Instructional Practices and Attitudes of Teachers in One- and Two-Room Schools in the Seventh-day Adventist School System in North America

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Andrews University
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INSTRUCTIONAL PRACTICES AND ATTITUDES OF TEACHERS
IN ONE- AND TWO-ROOM SCHOOLS IN THE
SEVENTH-DAY ADVENTIST SCHOOL SYSTEM
IN NORTH AMERICA

A Dissertation
Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

by
Judith Leist Anderson

May 1996
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APPROVAL BY THE COMMITTEE:

[Signatures]

Chair: Jimmy Kjai
Member: Bill Green
Member: Ray Ostrander

Dean, School of Education
Date approved: May 30, 1996

Program Director

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ABSTRACT

INSTRUCTIONAL PRACTICES AND ATTITUDES OF TEACHERS IN ONE- AND TWO-ROOM SCHOOLS IN THE SEVENTH-DAY ADVENTIST SCHOOL SYSTEM IN NORTH AMERICA

by

Judith Leist Anderson

Chair: Jimmy Kijai
ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University
School of Education

Title: INSTRUCTIONAL PRACTICES AND ATTITUDES OF TEACHERS IN ONE- AND TWO-ROOM SCHOOLS IN THE SEVENTH-DAY ADVENTIST SCHOOL SYSTEM IN NORTH AMERICA

Name of researcher: Judith Leist Anderson

Name and degree of faculty chair: Jimmy Kijai, Ph.D.

Date completed: May 1996

Problem

This study examines the instructional practices, perceptions, and attitudes of multi-grade teachers in one- and two-room schools in the Seventh-day Adventist educational system.

Method

The researcher developed a survey and mailed it to a randomly selected stratified sample of 500 teachers in one- and two-room schools in the Seventh-day Adventist educational system in the United States and Canada. Two hundred eighty surveys were returned; 276 were
used in the data analysis. Descriptive statistics give a demographic picture of these teachers—the practices used, their perceived levels of expertise, methods of grouping students for instruction, and their assessment of multi-grade students' cognitive and psycho-social development in comparison to single-grade peers. Qualitative questions were asked concerning what teachers liked and disliked about teaching in the multi-grade room, what would strengthen their multi-grade teaching, and whether or not they would choose to stay in the multi-grade room if they had the opportunity to teach a single-grade class. Data from two sub-groups who were either very satisfied with multi-grade teaching or who were very dissatisfied were compared.

Results

1. Individualized and small group instruction were strategies multi-grade teachers reported using most; learning centers, computer instruction, and portfolio assessment were used the least.

2. Less than 20% of the teachers responding to the survey considered practices specific to certain subject areas essential to their multi-grade program.

3. Few teachers reported grouping across grade levels for instruction.

4. The two most frequently stated reasons for use of a practice were “effective for multi-grade” and “it fits my teaching style.”

5. Most teachers rated the psycho-social development of multi-grade students “superior” and their cognitive development “comparable” to the psycho-social and cognitive development of single-grade peers.
6. Multi-grade teachers appreciated their autonomy; they were troubled by the workload and the isolation.

7. Teachers indicated that training and curriculum materials specific to multi-grade needs would strengthen their multi-grade teaching.

8. About 50% of the teachers indicated they would prefer to teach in a single-grade classroom if it were offered, about 30% would consider the offer, and about 20% would prefer to stay in a multi-grade classroom.

Conclusions

Most multi-grade teachers would prefer to teach in a single-grade classroom. They need training in methods for organizing multi-grade curriculum and using instructional practices valuable for the multi-grade classroom. They need stronger support from pastors, parents, boards, and conference personnel.

Those teachers who are most satisfied with their multi-grade assignments indicate higher levels of use and expertise in instructional practices effective for multi-grade teaching and are more likely to group grade levels for instruction.
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CHAPTER ONE

INTRODUCTION

Introduction

Although the number of one- and two-room schools in this country's educational system has dwindled dramatically in the past several decades (Horn, 1983) in the Seventh-day Adventist parochial system, such schools account for more than 600 of 787 kindergarten-through-eighth-grade (K-8) schools located in the United States and Canada. (NAD Annual Report, 1994).

Seventh-day Adventist education began in 1853 with a five-family school that met in a private home in Bucks Bridge, New York. The first denominationally sponsored elementary school opened its doors almost 20 years later, in 1872, in Battle Creek, Michigan. Two years later, a college was founded on the same site. In 1902, the world church headquarters organized a Department of Education, and by the close of the decade the denomination had established more than 300 Seventh-day Adventist schools worldwide. By 1981, this international educational system included 4,127 elementary schools, 806 secondary schools, and 76 colleges and universities, with a total student population of 644,567 (Knight, 1983).

The primary purpose of early Seventh-day Adventist educators was to provide vocational training for the young and to introduce them to the nature of the universe, of humankind, and of values; they also provided for students' intellectual and academic
development (Knight, 1983). As a result, the curriculum reflected a strong balance between the temporal and the spiritual.

The main headquarters (the General Conference) for the Seventh-day Adventist school system is in Washington, D.C. The General Conference is divided into divisions, which in turn are composed of various countries. The North American Division (NAD) includes the United States and Canada. Within this division are nine unions, each of which is divided into conferences. Individual K-12 schools are administratively responsible to the conference level at each Office of Education. The accountability structure to higher organization can be illustrated as shown in Fig. 1.

