.388	.018*
Student Participation						
Yes	16	1.56	.63			
No	33	1.42	.61	47	.733	.467
Student Academic Success						
Yes	16	1.63	.62			
No	33	1.52	.57	47	.618	.539
Training, Conference, Workshop						
Yes	16	1.25	.58			
No	33	1.09	.63	47	.850	.399
Encouragement from Administrator						
Yes	16	1.25	.68			
No	33	1.33	.69	47	.397	.693
Classroom Assistant						
Yes	16	.75	.77			
No	33	.67	.69	47	.380	.706
Peer/Teacher Support						
Yes	16	1.50	.63			
No	33	1.24	.71	47	1.234	.223
IEP Requirement						
Yes	16	1.13	.62			
No	33	1.09	.84	40	.160	.874
Community/Parent						
Yes	16	.94	.57			
No	33	.91	.77	47	.131	.896
Student Discipline						
Yes	16	1.06	.77			
No	33	1.15	.76	47	.384	.703

*significant at the .05 level

Table 19

Results of Hypotheses Testing for Alternative Scheduling

between School Districts on 11 Criterion Variables

School District	n	M	SD	df	f	p
Actual Involvement						
Johnson City	93	.71	.82			
Kingsport	65	.35	.60			
Sullivan County	30	.27	.58	3		
Unicoi County	28	.46	.74	212	4.627	.004*
Ideal Involvement						
Johnson City	82	.99	.75			
Kingsport	60	.55	.65			
Sullivan County	25	.36	.57	3		
Unicoi County	23	.96	.71	186	8.253	.005*
Student Participation						
Johnson City	22	1.50	.51			
Kingsport City	13	1.38	.65			
Sullivan County	6	1.33	.82	3		
Unicoi County	8	1.63	.74	45	.353	.787
Student Academic Success						
Johnson City	22	1.55	.51			
Kingsport City	13	1.54	.52			
Sullivan County	6	1.50	.84	3		
Unicoi County	8	1.63	.74	45	.058	.981
Training, Conference, Workshop						
Johnson City	22	1.05	.58			
Kingsport City	13	1.23	.60			
Sullivan County	6	1.33	.52	3		
Unicoi County	8	1.13	.83	45	.455	.715

Table 19, continued

Encouragement from Administrator

Johnson City	22	1.18	.66			
Kingsport City	13	1.46	.66			
Sullivan County	6	1.50	.55	3		
Unicoi County	8	1.25	.89	45	.631	.599

Classroom Assistant

Johnson City	22	.59	.67			
Kingsport City	13	1.00	.82			
Sullivan County	6	.67	.52	3		
Unicoi County	8	.50	.76	45	1.163	.334

Peer/Teacher Support

Johnson City	22	1.14	.71			
Kingsport City	13	1.38	.65			
Sullivan County	6	1.50	.55	3		
Unicoi County	8	1.63	.74	45	1.235	.308

IEP Requirement

Johnson City	22	.95	.79			
Kingsport City	13	1.00	.82			
Sullivan County	6	1.17	.41	3		
Unicoi County	8	1.63	.74	45	1.652	.191

Community/Parent Support

Johnson City	22	.82	.59			
Kingsport City	13	.92	.86			
Sullivan County	6	1.00	.63	3		
Unicoi County	8	1.13	.83	45	.392	.759

Student Discipline

Johnson City	22	.95	.72			
Kingsport City	13	1.23	.73			
Sullivan County	6	1.17	.98	3		
Unicoi County	8	1.38	.74	45	.748	.529

*significant at the .05 level

H 23: There is no statistically significant difference between school districts in

the nine areas of assistance supporting sustained use of Alternative Scheduling.

There is no statistically significant difference between school districts. The results are

in Table 19. As no statistically significant differences were found in all nine areas of

assistance supporting sustained use of alternative scheduling, the null hypothesis 23

failed to be rejected.

The following explains hypotheses testing results by years of involvement in the use

of alternative scheduling on 11 criterion variables.

H 6: There is no statistically significant difference between years of involvement

in the use of the five areas of classroom innovation.

H 12: There is no statistically significant difference between years of involvement

in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion alternative scheduling based on years

of involvement are given in Table 20. As no statistical difference was found between

years of involvement the null hypotheses 6 and 12 failed to be rejected.

H 24: There is no statistically significant difference between years of involvement

in the nine areas of assistance supporting sustained use of Alternative Scheduling.

The results of statistical testing on the criterion alternative scheduling based on years

of involvement are given in Table 20. Except on training/conference/workshop and IEP

requirement no statistically significant difference was found. Testing revealed that at the

.05 probability level, the null hypothesis 24 was rejected.

Table 20

Results of Hypotheses Testing by Years of Involvement

in the use of Alternative Scheduling on 11 Criterion Variables

Years of Involvement	n	M	SD	df	t	p
Actual Involvement						
1 – 3	30	1.33	.55			
4 or more	48	1.31	.66	76	1.45	885
Ideal Involvement						
1 – 3	29	1.34	.61			
4 or more	47	1.45	50	74	789	433
Student Participation						
1 – 3	30	1.43	.63			
4 or more	49	1.47	.62	77	.251	803
Student Academic Success						
1 – 3	30	1.50	68			
4 or more	49	1.55	58	77	355	724
Training, Conference, Workshop						
1 – 3	30	.80	.66			
4 or more	49	1.14	.61	77	2.338	022*
Encouragement from Administrator						
1 – 3	30	1.33	80			
4 or more	49	1.31	.68	77	161	873
Classroom Assistant						
1 – 3	30	.73	.78			
4 or more	49	.69	.71	77	.230	819
Peer/Teacher Support						
1 – 3	30	1.27	.69			
4 or more	49	1.33	.69	77	374	709
IEP Requirement						
1 – 3	30	.50	.73			
4 or more	49	1.10	77	77	3.436	001*
Community/Parent Support						
1 – 3	30	.63	.61			
4 or more	49	.92	.70	77	1.833	071
Student Discipline						
1 – 3	30	.93	.74			
4 or more	49	1.12	.75	77	1.090	279

*significant at the .05 level

Hypotheses Testing for the Thematic Approach

The following explains hypotheses results testing for the thematic approach between

male and female on 11 criterion variables.

H 1: There is no statistically significant difference between males and females in the use

of the five areas of classroom innovation.

H 7: There is no statistically significant difference between males and females in

the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing the thematic approach based on gender are given in

Table 21. As no statistical difference was found between males and females the null

hypotheses 1 and 7 failed to be rejected.

H 25: There is no statistically significant difference between males and females in

the nine areas of assistance supporting sustained use of the Thematic Approach.

The results of statistical testing on criterion the thematic approach based on gender are

given in Table 21. Except on training/conference/workshop no statistically significant

difference was found. Testing revealed that at the .05 probability level, the null

hypothesis 25 was rejected.

The following explains hypotheses testing results for the thematic approach

between age groups on 11 criterion variables.

H 2: There is no statistically significant difference between age groups in the use

of the five areas of classroom innovation.

The results of statistical testing on criterion the thematic approach based on age

groups are given in Table 22. As no statistical difference was found between age groups

the null hypothesis 2 failed to be rejected.

Table 21

Results of Hypotheses Testing for the Thematic Approach

between Male and Female on 11 Criterion Variables

Gender	n	M	SD	df	t	p
Actual Involvement						
Male	16	1.31	.48			
Female	210	1.33	.63	224	.130	.897
Ideal Involvement						
Male	16	1.38	.62			
Female	204	1.51	.60	218	864	389
Student Participation						
Male	9	1.56	.53			
Female	155	1.68	.48	162	.775	.439
Student Academic Success						
Male	9	1.56	53			
Female	155	1.72	45	162	1.075	.284
Training, Conference. Workshop						
Male	9	1.11	.33			
Female	154	1.51	53	11	3.379	007*
Encouragement from Administrator						
Male	9	1.22	.67			
Female	155	1.24	.68	162	.070	944
Classroom Assistant						
Male	9	.78	.67			
Female	154	.88	75	161	385	701
Peer/Teacher Support						
Male	9	1.22	.44			
Female	155	1.37	.64	11	977	352
IEP Requirement						
Male	9	.78	.67			
Female	155	.71	71	162	280	780
Community/Parent Support						
Male	9	1.00	.71			
Female	155	.93	.71	162	291	772
Student Discipline						
Male	9	.89	.93			
Female	155	1.20	.71	162	1.262	.209

*significant at the .05 level

Table 22

Results of Hypotheses Testing for the Thematic Approach

between Age Groups on 11 Criterion Variables

Age	n	M	SD	df	f	p
Actual Involvement						
20 – 29	40	1.43	.59			
30 – 39	49	1.43	.65			
40 – 49	75	1.19	.59	3		
50 and over	64	1.33	.67	224	2.016	.113
Ideal Involvement						
20 – 29	40	1.80	.41			
30 – 39	45	1.58	.58			
40 – 49	74	1.35	.63	3		
50 and over	62	1.40	.64	217	5.849	
						.001*
Student Participation						
20 – 29	14	1.93	.27			
30 – 39	41	1.63	.49			
40 – 49	62	1.69	.46	3		
50 and over	47	1.62	.53	160	1.666	.176
Student Academic Success						
20 – 29	14	1.93	.27			
30 – 39	41	1.66	.48			
40 – 49	62	1.71	.46	3		
50 and over	47	1.70	.46	160	1.268	.287
Training, Conference, Workshop						
20 – 29	14	1.64	.50			
30 – 39	40	1.48	.51			
40 – 49	62	1.50	.57	3		
50 and over	47	1.45	.50	159	.514	.673

Table 22, continued

Encouragement from Administrator						
20 – 29	14	1.29	.73			
30 – 39	41	1.32	.69			
40 – 49	62	1.21	.75	3		
50 and over	47	1.19	.58	160	.311	.817

Classroom Assistant						
20 – 29	14	.86	.77			
30 – 39	41	1.05	.71			
40 – 49	61	.79	.78	3		
50 and over	47	.83	.73	159	1.084	.358

Peer/Teacher Support						
20 – 29	14	1.57	.51			
30 – 39	41	1.29	.64			
40 – 49	62	1.37	.63	3		
50 and over	47	1.36	.64	160	.686	.562

IEP Requirement						
20 – 29	14	.86	.77			
30 – 39	41	.71	.72			
40 – 49	62	.69	.69	3		
50 and over	47	.70	.72	160	.211	.889

Community/Parent Support						
20 – 29	14	1.29	.73			
30 – 39	41	.95	.67			
40 – 49	62	.87	.76	3		
50 and over	47	.89	.67	160	1.375	.253

Student Discipline						
20 – 29	14	1.64	.50			
30 – 39	41	1.17	.77			
40 – 49	62	1.21	.70	3		
50 and over	47	1.02	.71	160	2.817	.041*

*significant at the .05 level

H 8: There is no statistically significant difference between age groups in the

five areas of classroom innovation inclusion teachers would like to use.