The denomination's original educational philosophy— to develop the whole person— was scripturally based and continues to be so today. Students are entrusted to the system for the reinforcement of habits that contribute to a healthful lifestyle, for spiritual nurturing, and for educational excellence. The church has set several specific religious goals: developing spiritual sensitivity, promoting active church membership, and encouraging the internalization of Seventh-day Adventist doctrine. A strong emphasis is also placed on service (NAD Education Code K-12, 1980).

To support the denomination's philosophy, Seventh-day Adventists are urged to educate their children within the church structure. Indeed, the church school is seen as part of the denomination's evangelistic outreach program (Minder, 1985), so congregations with as few as six school-age children and with adequate financial support may establish schools. As a result, of the 1,050 K-12 schools in the NAD, 402 have one teacher, 218 have two
Fig. 1. Organizational structure of the North American Division educational system.
teachers, 121 have three teachers, and 353 have four or more teachers. Of the 787 K-8 schools, 402—more than half—are one-teacher schools (NAD Annual Report, 1994). The reality of these demographics provides the North American Division Education Department with several challenges and opportunities.

In recent years, the NAD has expended financial and human resources in the development of several multi-grade curricula. In addition, the system has provided teacher training, classroom materials, and funds to enhance the learning climates of multi-grade teachers and their students. For example, the denomination has developed a guidebook for small schools, textbook-correlation charts, and plans for combining content and grade levels in several subject areas—all of which teachers consider helpful when dealing with two or more distinct grade in one classroom (Brantley, 1993).

However, many multi-grade teachers still express several concerns and needs. Among these are such elements of curriculum management as scheduling, grouping students, and organizing time to "cover" the required content and to meet the individual needs of students in several grades. These teachers cope with a dearth of reference materials, curriculum helps, staff support, and money. They deal with overcoming a general lack of awareness of current instructional practices combined with the lack of time or opportunity to receive adequate training to implement them. In addition, because they are coping with groups of students divided into several grade levels, more than a few multi-grade teachers feel overwhelmed and isolated, and they manifest symptoms of burnout (Brantley, 1993; Kijai & Totten, 1995).
Rationale

In the public sector, recent educational trends show a renewed interest in the concept of grouping students of several ages together for instruction. Some educators appreciate the strengths of multi-age grouping as a structure that supports and enhances a philosophy of child-centered learning better than does multi-grade grouping. In multi-age classrooms, students of several ages learn in an interactive environment that ignore the typical—and somewhat arbitrary—grade-level system. Recent literature on multi-age classrooms is replete with recommended practices, scheduling suggestions, and organizational ideas. Several instructional practices have been identified by educators and researchers as developmentally appropriate and particularly effective for supporting the philosophy of multi-age education. Fogarty (1982), Grant and Johnson (1995), Miller (1994), The Society for Developmental Education (1994, 1995), and others list classroom frameworks such as cooperative learning, flexible grouping, peer-tutoring, learning centers, theme teaching, authentic assessment, and the integration of content or grade levels, or both. They recommend language-arts strategies such as the process approach to teaching writing skills, literature-based reading instruction, shared reading and writing, and temporary (invented) spelling. They also support using manipulatives to teach math, hands-on activities to teach science, and training students in problem-solving and conflict-resolution skills. The responses from teachers in these settings seem to be mostly positive. Several teachers who I observed and talked with acknowledged that it was “the hardest teaching they had ever done but they still loved it,” and most believed that their students’ growth and learning were improved.

The multi-age approach has taken hold so strongly that several states and Canadian
provinces are encouraging schools to use this type of grouping, and are, in some areas, requiring the practice for primary-age programs. School systems are moving so fast to adopt the multi-age approach that multi-age proponents have begun to warn against doing too much too soon; support, resources, and training must be built into the change.

In contrast, the multi-grade classroom seems to represent an educational dilemma hovering around the fringes of academia—with too few resources, little (if any) site-specific teacher training or opportunity for pre-service experience, and limited research results to guide the practitioner in what works.

Perhaps multi-grade teachers should be trained in the practices being used in multi-age classes and implement them. Many of these practices are well established as powerful learning tools in any classroom, and the research suggests that several are being used in multi-grade classes. However, several important differences between multi-grade and multi-age classrooms must be noted: the rationales for their development, the issue of "choice,” and the multi-age philosophy.

Multi-age classrooms are developed purposefully because the educators involved believe this learning environment provides the best and most appropriate one for children. “Choice” is considered crucial for success—multi-age classrooms are generally taught by teachers and attended by students who choose to teach and learn in this educational setting. And, finally, the multi-age philosophy of developmentally appropriate education for every child includes continuous progress, eliminating grade distinctions and labels, and using forms of assessment that are more authentic than giving “grades.” This philosophy makes it easier and more acceptable for teachers to pull away from the separate
grades/separate curriculum/separate standards lock-stepped program of the traditional classroom.

The multi-grade classroom lacks many of the philosophical and psychological advantages of the multi-age classroom. Multi-grade classrooms are organized for two primary administrative purposes: to balance unequal teacher loads and fluctuating enrollment patterns, and to accommodate spatial needs and budgetary constraints. Some schools try to place the more independent learners in the multi-grade rooms and build a fairly balanced class mix, but teachers and students often have little choice in the process.

In the small one- or two-room school, even these options are not possible. Also, the philosophy of the traditional classroom that forces teachers to feel pressured to teach each subject to each grade and to "cover all the material" is often imposed on multi-grade classrooms.

The research on multi-grade education is limited. The studies that have been conducted focus on student outcomes and the results are as mixed as the studies. Perhaps an accurate synthesis of the data is that multi-grade classrooms can be as effective for cognitive growth as the single-grade classroom and that it may provide some advantages in the affective domain. Studies that focus on teaching practices and teacher attitudes are relatively few, though the literature that is available stresses the importance of pedagogy and organization.

Thomas and Shaw (1992) regard pedagogical techniques and outcomes as the core of multi-grade teaching. In their World Bank Technical Paper, they suggest that multi-grade instruction is a reality in many countries of the world, and stress the need for teachers to adopt effective teaching practices.
Grouping students and content for multi-grade instruction is another important area of investigation. Cobham's (1992) purpose for her qualitative study of seven combined classrooms in Jackson County was to describe how teachers organized multi-grade classrooms for instruction and to discover the factors that contributed to a positive feeling about teaching in these classrooms. Cobham found that the major organizational decision of each of the multi-grade teachers whom she observed and interviewed was when and how to combine instruction. She also discovered that their approaches for combining grades could best be described as a continuum ranging from total segregation of grades, both instructional and physically, to the complete instructional and physical integration of grades.

One of the grouping issues that NAD small-schools teachers often address is how to individualize instruction for each student while simultaneously attempting to teach to the whole group. Good and Brophy (1991) do not recommend the use of individualized instruction if it means that students will “spend most of their time working on their own trying to learn from curriculum materials” (p. 349). Miller (1991) recommends that teachers combine grades and use whole-class instruction whenever possible. Several other researchers (Anderson, 1992; Fogarty, 1982; Gaustad, 1995) recommend that teachers individualize and combine instruction by using divergent approaches to introduce lessons, than use individualized instruction to teach the more discrete skills and tasks.

The final issue is that of teachers' attitudes toward their multi-grade-classroom teaching assignments. A review of the literature shows that most teachers state a preference for teaching in a single-grade classroom. They are dissatisfied with multi-grade teaching because of the increased work load, the lack of built-in planning time, the need
for more curriculum materials and administrative support, inadequate pre-service or
inservice training, and feelings of isolation and neglect (Brown & Martin, 1989; Gayfer,
1991; Marzoff, 1978; Miller, 1989; Strauber, 1985).

Not all teachers feel negatively about multi-grade classrooms, however. In their
study of multi-grade classrooms in Saskatchewan, Gajadharsingh and Bany (1984)
discovered that, in general, most teachers who volunteered to teach in a multi-grade room
did so because they had had previous experience in this type of class and had found it to
be more enjoyable, challenging, and rewarding than teaching in a single-grade class.
Several teachers clearly stated that they felt they were more effective as teachers in a
multi-grade setting.

What makes the difference for those teachers who really enjoy multi-grade
teaching? Cobham (1992) found that the teachers who were the most satisfied with their
multi-grade classroom experience were also the most satisfied with their instructional
organization. Veenman et al’s (1987) study of 12 Dutch primary schools in the
Netherlands showed that teachers regarded their combination classrooms as difficult. It
should be noted, however, that most of these teachers approached their instructional task
as though they were teaching separate classes, each of which had to receive separate
instruction.

Although research has been conducted with NAD teachers on a variety of
curriculum and instruction questions, issues, and concerns; to this date no known research
has examined the practices teachers use, why, and how they feel about their teaching.

When research has been conducted, Cuban (1988) has suggested that too often
educational reformers have asked the wrong question: How should teachers teach?
Rather, researchers should ask, How do teachers teach, and why? (p. 343). The intent of this study is to begin to ask these questions of multi-grade teachers in the Seventh-day Adventist system in North America.

**Statement of the Problem**

This study examines the instructional practices and attitudes of teachers in one- and two-room schools in the North American Division of Seventh-day Adventists. Specifically, the study addresses the following questions:

1. What instructional practices are used by multi-grade teachers in the NAD?
2. Why do these teachers use (or not use) certain instructional practices?
3. What attitudes do these multi-grade teachers hold toward their teaching assignments?
4. Is there a relationship between the attitudes of multi-grade teachers toward their teaching assignments and the instructional practices that they use?

**Significance of the Study**

This study attempts to identify and describe the instructional practices used by multi-grade teachers teaching in Seventh-day Adventist Schools of the North American Division, and to describe the attitudes of these teachers toward their multi-grade teaching assignments. The research provides needed information about how the curriculum is implemented in multi-grade classrooms and investigates the relationship between teacher attitudes and the instructional practices that they use.

Research studies about teacher practices in multi-grade instruction are relatively scarce; however, nearly all are in agreement that there must be a focus on improved
pedagogical techniques if multi-grade schools are to perform to the highest level of their potential (Gaustad, 1992; Miller, 1991; Thomas & Shaw, 1992). Data collected during this study provides evidence about the strength of the relationship between teachers' attitudes and their choice of instructional practices. Because how teachers feel about their teaching experiences is a contributing factor to their teaching effectiveness (Gajadharsingh & Bany, 1984; Thomas & Shaw, 1992), ascertaining that specific practices improve teachers' comfort levels in the multi-grade classroom will be a valuable outcome. The knowledge of this relationship will be helpful to providers of teacher-education programs for pre-service and inservice training.