Testing revealed that at the .05 probability level, the null hypothesis 8 was rejected.

The statistically significant differences were found between age groups 20-29 and 40-49,

between 30-39 and 40-49, and between 20-29 and 50 and over.

H 26: There is no statistically significant difference between age groups in the

nine areas of assistance supporting sustained use of the Thematic Approach.

The results of testing on the criterion the thematic approach based on age groups are

given in Table 22. Except on student discipline no statistically significant difference was

found. On the items I found a statistically significant difference, I conducted a post hoc

test of least significant difference. In student discipline statistical differences were found

between the age groups 20-29 and 30-39, between 30-39 and 40-49, and between 20-29

and 50 and over. Testing revealed that at the .05 probability level, the null hypothesis 26

was rejected.

The following explain hypotheses testing results for the thematic approach between

categories of academic achievement on 11 criterion variables.

H 3: There is no statistically significant difference between degree earned in the

use of the five areas of classroom innovation.

H 9: There is no statistically significant difference between degree earned in the

five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing the thematic approach based on degree earned are

given in Table 23. As no statistical difference was found between degree earned the null

hypotheses 3 and 9 failed to be rejected.

Table 23

Results of Hypotheses Testing for the Thematic Approach

between Categories of Academic Achievement on 11 Criterion Variables

Degree	n	M	SD	df	f	p
Actual Involvement						
Bachelor's	86	1.33	.58			
Master's	101	1.32	.66	2		
Master's Plus/Ed.S.	41	1.32	.65	225	.005	.995
Ideal Involvement						
Bachelor's	84	1.48	.57			
Master's	98	1.56	.63	2		
Master's Plus/Ed.S.	39	1.36	.63	218	1.607	.203
Student Participation						
Bachelor's	55	1.75	.44			
Master's	79	1.67	.47	2		
Master's Plus/Ed.S.	30	1.57	.57	161	1.353	.261
Student Academic Success						
Bachelor's	55	1.71	.46			
Master's	79	1.76	.43	2		
Master's Plus/Ed.S.	30	1.60	.50	161	1.354	.261
Training, Conference, Workshop						
Bachelor's	55	1.51	.54			
Master's	78	1.47	.53	2		
Master's Plus/Ed.S.	30	1.50	.51	160	.075	.928
Encouragement from Administrator						
Bachelor's	55	1.20	.65			
Master's	79	1.27	.69	2		
Master's Plus/Ed.S.	30	1.23	.73	161	.150	.860
Classroom Assistant						
Bachelor's	55	.93	.77			
Master's	79	.81	.72	2		
Master's Plus Ed.S.	29	.93	.80	160	.509	.602
Peer Teacher Support						
Bachelor's	55	1.36	.68			
Master's	79	1.38	.58	2		
Master's Plus/Ed.S.	30	1.33	.66	161	.059	.942
IEP Requirement						
Bachelor's	55	.65	.67			
Master's	79	.78	.73	2		
Master's Plus/Ed.S.	30	.63	.72	161	.783	.459
Community/Parent Support						
Bachelor's	55	.96	.74			
Master's	79	.95	.66	2		
Master's Plus/Ed.S.	30	.83	.79	161	.364	.695
Student Discipline						
Bachelor's	55	1.07	.74			
Master's	79	1.25	.69	2		
Master's Plus/Ed.S.	30	1.20	.76	161	1.029	.360

H 27: There is no statistically significant difference between degree earned in

the nine areas of assistance supporting sustained use of the Thematic Approach.

There is no statistically significant difference between degree earned. The results are

in Table 23. As no statistically significant differences were found in all nine areas of

assistance supporting sustained use of the thematic approach, null hypothesis 27 failed to

be rejected.

The following explains hypotheses testing results for the thematic approach by

exposure to multi-age/multi-grade experience on 11 criterion variables.

H 4: There is no statistically significant difference between working with multi-

age students and not in the use of the five areas of classroom innovation.

H 10: There is no statistically significant difference between working with multi-

age students or not in the five areas of classroom innovation inclusion teachers

would like to use.

The results of statistical testing on criterion the thematic approach based on working

with multi-age students or not are given in Table 24. Testing revealed that at the 05

probability level, both null hypotheses 4 and 10 were rejected.

H 28: There is no statistically significant difference between working with multi-

age students and not in the nine areas of assistance supporting sustained use of the

Thematic Approach.

There is no statistically significant difference in experience in multi-age setting among

the nine criterion variables. The results are in Table 24. As no statistically significant

differences were found in all nine areas of assistance supporting sustained use of the

thematic approach, the null hypothesis 28 failed to be rejected.

Table 24

Results of Hypotheses Testing for the Thematic Approach

by Exposure to Multi-Age/Multi-Grade Experience on 11 Criterion Variables

Multi-age/Multi-Grade	n	M	SD	df	t	p
Actual Involvement						
Yes	53	1.51	.54			
No	174	1.26	.64	225	2.511	.013*
Ideal Involvement						
Yes	51	1.65	.52			
No	169	1.44	.63	98	2.322	.022*
Student Participation						
Yes	46	1.70	.47			
No	117	1.68	.49	161	.244	.808
Student Academic Success						
Yes	46	1.76	.43			
No	117	1.70	.46	161	.763	.447
Training, Conference, Workshop						
Yes	46	1.46	.55			
No	116	1.51	.52	160	.568	.571
Encouragement from Administrator						
Yes	46	1.37	.64			
No	117	1.18	.69	161	1.612	.109
Classroom Assistant						
Yes	46	.87	.72			
No	116	.87	.76	160	.009	.993
Peer/Teacher Support						
Yes	46	1.35	.60			
No	117	1.38	.64	161	.258	.797
IEP Requirement						
Yes	46	.72	.62			
No	117	.71	.74	99	.070	.944
Community/Parent						
Yes	46	1.02	.65			
No	117	.91	.73	161	.938	.350
Student Discipline						
Yes	46	1.28	.66			
No	117	1.15	.75	161	1.093	.276

*significant at the .05 level

The following explains hypotheses testing results for the thematic approach

between school districts on 11 criterion variables.

H 5: There is no statistically significant difference between school districts in the

use of the five areas of classroom innovation.

H 11: There is no statistically significant difference between school districts in the

five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion the thematic approach based on school

district are given in Table 25. Testing revealed that at the .05 probability level, both null

hypotheses 5 and 11 were rejected. On the items I found a statistically significant

difference, I conducted a post hoc test of least significant difference. For actual

involvement the statistically significant differences occurred between Sullivan County

and each of the other three districts. Also for ideal involvement the statistically

significant differences occurred between Sullivan County and each of the other three

districts.

H 29: There is no statistically significant difference between school districts in

the nine areas of assistance supporting sustained use of the Thematic Approach.

The results of statistical testing on the criterion the thematic approach based on school

district are in Table 25. Except on student participation, training/conference/workshop

and encouragement from administrator no statistically significant differences were found.

On the items I found a statistically significant difference, I conducted a post hoc test of

least significant difference. In student participation the statistical differences were found

between Johnson City and Kingsport City, between Kingsport City and Unicoi County,

and between Johnson City and Sullivan County.

Table 25

Results of Hypotheses Testing for the Thematic Approach

between School Districts on 11 Criterion Variables

School District	n	M	SD	df	f	p
Actual Involvement						
Johnson City	96	1.38	.60			
Kingsport City	72	1.33	.58			
Sullivan County	31	1.00	.63	3		
Unicoi County	29	1.45	.74	224	3.447	.017*
Ideal Involvement						
Johnson City	91	1.59	.52			
Kingsport City	72	1.47	.65			
Sullivan County	30	1.17	.65	3		
Unicoi County	28	1.57	.63	217	4.058	.008*
Student Participation						
Johnson City	72	1.79	.41			
Kingsport City	52	1.52	.50			
Sullivan County	19	1.53	.61	3		
Unicoi County	21	1.81	.40	160	4.657	.004*
Student Academic Success						
Johnson City	72	1.79	.41			
Kingsport City	52	1.65	.48			
Sullivan County	19	1.53	.51	3		
Unicoi County	21	1.76	.44	160	2.220	.088
Training, Conference, Workshop						
Johnson City	72	1.53	.53			
Kingsport City	52	1.54	.50			
Sullivan County	19	1.16	.37	3		
Unicoi County	20	1.55	.60	159	2.994	.033*

Table 25, continued

Encouragement from Administrator

Johnson City	72	1.39	.62			
Kingsport City	52	1.21	.70			
Sullivan County	19	1.05	.62	3		
Unicoi County	21	.95	.80	160	3.007	.032*

Classroom Assistant

Johnson City	71	.86	.76			
Kingsport City	52	.90	.72			
Sullivan County	19	.63	.68	3		
Unicoi County	21	1.05	.80	159	1.084	.357

Peer/Teacher Support

Johnson City	72	1.35	.61			
Kingsport City	52	1.46	.61			
Sullivan County	19	1.26	.65	3		
Unicoi County	21	1.29	.72	160	.706	.550

IEP Requirement

Johnson City	72	.67	.69			
Kingsport City	52	.75	.71			
Sullivan County	19	.58	.61	3		
Unicoi County	21	.90	.83	160	.891	.447

Community/Parent Support

Johnson City	72	.92	.69			
Kingsport City	52	.98	.75			
Sullivan County	19	.79	.63	3		
Unicoi County	21	1.00	.77	160	.407	.748

Student Discipline

Johnson City	72	1.21	.69			
Kingsport City	52	1.17	.73			
Sullivan County	19	1.00	.75	3		
Unicoi County	21	1.29	.78	160	.580	.629

*significant at the .05 level

In training/conferences/workshop the statistical differences were found between

Johnson City and Sullivan County, between Kingsport City and Sullivan County, and

between Sullivan County and Unicoi County. In encouragement from administrator the

only statistical difference was found between Johnson City and Unicoi County. Testing

revealed that at the .05 probability level, the null hypothesis 29 was rejected.