The findings of this study will also be useful for those who develop and make decisions regarding the development, who makes decisions regarding the adoption of multi-grade materials, or who do both. This information can contribute to the knowledge base needed for considering policy about the organizational, instructional, and curricular needs of the teachers of multi-grade classrooms and other resources and training necessary to increase effectiveness and feelings of support.

**Conceptual Framework**

Classroom teaching is a complex phenomenon with relationships and interactions that are cyclical, recursive, and difficult to place in neat cause-and-effect organizers. The factors affecting the learning outcomes of students, including the effect of teacher behavior, have been examined from many perspectives, but there is little available literature that focuses on the "why" of teacher behavior (Anderson, 1987; Bellack, Kliebard, & Smith, 1966; Nuthall & Church, 1973; Stolodotsky, 1988).
Fullan and Miles (1992) state that researchers who study schools and staff development must think and act more holistically about the personal and professional lives of teachers as individuals. These researchers have found a high correlation between the teachers' psychological state and their level of use of new strategies. Indeed, the teacher "as the change agent" is the most critical feature of the classroom (Fullan & Miles, 1992). It seems that if we are interested in studying classrooms or in effecting educational change, then why teachers do what they do, how they feel about what they do, and how all these factors relate and interrelate are valuable points to consider.

This conceptual framework attempts to explain the "main dimensions to be studied and the presumed relationships among them" (Miles & Huberman, 1984, p. 28). These dimensions are teacher practices/behaviors, teacher attitudes and beliefs, environment/setting, and student outcomes. Figure 2 illustrates the relationships between these dimensions and the factors that affect them. (Although the dimension called student outcomes is included in the model, it is not addressed in this study beyond a discussion in Chapter 2 of the research on multi-grade classrooms and student growth.)

The factors that affect teacher practices and teacher attitudes are as complex and interrelated as the relationship between these practices and attitudes. What teachers believe about children and learning, about the role of the school, and about their own roles in the classroom affect their behavior and teaching style (Bussis, Chittendon, & Amarel, 1976; McDonald & Elias, 1975-1976). In fact, Chiarelott, Davidman, and
Fig. 2. Relationships among teacher practices, attitudes, environment, and student outcomes.
and Ryan (1990) expanded on the idea of teaching style and suggested that it is an extension of teacher personality: their expectations, goals, values, attitudes, idiosyncrasies, dreams, and so forth. They viewed becoming a teacher as a career-long process.

The impact of teaching practice on teacher attitude is suggested by several multi-grade studies. Both Cobham (1992) and Delforge and Delforge (1990) found that teachers who combined grades for instruction rather than tried to maintain grade-level distinctions were generally more positive about teaching in the multi-grade setting than were teachers who did not follow this practice.

Factors that more directly impact teacher performance and behavior include a knowledge of pedagogy and content, teacher intelligence, feelings of teaching efficacy, and teacher training (Ashton & Webb, 1986; Bennett, 1976; Bussis et al., 1976; Dunkin & Biddle, 1974). Teachers also tend to use practices that they observed or experienced in their own education (Cuban, 1988).

The difficult part of showing the factors that have an impact on teacher attitude is isolating these factors from those that have an impact on teacher behavior. However, this model does include the practice-teaching experience, teacher traits, teacher expectations, and sense of administrative support as factors that tend to have an impact on teacher attitude and, indirectly, teacher practices (Leinhardt & Greene, 1986; Ryans, 1960).

There is a direct interrelationship between student outcomes and teacher attitude and behavior. Most models of classroom instruction support the impact of teacher
practices and behavior on student outcomes (Gage, 1985; Shulman, 1986; Smith & Geoffrey, 1968; and others). The impact of student behavior on teacher behavior and attitude is less obvious, but still clearly supported (Dunkin & Biddle, 1974). The power of student outcomes on teacher performance is reinforced by Guskey (1986) in his work with teachers and change. He found that although teachers might alter their practices or their behavior, their beliefs and attitudes would not be affected until they saw the benefits in their students' outcomes.

Clearly teacher behavior and student behavior have an impact on the environment of the classroom (Bussis et al., 1976). The environment, or setting, also has an impact on the attitudes and behavior of teachers as well as on the attitudes and behaviors of the students (Rosenholtz, 1989; Ryans, 1960); it influences teacher commitment, effectiveness, and the quality of students' and teachers' lives. The social structure of the classroom includes the amount of opportunity that teachers have to communicate with their peers about professional concerns and issues (Rosenholtz, 1989). Teachers in multi-grade classrooms report that working with several grade levels encouraged, and sometimes forced, them to re-examine their teaching practices and to make changes appropriate for their environment (Freeman, 1984; Gajadharsingh, 1988; Miller, 1991; and others). The multi-grade environment appears to have either a very positive or very negative effect on teacher attitude or practice (Cobham, 1992; Gajadharsingh, 1988; Pratt, 1986).
Limitations of the Study

1. The study data that were collected and analyzed were limited to the questionnaires that were returned by the subjects.

2. The study data that were collected and analyzed were limited by the nature of a self-report instrument.

3. The instrument was not standardized.

4. The sample was chosen from schools for which the multi-grade classroom is an administrative necessity. The results of this study are not intended to be generalizable to all mixed-age classrooms.

Delimitations of the Study

The study was limited to a selected population of teachers in one- and two-teacher schools in the Seventh-day Adventist educational system of the United States and Canada. Although many three-teacher schools are likely to have multi-grade classrooms, it is more likely that a teacher would have no more than two grades therefore the three-teacher school was not included in this study.

Definitions

The following terms are defined as used in this study.

Combination Classroom: A classroom that has two (possibly more) grade levels in a single room. Usually the number of students in each grade is similar and the grades are considered separate entities (Daniel, 1995; Grant & Johnson, 1995).

Multi-grade Classroom: A classroom that has two or more grades with a varying number of students in each grade. In the NAD of the Seventh-day Adventist
system, a multi-grade classroom is defined as one that has three or more grades with each group of students in a separate grade that follows its own curriculum (Anderson, 1992; Miller, 1991; Rathbone, Bingham, Dorta, McClaskey, & O'Keefe, 1993).

**Multi-age/Nongraded Classroom:** Goodlad and Anderson introduced the term "nongraded" in the 1950s. The guiding philosophy behind the nongraded classroom is that students are individuals and should not be treated in the same way. This type of classroom is intentionally organized to include two or more age levels in one setting. The focus is on practices that center on the learner: developmentally appropriate education, constructivist methods and materials, attention to individual learning styles, and continuous progress. The setting provides an environment more in harmony with what the student encounters outside of school, where interaction occurs with a wide age range of individuals. Neither the curriculum nor the students are divided into levels that are labeled by grade designations. Children of different ages and abilities work, receive instruction, and play together.

The term *nongraded* has been misinterpreted to mean "not giving letter grades" rather than "not sorting children by grades." Alternative types of assessment are only one element of the nongraded/multi-age classroom (Anderson & Pavan, 1993; Gaustad, 1992).

**Continuous Progress:** An integral part of the nongraded and multi-age concept. The goal is to allow students to cover the material at their own pace, regardless of their age. Gaustad (1995) visualizes continuous progress as "a ramp in contrast to graded education which resembles a stepladder" (p. 3).

**Heterogeneous Grouping:** Refers to grouping students who differ according to age, perceived ability, learning style, or other criteria (Gaustad, 1995; Miller, 1991).
Flexible Grouping: The practice of using various heterogeneous or homogeneous groupings for specific and temporary purposes; also frequently regrouping by different criteria (Anderson & Paven, 1993; Miller, 1991).

Developmentally Appropriate Practice (DAP): The National Association for the Education of Young Children describes two aspects of developmental appropriateness: age appropriateness (the universally predictable sequences of growth and change that occur in children during the first 9 years of life) and individual appropriateness (the fact that each child has a unique pattern of timing, growth, personality, learning style, and background knowledge). DAP means providing curriculum and instruction that address the needs of the whole child and that allow all children to progress through the curriculum at their own pace (Gaustad, 1995).

Thematic Instruction: A commonly used strategy for integrating the curriculum, thematic instruction involves choosing a broad-based theme (preferably a concept rather than a topic) as a core around which all discipline perspectives can focus. Bridge (1994) suggests that these themes be open-ended and encourage students to extend their investigations according to their individual interests.

Whole-Language Approach to Reading: For the purpose of this study, whole language means treating all the aspects of language communication (reading, writing, listening, and speaking) as a whole both for instruction and for learning. Meaning, rather than just word recognition or phonics, is central. Appropriate children's literature is included in the reading curriculum.

Process Approach to Writing: Teaching students a series of activities that writers perform to produce a finished piece of writing. The stages generally consist of
activities to prepare for writing (prewriting), to put ideas into sentence and paragraph form (writing), to rework the ideas and the content (revising), to check the accuracy of the mechanical aspects of the piece (editing), and, finally, to share the final work with others (publishing). These stages are not necessarily linear; in fact, each step may be revisited several times in the journey toward a finished piece.

**Peer Tutoring:** The pairing of children at different levels of development and achievement for the purpose of assisting learning. Research has shown that students as well as teachers benefit from this relationship (Gaustad, 1992; Miller, 1991).

**Learning Centers:** These can be any areas within a classroom that contains activities or materials or both, that are used to learn, reinforce, and enrich a skill or concept. The centers are planned environments in which students can be self-directed learners (Daniel, 1995; Miller, 1991).

**Math Manipulatives:** Concrete materials of many varieties that allow students to learn math concepts from a hands-on, problem-solving approach. Math manipulatives need to be appropriate for diverse levels of ability and types of problems. Manipulatives include counters, patterning blocks, place-value cubes, balance scales, and other devices.

**Cooperative Learning:** Grouping (about) two to four students to collaboratively participate in a clearly designed task. Each student is accountable for social behavior as well as academic performance. The performance of specific roles that are important for completing the assigned task and the specific social skills that enhance group interaction and productivity must be assigned and taught (Johnson, 1987; Slavin, 1988).
CHAPTER TWO

REVIEW OF LITERATURE

Introduction

In developing this review of literature, I accessed computerized card catalogs, computerized databases produced by Educational Resources Information Center (ERIC) and Dissertation Abstracts International, and bound indices, including the Education Index and Current Index to Journals in Education, and Resources in Education. I conducted these literature searches at the James White Library on the campus of Andrews University, the McKee Library on the campus of Southern College, and the library on the campus of the University of Maryland.