The following explains hypotheses testing results by years of involvement in the use

of the thematic approach on 11 criterion variables.

H 6: There is no statistically significant difference between years of involvement

in the use of the five areas of classroom innovation.

The results of statistical testing on the criterion the thematic approach are given in

Table 26. Testing revealed that at the .05 probability level, the null hypothesis 6 was

rejected.

H 12: There is no statistically significant difference between years of involvement

in the five areas of classroom innovation inclusion teachers would like to use.

As no statistical difference was found between years of involvement, the null

hypothesis 12 failed to be rejected.

H 30: There is no statistically significant difference between years of involvement

in the nine areas of assistance supporting sustained use of the Thematic Approach.

The results of statistical testing on the criterion the thematic approach based on years

of involvement are given in Table 26. Except on training/conference/workshop no

statistically significant difference was found. Testing revealed that at the .05 probability

level, the null hypothesis 30 was rejected.

Table 26

Results of Hypotheses Testing by Years of Involvement

in the use of the Thematic Approach on 11 Criterion Variables

Years of Involvement	n	M	SD	df	t	p
Actual Involvement						
1 – 3	37	1.27	.51			
4 or more	163	1.47	.51	54	2.114	.039*
Ideal Involvement						
1 – 3	37	1.57	.50			
4 or more	159	1.57	.54	194	.049	.961
Student Participation						
1 – 3	37	1.57	.60			
4 or more	164	1.68	.48	47	1.031	.308
Student Academic Success						
1 – 3	37	1.54	.61			
4 or more	164	1.71	.45	46	1.637	.109
Training, Conference. Workshop						
1 – 3	37	1.22	.63			
4 or more	163	1.49	.53	198	2.762	.006*
Encouragement from Administrator						
1 – 3	37	1.11	.66			
4 or more	164	1.24	.68	199	1.052	.294
Classroom Assistant						
1 – 3	36	.64	.68			
4 or more	163	.87	75	197	1.715	.088
Peer/Teacher Support						
1 – 3	37	1.22	.71			
4 or more	164	1.37	.63	199	1.278	.203
IEP Requirement						
1 – 3	36	.58	.65			
4 or more	164	.71	.71	198	1.014	.312
Community/Parent Support						
1 – 3	37	.70	.57			
4 or more	164	.93	.71	199	1.841	.067
Student Discipline						
1 – 3	37	.95	.70			
4 or more	164	1.18	.72	199	1.815	.071

*significant at the .05 level

Hypotheses Testing for Student Use of Technology

The following explains hypotheses testing results for student use of technology

between male and female on 11 criterion variables.

H 1: There is no statistically significant difference between males and females in

the use of the five areas of classroom innovation.

H 7: There is no statistically significant difference between males and females in

the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion student use of technology based on

gender are given in Table 27. As no statistical differences were found between males and

females both null hypotheses 1 and 7 failed to be rejected.

H 31: There is no statistically significant difference between males and females in

the nine areas of assistance supporting sustained Student Use of Technology.

There is no statistically significant difference between males and females. As no

statistically significant difference were found in all nine areas of assistance supporting

sustained student use of technology, null hypothesis 31 failed to be rejected.

The following explains hypotheses testing results for student use of technology

between age groups on 11 criterion variables.

H2: There is no statistically significant difference between age groups in the use

of the five areas of classroom innovation.

The results of statistical testing on the criterion student use of technology are given in

Table 28. Testing revealed that at the .05 probability level, the null hypothesis 2 was

rejected. The statistical difference was found between age groups 20-29 and 40-49 and

between 20-29 and 50 and over.

Table 27

Results of Hypotheses Testing for Student Use of Technology

between Male and Female on 11 Criterion Variables

Gender	n	M	SD	df	t	p
Actual Involvement						
Male	16	1.19	.54			
Female	210	1.38	.57	18	1.333	.199
Ideal Involvement						
Male	16	1.56	.63			
Female	207	1.70	.50	221	1.044	.298
Student Participation						
Male	7	1.57	.53	155		
Female	150	1.75	.45		1.042	.299
Student Academic Success						
Male	7	1.57	.53			
Female	150	1.62	.50	155	.250	.803
Training, Conference, Workshop						
Male	7	1.57	.53			
Female	150	1.51	.55	155	.303	.762
Encouragement from Administrator						
Male	7	1.71	.49			
Female	149	1.56	.54	154	.728	.468
Classroom Assistant						
Male	7	1.29	.49			
Female	148	.90	.75	153	1.343	.181
Peer/Teacher Support						
Male	7	1.14	.69			
Female	149	1.26	.63	154	.460	.646
IEP Requirement						
Male	7	1.00	.82			
Female	149	.80	.74	154	.697	.487
Community/Parent Support						
Male	7	1.14	.90			
Female	149	1.11	.70	154	.105	.917
Student Discipline						
Male	7	1.00	.82			
Female	149	1.15	.72	154	.527	.599

Table 28

Results of Hypotheses Testing for Student Use of Technology

between Age Groups on 11 Criterion Variables

Age	n	M	SD	df	f	p
Actual Involvement						
20 – 29	40	1.15	.58			
30 – 39	50	1.28	.54			
40 – 49	75	1.47	.58	3		
50 and over	63	1.43	.53	224	3.485	.017*
Ideal Involvement						
20 – 29	39	1.77	.48			
30 – 39	50	1.56	.58			
40 – 49	74	1.70	.52	3		
50 and over	62	1.73	.45	221	1.525	.209
Student Participation						
20 – 29	11	1.91	.30			
30 – 39	40	1.60	.55			
40 – 49	55	1.80	.40	3		
50 and over	52	1.75	.44	154	2.151	.096
Student Academic Success						
20 – 29	11	1.73	.47			
30 – 39	40	1.53	.55			
40 – 49	55	1.65	.48	3		
50 and over	52	1.62	.49	154	.724	.539
Training, Conference, Workshop						
20 – 29	11	1.55	.52			
30 – 39	40	1.33	.62			
40 – 49	55	1.58	.53	3		
50 and over	52	1.56	.50	154	2.002	.116

Table 28, continued

Encouragement from Administrator

20 – 29	11	1.55	.52			
30 – 39	40	1.55	.50			
40 – 49	54	1.59	.57	3		
50 and over	52	1.56	.54	153	.065	.978

Classroom Assistant

20 – 29	11	1.00	.77			
30 – 39	39	1.00	.76			
40 – 49	54	.80	.71	3		
50 and over	52	.94	.78	152	.685	.562

Peer/Teacher Support

20 – 29	11	1.27	.65			
30 – 39	40	1.20	.61			
40 – 49	54	1.30	.60	3		
50 and over	52	1.23	.67	153	.201	.896

IEP Requirement

20 – 29	11	.82	.75			
30 – 39	40	.78	.80			
40 – 49	54	.89	.69	3		
50 and over	52	.73	.77	153	.416	.742

Community/Parent Support

20 – 29	11	1.18	.87			
30 – 39	40	1.10	.67			
40 – 49	54	1.06	.68	3		
50 and over	52	1.17	.73	153	.279	.840

Student Discipline

20 – 29	11	1.36	.81			
30 – 39	40	1.00	.75			
40 – 49	54	1.11	.72	3		
50 and over	52	1.21	.70	153	1.038	.378

*significant at the .05 level

H 8: There is no statistically significant difference between age groups in the

five areas of classroom innovation inclusion teachers would like to use.

As no statistical difference was found between age groups, the null hypothesis 8 failed

to be rejected.

H 32: There is no statistically significant difference between age groups in the

nine areas of assistance supporting sustained Student Use of Technology.

There are no statistically significant differences between age groups. As no

statistically significant difference were found in all nine areas of assistance supporting

sustained student use of technology, null hypothesis 32 failed to be rejected.

The following explains hypotheses testing results for student use of technology

between categories of academic achievement on 11 criterion variables.

H 3: There is no statistically significant difference between degree earned in the

use of the five areas of classroom innovation.

H 9: There is no statistically significant difference between degree earned in the

five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion student use of technology based on

degree earned are given in Table 29. As no statistical differences were found between

degrees earned, both null hypotheses 3 and 9 failed to be rejected.

H 33: There is no statistically significant difference between degree earned in the

nine areas of assistance supporting sustained Student Use of Technology.

There is no statistically significant difference between degrees earned. As no

statistically significant difference were found in all nine areas of assistance supporting

sustained student use of technology, null hypothesis 33 failed to be rejected.

Table 29

Results of Hypotheses Testing for Student Use of Technology

between Categories of Academic Achievement on 11 Criterion Variables

Degree	n	M	SD	Df	f	p
Actual Involvement						
Bachelor's	85	1.29	53			
Master's	102	1.36	58	2		
Master's Plus/Ed.S.	41	1.49	60	225	1 636	197
Ideal Involvement						
Bachelor's	84	1.67	.47			
Master's	100	1.73	.51	2		
Master's Plus.Ed.S.	41	1.63	.58	222	639	529
Student Participation						
Bachelor's	51	1.69	.47			
Master's	79	1.80	.43	2		
Master's Plus/Ed.S.	28	1.68	.48	155	1.250	289
Student Academic Success						
Bachelor's	51	1.53	.50			
Master's	79	1.67	50	2		
Master's Plus/Ed.S.	28	1.61	.50	155	1.241	292
Training, Conference, Workshop						
Bachelor's	51	1.53	.50			
Master's	79	1.47	.57	2		
Master's Plus/Ed.S.	28	1.57	.57	155	426	654
Encouragement from Administrator						
Bachelor's	51	1.59	50			
Master's	78	1.58	.52	2		
Master's Plus/Ed.S.	28	1.50	.64	154	271	763
Classroom Assistant						
Bachelor's	50	1.02	.71			
Master's	78	.87	.73	2		
Master's Plus.Ed.S.	28	.82	86	153	837	435
Peer/Teacher Support						
Bachelor's	50	1.12	.59			
Master's	79	1.33	.61	2		
Master's Plus/Ed.S.	28	1.25	.70	154	1.719	183
IEP Requirement						
Bachelor's	50	.64	.69			
Master's	79	.89	.73	2		
Master's Plus/Ed.S.	28	.86	.85	154	1.773	173
Community/Parent Support						
Bachelor's	50	1.06	.68			
Master's	79	1.11	.72	2		
Master's Plus/Ed.S.	28	1.21	.74	154	425	655
Student Discipline						
Bachelor's	50	1.10	.76			
Master's	79	1.15	.70	2		
Master's Plus/Ed.S.	28	1.14	.76	154	.080	923

The following explains hypotheses testing results for student use of technology by exposure to multi-age/multi-grade experience on 11 criterion variables.

H 4: There is no statistically significant difference between working with multi-age students or not in the use of the five areas of classroom innovation.

H 10: There is no statistically significant difference between working with multi-age students or not in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion student use of technology based on working with multi-age students or not are given in Table 30. As no statistical differences were found, both null hypotheses 4 and 10 failed to be rejected.

H 34: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained Student Use of Technology.

The results of statistical testing on the criterion student use of technology based on working with multi-age students or not are given in Table 30. Except on IEP requirements no statistically significant difference was found. Testing revealed that at the .05 probability level, the null hypothesis 36 was rejected.

The following explains hypotheses testing results for student use of technology between school districts on 11 criterion variables.

H 5: There is no statistically significant difference between school districts in the use of the five areas of classroom innovation.

The results of statistical testing on the criterion student use of technology are in Table 31. The testing revealed that at the .05 probability level, null hypothesis 5 was rejected.

Table 30

Results of Hypotheses Testing for Student Use of Technology

by exposure to Multi-Age/Multi-Grade Experience on 11 Criterion Variables

Multi-age/Multi-Grade	n	M	SD	df	t	p
Actual Involvement						
Yes	53	1.45	.50			
No	174	1.33	.58	225	1.348	179
Ideal Involvement						
Yes	53	1.75	.43			
No	171	1.67	.53	105	1.220	.225
Student Participation						
Yes	37	1.81	.40			
No	120	1.73	.47	70	1.101	275
Student Academic Success						
Yes	37	1.70	.46			
No	120	1.59	.51	66	1.243	.218
Training, Conference, Workshop						
Yes	37	1.35	.59			
No	120	1.55	.53	155	1.936	055
Encouragement from Administrator						
Yes	37	1.49	.65			
No	119	1.59	.49	50	.876	385
Classroom Assistant						
Yes	37	.89	.81			
No	118	.92	73	153	.165	869
Peer/Teacher Support						
Yes	37	1.16	.65			
No	119	1.27	.62	154	905	367
IEP Requirement						
Yes	37	1.08	.64			
No	119	.71	.76	71	2.905	005*
Community/Parent						
Yes	37	1.08	.64			
No	119	1.13	72	154	.402	688
Student Discipline						
Yes	37	1.16	.69			
No	119	1.13	.74	154	.203	839

*significant at the .05 level

Table 31

Results of Hypotheses Testing for Student Use of Technology

between School Districts on 11 Criterion Variables

School District	n	M	SD	df	f	p
Actual Involvement						
Johnson City	96	1.31	.51			
Kingsport City	72	1.53	.56			
Sullivan County	31	1.42	.56	3		
Unicoi County	29	1.03	.63	224	6.039	.001*
Ideal Involvement						
Johnson City	96	1.66	.50			
Kingsport City	72	1.71	.49			
Sullivan County	31	1.71	.59	3		
Unicoi County	26	1.73	.53	221	.239	.869
Student Participation						
Johnson City	59	1.76	.43			
Kingsport City	59	1.73	.45			
Sullivan County	20	1.80	.41	3		
Unicoi County	20	1.65	.59	154	.435	.728
Student Academic Success						
Johnson City	59	1.59	.50			
Kingsport City	59	1.66	.48			
Sullivan County	20	1.75	.44	3		
Unicoi County	20	1.40	.60	154	1.947	.124
Training, Conference, Workshop						
Johnson City	59	1.46	.57			
Kingsport City	59	1.64	.48			
Sullivan County	20	1.30	.57	3		
Unicoi County	20	1.45	.60	154	2.463	.065

Table 31, continued

Encouragement from Administrator					
Johnson City	59	1.58	.56		
Kingsport City	58	1.67	.47		
Sullivan County	20	1.45	.60	3	
Unicoi County	20	1.35	.49	153	2.229	.087

Classroom Assistant					
Johnson City	58	.72	.70		
Kingsport City	58	1.07	.77		
Sullivan County	20	1.05	.83	3	
Unicoi County	20	.85	.67	152	2.407	.070

Peer/Teacher Support					
Johnson City	58	1.14	.61		
Kingsport City	59	1.41	.62		
Sullivan County	20	1.25	.64	3	
Unicoi County	20	1.10	.64	153	2.284	.081

IEP Requirement					
Johnson City	58	.76	.71		
Kingsport City	59	.86	.80		
Sullivan County	20	.95	.76	3	
Unicoi County	20	.60	.68	153	.953	.417

Community/Parent Support					
Johnson City	58	1.09	.63		
Kingsport City	59	1.14	.75		
Sullivan County	20	1.15	.75	3	
Unicoi County	20	1.10	.79	153	.067	.997

Student Discipline					
Johnson City	58	1.07	.70		
Kingsport City	59	1.10	.78		
Sullivan County	20	1.40	.68	3	
Unicoi County	20	1.15	.67	153	1.095	.353

*significant at the .05 level

The statistically significant differences occurred between Johnson City and Kingsport

City and between Unicoi County and each of the other three districts.

H 11: There is no statistically significant difference between school districts in the

five areas of classroom innovation inclusion teachers would like to use.

As no statistical difference was found between school districts, the null hypothesis 11

failed to be rejected.

H 35: There is no statistically significant difference between school districts in the

nine areas of assistance supporting sustained use of Student Use of Technology.

There is no statistically significant difference between school districts. The results are

in table 31. As no statistically significant differences were found in all nine areas of

assistance supporting sustained student use of technology, null hypothesis 35 failed to be

rejected.

The following explains hypotheses testing results by years of involvement in student

use of technology on 11 criterion variables.

H 6: There is no statistically significant difference between years of involvement

in the use of the five areas of classroom innovation.

The results of statistical testing on the criterion student use of technology are given in

Table 32. The testing revealed that at the .05 probability level, the null hypothesis 6 was

rejected.

H 12: There is no statistically significant difference between years of involvement

in the five areas of classroom innovation inclusion teachers would like to use.

As no statistical difference was found between years of involvement, the null

hypothesis 12 failed to be rejected.

Table 32

Results of Hypotheses Testing by Years of Involvement in

Student Use of Technology on 11 Criterion Variables

Years of Involvement	n	M	SD	df	t	p
Actual Involvement						
1 – 3	60	1.20	.44			
4 or more	156	1.49	.51	124	4.073	.005*
Ideal Involvement						
1 – 3	60	1.68	.47			
4 or more	155	1.74	.46	213	.745	.457
Student Participation						
1 – 3	59	1.61	.53			
4 or more	158	1.74	.45	93	1.684	.096
Student Academic Success						
1 – 3	59	1.47	.54			
4 or more	158	1.61	.50	215	1.787	.075
Training, Conference, Workshop						
1 – 3	59	1.36	.61			
4 or more	158	1.51	.55	215	1.740	.083
Encouragement from Administrator						
1 – 3	59	1.69	.50			
4 or more	157	1.57	.53	111	1.645	.103
Classroom Assistant						
1 – 3	58	.72	.74			
4 or more	156	.91	.75	212	1.620	.107
Peer/Teacher Support						
1 – 3	59	1.25	.51			
4 or more	157	1.25	.63	127	.070	.944
IEP Requirement						
1 – 3	59	.63	.64			
4 or more	157	.80	.75	214	1.597	.112
Community/Parent Support						
1 – 3	58	1.02	.58			
4 or more	157	1.11	.71	124	1.031	.304
Student Discipline						
1 – 3	59	1.15	.64			
4 or more	157	1.13	.73	214	.175	.861

*significant at the .05 level

H 36: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained Student Use of Technology.

There is no statistically significant difference between years of involvement. As no statistically significant differences were found in all nine areas of assistance supporting sustained student use of technology, null hypothesis 36 failed to be rejected.

Hypotheses Testing for Child-Centered Instruction

The following explains hypotheses testing results for child-centered instruction between male and female on 11 criterion variables.

H 1: There is no statistically significant difference between males and females in the use of the five areas of classroom innovation.

H 7: There is no statistically significant difference between males and females in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion child-centered instruction based on gender are given in Table 33. As no statistical differences were found, both null hypotheses 1 and 7 failed to be rejected.

H 37: There is no statistically significant difference between males and females in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

There is no statistically significant difference between males and females. The results are in Table 33. As no statistically significant differences were found in all nine areas of assistance supporting sustained use of child-centered instruction, the hypothesis 37 failed to be rejected.