Key words used for the computerized searches included multi-grade, multi-age, combined classrooms, instruction, instructional strategies, teacher attitudes, classroom research, elementary education, small schools, one-room school, rural schools, heterogeneous grouping, grouping, instructional practices, nongraded, age-grade placement, mixed-age grouping, elementary instruction, classroom environment, teaching methods, and teacher response. These key words were combined in a variety of ways to create a more specific search. For example, I combined instructional strategies with elementary education and classroom research which gave me 22 responses; grouping with instructional practice, elementary education, and multi-age which gave me 16 hits; teacher
effectiveness and small school for 23 references, and multi-age, elementary, and grouping for 15 responses.

I obtained the sources, made photocopies when appropriate, and began reading. I also checked the bibliographies of various documents and other dissertations on similar topics. The latter activity provided several references that I did not locate during the initial library searches.

This literature review is divided into three major sections. The first section discusses multi-grade education in the Seventh-day Adventist school system in North America (the North American Division, or NAD). The second part focuses on multi-grade education in Canada. And the third portion deals with multi-grade education in the United States. The chapter concludes with a summary statement.

Multi-grade Classrooms in the North American Division of Seventh-day Adventist Schools

Seventh-day Adventist (SDA) education began in 1853 with a small, one-room school in Bucks Bridge, New York. Today, there are more than 4,000 elementary schools in the Seventh-day Adventist educational system, and the one- or two-room school is still a prominent feature of SDA education (Knight, 1983).

The North American Division of Seventh-day Adventists defines a multi-grade teacher as an instructor who teaches three or more grades and five or more subjects in the same classroom. In 1994, there were 787 K-8 schools in the NAD. Of these, 402 were one-teacher schools and more than 200 schools had only two teachers (NAD Annual Report, 1994). Clearly, one- and two-teacher schools represent a significant proportion of this parochial system's schools.
The Seventh-day Adventist educational system defines a comprehensive curriculum as

all the learning opportunities, both formal and informal, planned and guided cooperatively by the home, school, and church. With some common learnings as a core, it is a dynamic, evolving, emerging plan for the education of children and youth in terms of their spiritual, physical, mental, and social needs, in a continuously changing local, national, and world community. *(NAD Education Code K-12, 1980, p. 118).*

Curriculum materials are developed at all levels of the system: division, union, conference, school, and classroom. Specific functions have been identified for each level based on considerations of philosophy, available finances, the needs to be met, and the level—societal, institutional, or instructional—for which the materials are to be developed or used *(Implementation of Seventh-day Adventist Curriculum, 1989).*

Teams of teachers, conference personnel, and college educators who are representative of all the geographical areas of the NAD work together to prepare curriculum guides, textbooks, and other materials that the North American Division Curriculum Committee (NADCC) has voted to develop. Curriculum guides are arranged by grade-level scope and sequence. Teachers are expected to use these guides for both long- and short-range planning. "Profile" reports *(Brantley, 1988)* suggest that this expectation is not highly met—although the statistics show that multi-grade teachers are more likely to use the guides than their single-grade peers. Textbooks are selected by grade level, but the yearly textbook list also includes suggestions for combining grades and using an alternate-year approach for non-linear subjects like social studies and Bible.

Teacher input is solicited through a series of nationwide surveys conducted during
every odd-numbered year. Teachers are sampled at random for information about unmet teaching needs, satisfaction with current materials, curriculum or strategy awareness, and opinions on current instructional issues within the NAD. These surveys are written into a “Profile of Teacher Concerns” report and are studied by the educational organization. The North American Division Curriculum Committee (NADCC) distributes the information obtained from the report among the teams working on the development of curriculum and materials for their consideration.

Although instruction in multi-grade classrooms plays a prominent role in SDA education, the practice received relatively little attention from the organized system until the past decade. In 1988, an NAD ad hoc committee on small schools met in Washington, D.C. Its purpose was to meet with and receive input about the development of a specialized small-schools curriculum from union small-schools committees’ representatives. Several actions were taken during that meeting: the Small Schools Summer Workshop was asked to develop a handbook to assist with issues about the management and administration of small-schools, a formula was developed to measure teacher load in a multi-grade classroom, personnel at several administrative levels were asked to make small-schools materials more available for the teachers and to provide needed inservice, and each union was asked to give copies of the materials that they had developed to the Small School Summer Workshop (Minutes, NAD Ad Hoc Committee on Small Schools, 1988).

During the second summer, the Small Schools Workshop began designing the Small Schools Language Arts Curriculum. A subcommittee for a small-schools curriculum was soon formed from the NADCC. As a result, several items have been
published to assist the multi-grade teacher. These items include *The Small Schools Survival Guide, Small Schools English Curriculum, Small Schools Spelling Curriculum, ARMS*—a supplementary materials and management program for the basal reading series used by the NAD, and correlation guides for combining grades in subject areas like Bible and lower-grade science.

**Instructional Practice**

Material giving an overall picture of the instructional practices used by NAD multi-grade teachers is not available. The system recommends combining certain grade levels for certain subjects, and in some cases it provides teachers with materials to assist this process. Little has been done formally or systematically, however, either in pre-service or inservice training, to prepare teachers to use specific instructional practices for multi-grade teaching or to provide curriculum materials designed for these practices. Some areas of the NAD have put more focus and effort into small schools than have others, but many teachers still feel the need for more assistance.