Table 33

Results of Hypotheses Testing for Child-Centered Instruction

between Male and Female on 11 Criterion Variables

Gender	n	M	SD	df	t	p
Actual Involvement						
Male	16	1.44	.63			
Female	209	1.56	.62	223	.762	.447
Ideal Involvement						
Male	16	1.69	.48			
Female	203	1.72	.52	217	.235	.814
Student Participation						
Male	9	1.67	.50			
Female	162	1.85	.36	9	1.059	.319
Student Academic Success						
Male	9	1.78	.44			
Female	161	1.83	.37	168	.421	.674
Training, Conference, Workshop						
Male	9	1.56	.53			
Female	162	1.48	.57	169	.380	.704
Encouragement from Administrator						
Male	9	1.33	.71			
Female	162	1.43	.64	169	.421	.674
Classroom Assistant						
Male	9	1.33	.71			
Female	162	.98	.75	169	1.402	.163
Peer/Teacher Support						
Male	9	1.22	.67			
Female	162	1.32	.63	169	.458	.647
IEP Requirement						
Male	9	1.56	.53			
Female	161	1.11	.74	168	1.801	.074
Community/Parent Support						
Male	9	1.22	.67			
Female	162	1.09	.66	169	.575	.566
Student Discipline						
Male	9	1.56	.53			
Female	162	1.41	.65	169	.646	.519

The following explains hypotheses testing results for child-centered instruction

between age groups on 11 criterion variables.

H 2: There is no statistically significant difference between age groups in the use

of the five areas of classroom innovation.

H 8: There is no statistically significant difference between age groups in the five

areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion child-centered instruction based on age

groups are given in Table 34. As no statistical differences were found, both null

hypotheses 2 and 8 failed to be rejected.

H 38: There is no statistically significant difference between age groups in the

nine areas of assistance supporting sustained use of Child-Centered Instruction.

Except on IEP requirement, no statistically significant difference was found. On the

item I found a statistically significant difference, I conducted the post hoc test of least

significant difference. In IEP requirements the statistical difference was found between

the age groups 30-39 and 50 and over. The testing revealed that at the .05 probability

level null hypothesis 38 was rejected.

The following explains hypotheses testing results for child-centered instruction

between categories of academic achievement on 11 criterion variables.

H 3: There is no statistically significant difference between degree earned in the

use of the five areas of classroom innovation.

H 9: There is no statistically significant difference between degree earned in the

five areas of classroom innovation inclusion teachers would like to use.

Table 34

Results of Hypotheses Testing for Child-Centered Instruction

between Age Groups on 11 Criterion Variables

Age	n	M	SD	df	f	p
Actual Involvement						
20 - 29	41	1.54	.64			
30 - 39	50	1.62	.57			
40 - 49	72	1.51	.67	3		
50 and over	64	1.56	.59	223	.304	.823
Ideal Involvement						
20 - 29	39	1.82	.39			
30 - 39	50	1.78	.42			
40 - 49	69	1.62	.62	3		
50 and over	63	1.71	.52	217	1.541	.205
Student Participation						
20 - 29	16	1.88	.34			
30 - 39	41	1.83	.38			
40 - 49	60	1.80	.40	3		
50 and over	56	1.88	.33	169	.456	.714
Student Academic Success						
20 - 29	16	1.81	.40			
30 - 39	41	1.85	.36			
40 - 49	60	1.78	.42	3		
50 and over	55	1.87	.34	168	.607	.611
Training, Conference, Workshop						
20 - 29	16	1.50	.52			
30 - 39	41	1.39	.63			
40 - 49	60	1.43	.59	3		
50 and over	56	1.61	.49	169	1.430	.236

Table 34, continued

Encouragement from Administrator						
20 – 29	16	1.19	.75			
30 – 39	41	1.41	.63			
40 – 49	60	1.47	.65	3		
50 and over	56	1.45	.60	169	.843	.472
Classroom Assistant						
20 – 29	16	1.25	.68			
30 – 39	41	1.12	.68			
40 – 49	60	.97	.76	3		
50 and over	56	.88	.79	169	1.538	.207
Peer/Teacher Support						
20 – 29	16	1.56	.51			
30 – 39	41	1.34	.66			
40 – 49	60	1.37	.61	3		
50 and over	56	1.20	.64	169	1.660	.177
IEP Requirement						
20 – 29	16	.94	.77			
30 – 39	40	1.35	.66			
40 – 49	60	1.18	.70	3		
50 and over	56	.96	.79	168	2.667	.049*
Community/Parent Support						
20 – 29	16	1.06	.57			
30 – 39	41	1.15	.65			
40 – 49	60	1.08	.67	3		
50 and over	56	1.13	.69	169	.110	.954
Student Discipline						
20 – 29	16	1.44	.63			
30 – 39	41	1.41	.71			
40 – 49	60	1.47	.60	3		
50 and over	56	1.39	.65	169	.135	.939

*significant at the .05 level

The results of statistical testing on the criterion child-centered instruction based on degree earned are given in Table 35. As no statistical differences were found, both null hypotheses 3 and 9 failed to be rejected.

H 39: There is no statistically significant difference between degree earned in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

There is no statistically significant difference between degree earned. The results are in Table 35. As no statistically significant differences were found in all nine areas of assistance supporting sustained use of child-centered instruction, the hypothesis 39 failed to be rejected.

The following explains hypotheses testing results for child-centered instruction by exposure to multi-age/multi-grade experience on 11 criterion variables.

H 4: There is no statistically significant difference between working with multi-age students and not in the use of the five areas of classroom innovation.

H 10: There is no statistically significant difference between working with multi-age students or not in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion child-centered instruction based on working with multi-age students or not are given in Table 36. As no statistical differences were found, both null hypotheses 4 and 10 failed to be rejected.

H 40: There is no statistically significant difference between working with multi-age students and not in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

Table 35

Results of Hypotheses Testing for Child-Centered Instruction

between Categories of Academic Achievement on 11 Criterion Variables

Degree	n	M	SD	df	f	p
Actual Involvement						
Bachelor's	86	1.52	65			
Master's	101	1.59	57	2		
Master's Plus/Ed.S.	40	1.53	.68	224	361	697
Ideal Involvement						
Bachelor's	82	1.73	.47			
Master's	100	1.74	.50	2		
Master's Plus/Ed.S.	39	1.64	.63	218	550	578
Student Participation						
Bachelor's	56	1.84	.37			
Master's	83	1.82	.39	2		
Master's Plus Ed.S.	34	1.88	.33	170	.349	.706
Student Academic Success						
Bachelor's	56	1.79	.41			
Master's	82	1.84	.37	2		
Master's Plus/Ed.S.	34	1.88	.33	169	755	472
Training, Conference, Workshop						
Bachelor's	56	1.48	.63			
Master's	83	1.42	.54	2		
Master's Plus/Ed.S.	34	1.65	.49	170	1.930	148
Encouragement from Administrator						
Bachelor's	56	1.38	62			
Master's	83	1.40	.64	2		
Master's Plus/Ed.S.	34	1.56	.66	170	992	373
Classroom Assistant						
Bachelor's	56	1.14	70			
Master's	83	96	74	2		
Master's Plus/Ed.S.	34	85	82	170	1.796	169
Peer/Teacher Support						
Bachelor's	56	1.32	.66			
Master's	83	1.35	.59	2		
Master's Plus/Ed.S.	34	1.26	.67	170	.218	805
IEP Requirement						
Bachelor's	56	1.02	.75			
Master's	82	1.21	.68	2		
Master's Plus/Ed.S.	34	1.12	.84	169	1.101	335
Community/Parent Support						
Bachelor's	56	1.00	.66			
Master's	83	1.16	.61	2		
Master's Plus/Ed.S.	34	1.18	.76	170	1.160	316
Student Discipline						
Bachelor's	56	1.29	.71			
Master's	83	1.51	.57	2		
Master's Plus/Ed.S.	34	1.47	.66	170	2.106	.125

Table 36

Results of Hypotheses Testing for Child-Centered Instruction

by exposure to Multi-Age/Multi-Grade Experience on 11 Criterion Variables

Multi-age/Multi-Grade	n	M	SD	df	t	p
Actual Involvement						
Yes	53	1.57	.64			
No	173	1.55	.61	224	.174	.862
Ideal Involvement						
Yes	51	1.76	.51			
No	169	1.70	.52	218	.733	.465
Student Participation						
Yes	46	1.80	.40			
No	126	1.85	.36	170	.702	.483
Student Academic Success						
Yes	46	1.78	.42			
No	125	1.85	.36	169	1.008	.315
Training, Conference, Workshop						
Yes	46	1.50	.51			
No	126	1.48	.59	170	.243	.808
Encouragement from Administrator						
Yes	46	1.43	.72			
No	126	1.41	.61	170	.200	.842
Classroom Assistant						
Yes	46	1.07	.71			
No	126	.98	.76	170	.689	.492
Peer/Teacher Support						
Yes	46	1.26	.65			
No	126	1.34	.62	170	.742	.459
IEP Requirement						
Yes	46	1.17	.68			
No	125	1.11	.76	169	.484	.629
Community/Parent						
Yes	46	1.17	.64			
No	126	1.10	.66	170	.695	.488
Student Discipline						
Yes	46	1.41	.65			
No	126	1.44	.64	170	.212	.832

There is no statistically significant difference between working with multi-age students or not. As no statistically significant differences were found in all nine areas of assistance supporting sustained use of child-centered instruction, the hypothesis 40 failed to be rejected.

The following explains hypotheses testing results for child-centered instruction between school districts on 11 criterion variables.

H 5: There is no statistically significant difference between school districts in the use of the five areas of classroom innovation.

H 11: There is no statistically significant difference between school districts in the five areas of classroom innovation inclusion teachers would like to use.

The results of statistical testing on the criterion child-centered instruction based on school district are given in Table 37. As no statistical differences were found, both null hypotheses 5 and 11 failed to be rejected.

H 41: There is no statistically significant difference between school districts in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

The results of statistical testing on the criterion child-centered approach based on school district are given in Table 37. Except on encouragement from administrator, no statistically significant differences were found. On the item I found a statistically significant difference, I conducted a post hoc test of least significant difference. In encouragement from administrator the significant differences were found between Sullivan County and Kingsport City, between Sullivan County and Johnson City, and between Unicoi County and Sullivan County. The testing revealed that at the .05 probability level, null hypothesis 41 was rejected.

Table 37

Results of Hypotheses Testing for Child-Centered Instruction

between School Districts on 11 Criterion Variables

School District	n	M	SD	df	f	p
Actual Involvement						
Johnson City	96	1.55	.61			
Kingsport City	70	1.60	.57			
Sullivan County	32	1.34	.70	3		
Unicoi County	29	1.69	.60	223	1.856	.138
Ideal Involvement						
Johnson City	93	1.75	.50			
Kingsport City	69	1.72	.51			
Sullivan County	31	1.52	.63	3		
Unicoi County	28	1.82	.39	217	2.131	.097
Student Participation						
Johnson City	72	1.85	.36			
Kingsport City	58	1.83	.38			
Sullivan County	19	1.74	.45	3		
Unicoi County	24	1.92	.28	169	.866	.460
Student Academic Success						
Johnson City	71	1.80	.40			
Kingsport City	58	1.86	.35			
Sullivan County	19	1.74	.45	3		
Unicoi County	24	1.92	.28	168	1.082	.358
Training, Conference, Workshop						
Johnson City	72	1.56	.50			
Kingsport City	58	1.52	.54			
Sullivan County	19	1.26	.56	3		
Unicoi County	24	1.38	.77	169	1.729	.163

Table 37, continued

Encouragement from Administrator						
Johnson City	72	1.54	.60			
Kingsport City	58	1.41	.59			
Sullivan County	19	.95	.71	3		
Unicoi County	24	1.46	.66	169	4.645	.004*
Classroom Assistant						
Johnson City	72	.88	.71			
Kingsport City	58	1.12	.73			
Sullivan County	19	1.00	.82	3		
Unicoi County	24	1.08	.83	169	1.282	.282
Peer/Teacher Support						
Johnson City	72	1.28	.59			
Kingsport City	58	1.47	.60			
Sullivan County	19	1.26	.65	3		
Unicoi County	24	1.17	.76	169	1.693	.171
IEP Requirement						
Johnson City	72	1.07	.70			
Kingsport City	58	1.24	.78			
Sullivan County	19	1.16	.69	3		
Unicoi County	23	1.00	.80	168	.846	.471
Community/Parent Support						
Johnson City	72	1.06	.60			
Kingsport City	58	1.17	.65			
Sullivan County	19	1.00	.75	3		
Unicoi County	24	1.21	.78	169	.686	562
Student Discipline						
Johnson City	72	1.40	.64			
Kingsport City	58	1.47	.60			
Sullivan County	19	1.32	.67	3		
Unicoi County	24	1.50	.72	169	.396	.756

*significant at the .05 level

The following explains hypotheses testing results by years of involvement in the use of child-centered instruction on 11 criterion variables.

H 6: There is no statistically significant difference between years of involvement in the use of the five areas of classroom innovation.

The results of statistical testing on the criterion child-centered instruction are given in Table 38. The testing revealed that at the .05 probability level, the null hypothesis 6 was rejected.

H 12: There is no statistically significant difference between years of involvement in the five areas of classroom innovation inclusion teachers would like to use.

As no statistical difference was found between years of involvement, the null hypothesis 12 failed to be rejected.

H 42: There is no statistically significant difference between years of involvement in the nine areas of assistance supporting sustained use of Child-Centered Instruction.

The results of statistical testing on the criterion child-centered instruction based on years of involvement are given in Table 38. All but two areas of support showed a statistically significant difference. The only two areas of support that did not show a statistically significant difference were student academic success and encouragement from administrator. The testing revealed that at the .05 probability level, the null hypothesis 42 was rejected.

Table 38

Results of Hypotheses Testing by Years of Involvement

in the use of Child-Centered Instruction on 11 Criterion Variables

Years of Involvement	n	M	SD	df	t	p
Actual Involvement						
1 - 3	30	1.43	.50			
4 or more	174	1.71	.47	39	2.833	.007*
Ideal Involvement						
1 - 3	30	1.67	.48			
4 or more	172	1.81	.40	37	1.587	.121
Student Participation						
1 - 3	30	1.57	.50			
4 or more	173	1.84	.37	35	2.822	.008*
Student Academic Success						
1 - 3	30	1.50	.51			
4 or more	172	1.83	.38	35	3.411	.002*
Training, Conference, Workshop						
1 - 3	30	1.23	.68			
4 or more	173	1.49	.57	201	2.183	.030*
Encouragement from Administrator						
1 - 3	30	1.20	.66			
4 or more	173	1.42	.64	201	1.747	.082
Classroom Assistant						
1 - 3	30	.57	.57			
4 or more	173	1.00	.75	201	3.026	.003*
Peer/Teacher Support						
1 - 3	30	1.03	.67			
4 or more	173	1.32	.63	201	2.315	.022*
IEP Requirement						
1 - 3	30	.90	.80			
4 or more	172	1.13	.74	200	1.540	.125
Community/Parent Support						
1 - 3	30	.83	.65			
4 or more	173	1.11	.66	201	2.124	.035*
Student Discipline						
1 - 3	30	1.10	.61			
4 or more	173	1.43	.64	41	2.707	.010*

*significant at the .05 level

Open-Ended Response Question

Respondents were asked to respond to the following open-ended question: Are there any other areas or personnel you would consider to be of assistance? All responses are listed for each of the five methodologies.

1. Additional written responses for student assessment;

    State requirements for accountability

    Accuracy and feedback for me

    Title programs

    Resource teachers

    Students from area universities

    Staff development offerings

    All teachers need assistants

    Money to purchase portfolios

    Special education

    Speech

    Title I teachers

2. Additional written responses for alternative scheduling;

    Assistants

    Special education teachers

    Title I teachers

    Related arts teachers

3. Additional written responses for the thematic approach;

    Lunchroom staff

    Related arts teachers

    Assistants

    Money to purchase supplies

    Staff development

    Students from area universities

    Media specialist

    Technology Assistants

    Reference Materials

    Public and school librarian

    Student learning

4. Additional written responses for student use of technology;

    Technical support from central/maintenance

    At present time no technology available

    Students from area universities

    Staff development

    Computers in every class

    Title I teacher

    Use technology as a back up to reading

    We do not have enough training with technology

    No computer

5. Additional written responses for child-centered instruction:

Special education

Title I

Assistants

Material for hands-on reading

Money and transportation for trips

Students from area universities

Student learning (regardless of academic results)

A synthesis of these findings, conclusions, and recommendations is presented in

Chapter 5.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains a summary of findings from the <u>Classroom Strategies to Meet the Needs of All Students</u> survey. The recommendations and implications are based upon the analysis of data presented in Chapter 4 and the literature reviewed in Chapter 2

Summary

This study was concerned with the areas of support inclusion teachers believe assist their commitment to innovative methodology. An additional concern was the degree to which inclusion teachers are currently, and would ideally be involved with innovative methodology. Surveys (see Appendix A) were delivered to teachers in Unicoi County and Sullivan County as well as Johnson City and Kingsport City elementary schools. Of the 391 surveys distributed, 231 (59%) surveys were returned, from which the data for this study were analyzed.

The purpose of this study was to investigate the relationship between the independent variables of gender, age, degree earned, multi-age/multi-grade classrooms, districts, and years of involvement with a methodology and the dependant variables in five areas of methodology. The dependant variables were student participation, student academic success, training/conference/workshop, encouragement from administrator, classroom assistant, peer/teacher support, IEP requirement, community/parent support, and student discipline. The five areas of methodology were student assessment, alternative

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scheduling, the thematic approach, student use of technology, and child-centered instruction. The relationship between these variables was investigated by testing 42 null hypotheses. Other data collected from the survey compared the current and ideal degree of teacher involvement in each of the five methodologies.

Conclusions

The conclusions from this study pertain to public elementary schools in Unicoi County, Sullivan County, Johnson City, and Kingsport City elementary schools in the state of Tennessee.

All categories of teachers in all five methodologies, had a higher mean for ideal than actual involvement. As a whole, inclusion teachers would like to be more involved with the methodologies than they currently are. This disparity between actual and ideal involvement creates a potential for the continued use of alternative student assessment, alternative scheduling, the thematic approach, student use of technology, and child-centered instruction.

The literature emphasized teacher discontent with standardized testing. The mean of all categories of teachers for actual involvement with alternative assessment was 1.38 or higher. So, teachers are using alternative assessments. This could be in addition to standardized testing or as an alternative to it.

The area of alternative scheduling included the term block scheduling which may have been deceiving to some teachers. The literature review stated that block scheduling at the elementary level refers to the way services are scheduled so special needs students can be supported during longer periods of time in the general classroom activities. The schedule

was also considered one of the hardest things to change in education. Teachers may not be altering schedules or the terminology may have been misinterpreted. Unfortunately, this could also mean that teachers do not arrange their classes to accommodate special needs student's support services. This would result in a haphazard, less than ideal schedule for the special needs student.

Chapter 2 stressed student participation and student academic success as components of the thematic approach, student use of technology and child-centered instruction. Teachers rated student participation and academic success within the top four highest areas of assistance in all three methodologies. In fact, student participation was rated above average for all three instructional methods in all categories by respondents, but this was not the case for student assessment or alternative scheduling. Everyone likes to be rewarded. Teachers probably receive more positive reinforcement when their students are active participants and academically successful. Therefore, these areas of assistance can be of more importance at all times not just in their commitment to a methodology.

In general, across all results, classroom assistant, IEP requirement, and community/parent support did not rate very high by comparison to the other six areas of support. Of the possible 255 means 144 or 56% were less than average. This could be due to classroom assistants being assigned to clerical work. However, the additional written responses of (a) all teachers need assistants, (b) technology assistants, (c) students from area universities, and (d) assistants indicate that assistants may not be available at all. The regular classroom teacher may actually consider the IEP requirements a hindrance because of the time and work required to implement them. Communication with community/parent could be perceived as stressful and therefore avoided.

Teachers with four or more years of involvement in student assessment, student use of technology and child-centered instruction rated student participation statistically higher in assistance than teachers with one to three years of involvement. One of the main reasons special needs students are included in the regular classroom is to provide interaction with peers. Teachers must see this reason as a worthwhile goal for all students. So, student participation should be considered a support to be reinforced, if it is desirable to sustain any of these three methodologies. For special education personnel this is especially pleasing.