Although they have the built-in weaknesses of all self-report instruments, the "Profile" reports of the past several years give some information on various aspects of instruction and teacher needs in the NAD. One report developed from the "Profiles" focused on the multi-grade teacher and stated that a greater proportion of multi-grade teachers were less experienced, less well-trained, and held more conditional teaching certificates than did their single-grade peers. It also showed that multi-grade teachers had greater rates of job turnover (Brantley, 1988). Multi-grade teachers indicated that balancing their time with their workload and coping with many ability levels were major
problems: 32% were concerned about teacher burnout, 28% had concerns about the small-schools curriculum, and 17% felt the need to improve instructional strategies. Although many of the multi-grade teachers seemed to be aware of available curriculum materials, awareness was not necessarily an indicator of use. For example, although nearly 77% of the teachers responded that they were aware of the related materials for science and health for grades 1 through 4, only 55% indicated that they used these helps (Brantley, 1988). This particular document did not report on specific instructional strategies. The recently produced small-schools materials were not yet available when these data were gathered and analyzed.

An informal survey conducted in 1993 asked 48 small-schools teachers to indicate their level of interest in a list of possible “one-week, all-day intensive inservices.” The academic subjects that received the most attention were math and science, Bible and social studies, reading, language arts, and integrated thematic instruction.

In Profile '93 (Brantley, 1993), about 36% of the 594 elementary-teacher respondents were multi-grade teachers. The survey asked for responses on the helpfulness of various curriculum supplements. Ninety-one percent of these elementary-school teachers considered creative, classroom-ready teaching units very helpful, 81% believed that a scope and sequence of outcomes for teaching areas or levels would be beneficial, and 76% desired correlation charts that related topics to relevant portions of various textbooks. In a table of the respondents’ top four choices for inservice workshops, more than 20% listed methods of alternative assessment, cooperative learning, and thematic instruction, and more than 100 teachers expressed an interest in multi-grade instruction. If the 100 teachers interested in multi-grade instruction are multi-grade teachers, then nearly
50% of the 216 multi-grade teachers were seeking additional training for instructing their multi-grade classes. Nearly 40% of the total number of elementary teachers asked for inservice training in “up-to-date” instructional strategies. About 33% of the teachers indicated that they preferred a whole-language approach to reading instruction and more than 50% preferred writing-based English instruction instead of a textbook/workbook-based program. (Of the 65 teachers who indicated that they were using the Small Schools English, 77% indicated that they used the textbook/workbook correlation guide the most frequently.)

Profile '95 showed similar data. This survey also included input from multi- and single-grade elementary-school teachers. More than 50% of the teachers indicated that “learning current strategies to improve student achievement” and “how to integrate the curriculum to show connectedness and relevance” deserved the most urgent attention on behalf of educators in NAD schools. Of these 317 teachers, about 70% stated that they are starting to implement cooperative learning or are using this strategy proficiently, about 48% are accommodating individual learning styles, and about 44% are using thematic instruction (another 26% would like to try). Only 13% report that they are using inclusion strategies (54% stated that they had not heard about them), yet over 80% of the teachers in Profile '93 indicated that the number of students in their classrooms with special needs and problems was increasing. (Again it is important to remember the self-report nature of the instrument. These are perceptions; observation might show a different picture.)
Teacher Attitude

I found only two published sources of information that address attitudes of NAD multi-grade teachers. One is the report prepared from Profile '87 (Brantley, 1988) that specifically addressed the concerns of this population; the other is a study using data collected from the same respondents on teacher burnout (Kijai & Totten, 1995).

Kijai and Totten's study was based on responses from 304 teachers—197 women and 104 men. Thirty percent of these respondents had 5 or fewer years of teaching experience, and nearly 38% answered “not sure” or “definitely not” when asked if they would still be teaching in 5 years. More than 36% rated “high” on emotional exhaustion; nearly 35% rated “moderate.” The Profile report, based on the responses of 216 multi-grade teachers, showed that nearly 27% reported feelings of professional stagnation and isolation; 17.3% of single-grade teachers reported having such feelings. Thirty-two percent of the teachers in both groups reported feelings of burnout, however. Nearly 50% of the multi-grade teachers struggled with work overload as compared to less than 33% of single-grade teachers. Approximately 25% of the single-grade respondents considered coping with many ability levels to be a major problem, as compared to more than 37% of multi-grade teachers.

Kijai and Totten (1995) found several areas that were particularly stressful to the multi-grade respondents: coping with the first week of school, dealing with parents, evaluating students, preparing lesson plans, attending inservice training, and feeling physical isolation. These findings support the comments from the field at an ad hoc small-schools advisory committee in 1990. The participants reported teachers expressing feelings of isolation, being overworked, being in charge and not knowing the answers, and
concern about how best to “do the job.” Also of concern was the number of new teachers being placed in one- and two-room schools (NAD Ad Hoc Small Schools Advisory Committee Minutes, 1990).