Some literature found professional development to be less effective for teachers who have acquired tenure. Yet, according to this study, teachers sustaining innovation rated training/conference/workshops statistically higher in every methodology except student use of technology. The teachers who indicate professional development is of assistance prove that it is, by sustaining innovation. Teacher expectations enhance the effectiveness of professional development. Statistically significant differences for training/conference/workshop in demographics occurred between districts and gender. Financial constraints could account for the differences between districts. Male teachers indicate training/conference/workshops to be of less assistance in student use of technology. Male teachers are the minority in elementary schools. In their own classrooms comfort and security can be maintained. However, their minority status is enhanced at gatherings of elementary teachers. This could cause discomfort and insecurity that would tend to be avoided. Therefore, males may not take advantage of the opportunity to attend the training/conference/workshops.

The literature emphasized the first two years of a teacher's career as crucial for pedagogical learning. The choice of strategies and techniques originate in the college years and as teachers gain years of experience and tenure, they often place no emphasis on growing professionally. This study proved otherwise. In the state of Tennessee tenure is granted upon being rehired after the third year of probationary teaching. In all methodologies except student use of technology, there is a statistically significant difference between the sample means of teachers who have been involved with an innovation for four years or more and those with only one to three years of involvement for training/conference/workshop. Therefore, teachers perceive professional growth to be of assistance beyond their first two years and acquisition of tenure. The public demand for excellence in schools has created pressure for teachers to meet higher expectations of student success. Community pressure translates into administrative pressure on teachers to continually strive to meet the needs of students through professional growth opportunities.

According to the literature, without the backing of administrators and colleagues few teachers will take the risks to implement change. In all five methodologies teachers beginning to implement an innovation (1-3 years of involvement), rated both encouragement from administrator and peer/teacher support at 1.00 or higher. Encouragement from administrators and peer teachers is of assistance to teachers' commitment to an innovation. In addition, with the single exception of peer/teacher support for child-centered instruction, there are no significant differences in encouragement from administrators or peer/teacher support between those just beginning to implement an innovation and those sustaining it. In child-centered instruction teachers

must rely upon student feedback to properly implement instruction. Student support is of more assistance than peer/teacher support for this methodology.

Data results from teachers sustaining (4+ years of involvement), child-centered instruction showed the largest number of statistically significant differences in the degree to which the areas of assistance supported their commitment to an innovation. The only two areas that did not have a significant difference were encouragement from administrator and IEP requirement. Administrators may equitably encourage all teachers and the components of child-centered instruction require similar student involvement to many IEP requirements. Therefore, the IEP requirements may not be seen as a support. Child-centered instruction requires such a commitment to the subjectivity of the learner that other areas of assistance and support take on less importance.

Sustaining an innovation is possible with appropriate support to our teachers. Inclusion teachers who are sustaining an innovative methodology rated the following areas of assistance above 1.00. The data revealed that in all five areas of innovative methodology teachers indicate that student participation, student academic success, training/conference workshop, encouragement from administrators, peer/teacher support, and student discipline assist their commitment to sustaining the innovation. Teachers sustaining student assessment, alternative scheduling, and child-centered instruction also indicate the IEP requirement assists their commitment. Only in student use of technology and child-centered instruction do teachers indicate that community/parent support is of assistance in their commitment to sustaining an innovation. No teachers sustaining an innovative methodology rated the classroom assistant, volunteer, or staff above the 1.00

level. Innovations will make reform possible and enable our schools to meet the needs of the 21st century students.

Recommendations

1. The difference between actual and ideal involvement in the methodologies represents untapped potential. It is to the benefit of American educational reform to exploit the potential of its teachers. The areas of assistance found to be of support to teachers in their commitment to innovation (those rated over 1.00) should be reinforced.

2. Further study should be conducted to see if the low use of alternative scheduling is due to misinterpretation of the term block scheduling, or if inclusion teachers are not altering schedules to provide time for services that support special needs students.

3. Professional development needs a new image. Teachers need to be convinced of the effectiveness of training/conference/workshops. Central office public relations departments should work in conjunction with curriculum and staff development departments. Because the Upper East Tennessee Education Council sponsors professional development opportunities locally, they should employ salability tactics.

4. Teachers are capable of growing professionally throughout their career. When innovations are implemented in a school or system, professional development for that innovation needs to remain available for at least four years.

5. Administrators need to consider the male as a minority and implement professional development opportunities so that men will not feel insecure attending them.

6. Further study should be conducted to determine what caused low ratings on classroom assistants in all five methodologies. Administrators should evaluate how assistants are being used within the school.

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APPENDICES

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APPENDIX A

SURVEY INSTRUMENT

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CLASSROOM STRATEGIES TO MEET THE NEEDS OF ALL STUDENTS

This is part of a doctoral study to gather information from teachers. The results will be compiled without identification so all responses will be kept anonymous. Numbered envelopes are used to identify who has returned their survey. This is to assist in the retrieval of surveys only.

INSTRUCTIONS: Please mark the most appropriate response. Please answer all questions and return the survey in the self addressed, stamped envelope provided.

PLEASE PLACE A CHECK IN THE BLANK SPACE AT THE MOST APPROPRIATE ANSWER FOR EACH QUESTION.

1. Gender
   1) ___ Male   2) ___ Female

2. Age
   1) ___ 20-29
   2) ___ 30-39
   3) ___ 40-49
   4) ___ 50-59
   5) ___ 60-69

3. Highest Degree Earned
   1) ___ Bachelors
   2) ___ Master's
   3) ___ Master's+
   4) ___ Ed.S
   5) ___ Doctorate

4. Total years of experience in teaching including this year
   ___ years

5. Total years of experience at your present school including this year.   ___ years

6 Are you working with multi-age/multi-grade children?
   1) ___ Yes   2) ___ No

7. Which of the following school districts do you work for?
   1) ___ Johnson City
   2) ___ Kingsport City
   3) ___ Sullivan County
   4) ___ Unicoi County

(A) STUDENT ASSESSMENT INCLUDES THE AREAS SUCH AS AUTHENTIC ASSESSMENT, ALTERNATIVE ASSESSMENT, PORTFOLIO ASSESSMENT OR PERFORMANCE ASSESSMENT.
1. How many years have you been involved with Student Assessment including this year? ___Years

PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR INVOLVEMENT.	0 NO INVOLVEMENT	1 SOME INVOLVEMENT	2 FULL INVOLVEMENT
2. To what degree are you involved in using Student Assessment?	0	1	2
3. To what degree would you like to be involved in Student Assessment?	0	1	2

PLEASE CIRCLE ONE RESPONSE FOR EACH STATEMENT. TO WHAT DEGREE HAS EACH AREA ASSISTED YOUR COMMITMENT TO STUDENT ASSESSMENT?

4. Student Participation	0	1	2
5. Student Academic Success	0	1	
6. Training/Conference/Workshop	0	1	
7. Encouragement from Administrator	0	1	2
8. Classroom Assistant (Volunteer/Staff)	0	1	2
9. Peer/Teacher Support	0	1	2
10. IEP Requirement	0	1	2
11. Community/Parent Support	0	1	2
12. Student Discipline	0	1	2

Are there any other areas or personnel you would consider to be of assistance?
13._____

(B) ALTERNATIVE SCHEDULING INCLUDES BLOCK SCHEDULING OR CREATIVE SCHEDULING.
1.How many years have you been involved with Alternative Scheduling including this year?
____ years.

PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR INVOLVEMENT.	0 NO INVOLVEMENT	1 SOME INVOLVEMENT	2 FULL INVOLVEMENT
2. To what degree are you involved in using Alternative Scheduling?	0	1	2
3. To what degree would you like to be involved in Alternative Scheduling?	0	1	2

PLEASE CIRCLE ONE RESPONSE FOR EACH STATEMENT. TO WHAT DEGREE HAS EACH AREA ASSISTED YOUR COMMITMENT TO ALTERNATIVE SCHEDULING?

4. Student Participation	0	1	2
5 Student Academic Success	0	1	2
6. Training/Conference/Workshop	0	1	2
7. Encouragement from Administrator	0	1	2
8. Classroom Assistant (Volunteer/Staff)	0	1	2
9. Peer/Teacher Support	0	1	2
10. IEP Requirement	0	1	2
11. Community/Parent Support	0	1	2
12. Student Discipline	0	1	2

Are there any other areas or personnel you would consider to be of assistance?
13._____

(C) THEMATIC APPROACH INCLUDES WHOLE LANGUAGE OR UNIT APPROACH.
1. How many years have you been involved with the Thematic Approach including this year?
___ years.

PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR INVOLVEMENT.	0 NO INVOLVEMENT	1 SOME INVOLVEMENT	2 FULL INVOLVEMENT
2. To what degree are you involved in using the Thematic Approach?	0	1	2
3. To what degree would you like to be involved in the Thematic Approach?	0	1	2

PLEASE CIRCLE ONE RESPONSE FOR EACH
STATEMENT. TO WHAT DEGREE HAS EACH
AREA ASSISTED YOUR COMMITMENT TO
THE THEMATIC APPROACH?

4. Student Participation	0	1	2
5. Student Academic Success	0	1	2
6. Training/Conference/Workshop	0	1	2
7. Encouragement from Administrator	0	1	2
8. Classroom Assistant (Volunteer/Staff)	0	1	2
9. Peer/Teacher Support	0	1	2
10. IEP Requirement	0	1	2
11 Community/Parent Support	0	1	2
12 Student Discipline	0	1	2

Are there any other areas or personnel you would consider to be of assistance?
13. _____

(D) STUDENT USE OF TECHNOLOGY.
1. How many years have you been involved with Student use of Technology including this year?
___ years.

PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR INVOLVEMENT.	0 NO INVOLVEMENT	1 SOME INVOLVEMENT	2 FULL INVOLVEMENT
2. To what degree are you involved in using Student use of Technology?	0	1	2
3. To what degree would you like to be involved in Student use of Technology?	0	1	2

PLEASE CIRCLE ONE RESPONSE FOR EACH
STATEMENT. TO WHAT DEGREE HAS EACH
AREA ASSISTED YOUR COMMITMENT TO
STUDENT USE OF TECHNOLOGY?

4. Student Participation	0	1	
5. Student Academic Success	0	1	2
6. Training/Conference/Workshop	0	1	2
7. Encouragement from Administrator	0	1	2
8. Classroom Assistant (Volunteer/Staff)	0	1	2
9 Peer/Teacher Support	0	1	
10. IEP Requirement	0	1	2
11. Community/Parent Support	0	1	2
12. Student Discipline	0	1	2

Are there any other areas or personnel you would consider to be of assistance?
13. _____ PLEASE TURN OVER

(E) CHILD CENTERED INSTRUCTION INCLUDES STANDARDS BASED INSTRUCTION, CONSTRUCTIVIST APPROACH, INDEPENDENT LEARNER, OR TEACHER GUIDED CURRICULUM.

1.How many years have you been involved with Child Centered Instruction including this year?
_____ years.

PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR INVOLVEMENT.	0 NO INVOLVEMENT	1 SOME INVOLVEMENT	2 FULL INVOLVEMENT
2. To what degree are you involved in using Child Centered Instruction?	0	1	2
3. To what degree would you like to be involved in Child Centered Instruction?	0	1	2

PLEASE CIRCLE ONE RESPONSE FOR EACH STATEMENT. TO WHAT DEGREE HAS EACH AREA ASSISTED YOUR COMMITMENT TO CHILD CENTERED INSTRUCTION?

4. Student Participation	0	1	2
5. Student Academic Success	0	1	2
6. Training/Conference/Workshop	0	1	2
7. Encouragement from Administrator	0	1	2
8. Classroom Assistant (Volunteer/Staff)	0	1	2
9. Peer/Teacher Support	0	1	2
10. IEP Requirement	0	1	2
11 Community/Parent Support	0	1	2
12. Student Discipline	0	1	2

Are there any other areas or personnel you would consider to be of assistance?
13._____

THANK YOU SO MUCH FOR YOUR TIME. PLEASE PLACE YOUR COMPLETED SURVEY IN THE ATTACHED SELF ADDRESSED, STAMPED ENVELOPE. FOR EACH SURVEY RETURNED BY _____ I WILL DONATE ONE DOLLAR TO THE RONALD McDONALD CHARITIES.

THANKS AGAIN,
LAURA JEAN SWITZER

APPENDIX B

FORMS AND LETTERS

3913 Cherokee Road   January 5, 1999
Jonesborough, TN 37659

Dear_____,

    I am currently conducting doctoral dissertation research through East Tennessee State University. My chair person is Dr. Donn Gresso. My study involves inclusion teachers and their commitment to innovation. Your district was selected to be part of this study.

    I would like to survey inclusion teachers in your elementary schools. This would only take about 10 minutes of their time and for each survey returned prior to my deadline one dollar will be donated to Ronald McDonald Charities. A copy of my survey is enclosed. I would like to deliver these to your principals for distribution. I plan to ask principals for a list of classroom teachers from which I will choose my sample. All information will be confidential.

    If you have any questions, please call me at 423-753-9408. I would appreciate your approval in writing and mailed to the address above. A self-addressed, stamped envelope is enclosed. Thank you so much for your time and assistance.

Respectfully,

Laura J. Switzer
Doctoral Student

Enclosure

3913 Cherokee Road   January __, 1999
Jonesborough, TN 37659

Dear Colleague,

As a fellow teacher I recognize how valuable your time is. I would appreciate your response to this 10 minute survey. I am a teacher in the Johnson City School System, and I am interested in how teachers meet the special needs of all students in their regular classroom. My doctoral research will survey you and other teachers from Upper East Tennessee to learn more about your involvement in innovative methodology.

Please fill out and return the enclosed survey in the self-addressed, stamped envelope. This should take about 10 minutes of your time. Your responses on the survey will remain confidential.

Thank you so much for your assistance in this research. For each survey returned by _____, 1999 I will donate one dollar to the Ronald McDonald Charities. I will make the results available if you wish to contact me at (423-753-9408) or 3913 Cherokee Rd. Jonesborough, TN 37659.

Sincerely,

Laura J. Switzer
Doctoral Student

Enclosure

3913 Cherokee Road   January ___, 1999
Jonesborough, TN 37659

Dear_____,

    I am currently conducting doctoral dissertation research through East Tennessee State University. My study involves inclusion teachers and their commitment to innovation. Enclosed you will find a copy of my permission from Dr._____to continue with my study.

    I would like to survey inclusion teachers in your school. This would only take about 10 minutes of their time and for each survey returned prior to my deadline one dollar will be given to Ronald McDonald Charities. A copy of my survey is enclosed. All information will be kept confidential.

    Thank you so much for your assistance in this research. I will make the results available if you wish to contact me at   (423-753-9408) or 3913 Cherokee Road, Jonesborough, TN 37659.

Respectfully,

Laura J. Switzer
Doctoral Student

Enclosure

_____ YES, I GIVE PERMISSION TO LAURA SWITZER TO SURVEY ELEMENTARY

TEACHERS IN (District).

_____ NO, I DO NOT GIVE PERMISSION TO LAURA SWITZER TO SURVEY

ELEMENTARY TEACHERS IN (DISTRICT).

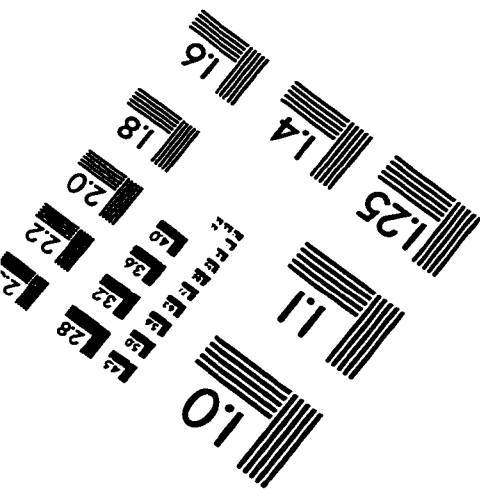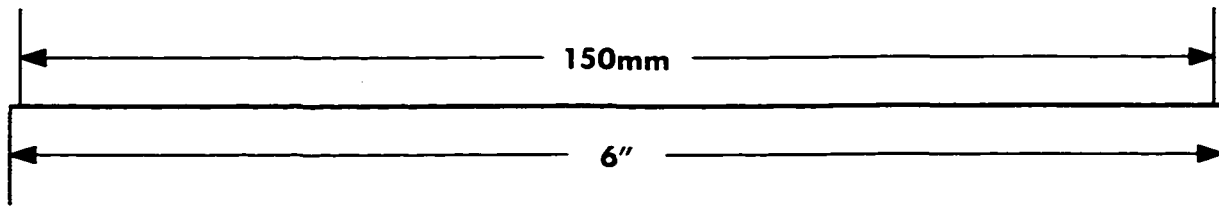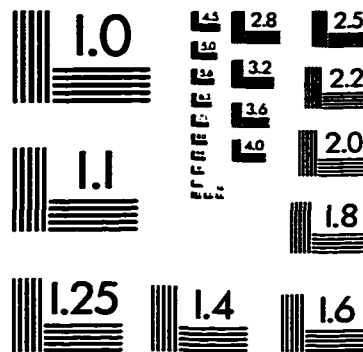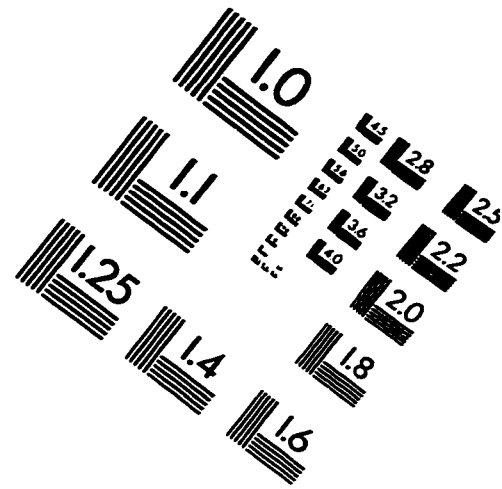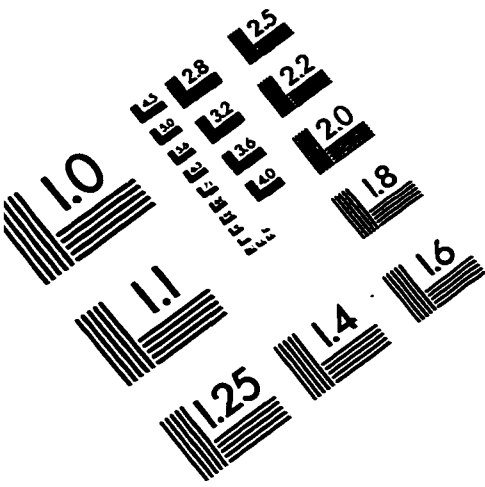SUPERINTENDENT/DIRECTOR OF SCHOOLS

I would like to survey the following schools. Does each school practice inclusion within the regular classroom?

	YES	NO
School Name	___	___
School Name	___	___
School Name	___	___
School Name	___	___

VITA

Laura J. Switzer

Personal Data:	Place of Birth: Ashland, Ohio

Education:	Kent State University, Kent, Ohio
	   B. S., 1983
	East Tennessee State University, Johnson
	   City, Tennessee, M. Ed. 1995
	East Tennessee State University, Johnson
	   City, Tennessee, Ed. D. 1999

Professional Experience:	Teacher, Morrison Schools, Johnson City,
	   Tennessee, 1983-1985
	Teacher, Johnson County School System,
	   Mountain City, Tennessee, 1985-1987
	Teacher, Johnson City School System,
	   Johnson City, Tennessee, 1987-Present

Professional Memberships:	Phi Delta Kappa East Tennessee State
	   University, Johnson City, Tennessee
	Association for Supervision and
	   Curriculum Development
	Johnson City Education Association
	National Education Association

IMAGE EVALUATION
TEST TARGET (QA-3)

150mm

6"