Kijai and Totten’s study showed emotional exhaustion to be a factor of “the teacher’s ability to cope with job-related stress and job satisfaction” (p. 211). Given the number of teachers who were emotionally exhausted and the fact that about 70% of the teachers had feelings of low personal accomplishment, Kijai and Totten concluded that many were at risk for job burnout.

**Multi-grade Education in Canada**

In Canada, the term *multi-grade* describes classrooms in which two or more consecutive grades are combined under one teacher. In areas of very low enrollment, combinations of three consecutive grades are common. Some provinces may also call such a classroom a split class or a double-grade class (Gayfer, 1991). In Quebec, the official term is now *multi-program*, which the Quebec Ministry of Education defines as a class of students, under the instruction of one teacher, that are in courses of study corresponding to different grades (Hohl, 1991).

Gayfer (1991), in a review of Gajadarsingh’s study of multi-grade education in Canada, reported that the number of multi-grade classrooms is increasing dramatically in all types of school districts, but especially so in urban areas. A conservative estimate is that one out of every seven classrooms in Canada is multi-grade and that one out of every five students is enrolled in a multi-grade class. British Columbia’s mandate that all primary schools combine K-3 classes by 1990, with the extension of this “continuous
progress” model through the upper grades by the year 2000, suggests that in some provinces the increase in multi-grade classes may be even greater (Cohen, 1989).

Issues Related to Multi-grade Education

Affective Development

The research on the psycho-social development of students in multi-grade classrooms has been somewhat positive. The Edmonton Public School Board’s study (1984) reported that multi-grade classes were an effective method for promoting independence in student work. Mycock’s (1972) study of more than 600 children in four British primary schools supported ideas of improved senses of responsibility, cooperation, confidence, and security in multi-grade students.

Findings about self-concept, greater social interaction, and levels of stress or anxiety are mixed; some researchers find little difference between the two groups (Ford, 1977; Junell, 1970; Mycock, 1972). Marshall (1985), however, in his review of the literature, maintained that multi-grade students had more positive self-concepts and attitudes about school. Based on the results of his study comparing 54 multi-grade students with 96 single-grade students regarding self-concept, self-acceptance, attitude toward school, and other factors, Junell (1970) agreed that the self-concept of students in multi-grade classes tends to improve. He also suggested that this improved self-concept affected the student’s academic achievement and attitude toward school.

Not all researchers agree on the specific strengths that multi-grade students may gain from this type of education or on the degree to which this setting promotes positive affective development. According to Gayfer (1991), researchers generally agree that
students in multi-grade schools tend to score “higher or better in the affective areas of study habits, social interaction, self-motivation, co-operation, and attitudes toward school” (p. 14). She also names “independence, responsibility, and confidence” as traits that are comparable or superior for multi-grade students (p. 15). The results of Schrankler’s (1976) work with more than 900 multi- and single-grade students supports these findings.

Cognitive Development

Although socio-affective factors seem to dominate when researchers list the advantages of multi-grade education, several studies report positive results in the cognitive area. Brown and Martin (1989) studied the academic achievement of New Brunswick students in single- and multi-grade classrooms. When based on a comparison of teacher reports, their findings favored multi-grade students 80% of the time. When they compared the academic growth of the two groups on the Canada Test of Basic Skills (CTBS), 87% of the progress comparisons favored the multi-grade classes.

Gajadarsingh and Bany (1984) also used the CTBS to examine the performance of 4,407 students in multi- and single-grade classes. Their combined results reported higher achievement in reading, vocabulary, mathematics problem solving, and math total scores for the multi-grade students. Other researchers, such as Acheson (1984) and Perras (1983), reported that multi-grade students consistently show outcomes at least as acceptable as those of single-grade students. Although Perras did not find a significant difference between the two groups, he did comment that the differences that did appear favored the multi-grade students. After their study (cited by Perras, 1983), the Quebec
School Commission stated that "enrollment in a combined class does not negatively affect school marks... Rather [it] indicates a tendency toward improvement in scholastic achievement" (p. 25).

**Rationale for Multi-grade Classrooms**

The multi-grade classroom has had a long history of being one of the administrative solutions for school systems plagued with fluctuating enrollments (Gayfer, 1991). When Gajadarsingh's survey asked administrators why they formed combination classes, most responses included these reasons among their answers: enrollment, balancing the class size, budget constraints, using available staff and space, and other administrative necessities. Pedagogical concerns were secondary, although some administrators named several advantages that they perceived to be associated with multi-grade classes. A few superintendents and principals stated that they organized multi-grade classes because they believed a mix of students contributes to "more interaction, better cooperation, more effective group instruction, and more opportunities to develop interpersonal skills" (Gayfer, 1991 p. 7).

In the 1960s, a Parent Report of the Royal Commission on Education in Quebec (Hohl, 1991) did not stress the single-grade class as ideal; rather, it recommended the division of the elementary grades into two cycles. The report stated that the cycles should allow for flexible promotion and individual student needs. The abilities of the child, not the program or a specific grade, were to be central. In 1965, however, regulations reaffirmed specific grades and levels. But when lower birth rates and the urbanization of the 1970s caused large drops in enrollment, the ministry of education restored the multi-
program classroom as a means to avoid closing rural or local schools and busing children. Interestingly, as Hohl points out, the special-education sector and the “welcome classes” (classes designed for the intensive teaching of French to immigrants) operate largely on the concept of multi-grade classrooms by including children of all ages and backgrounds. Also, across Canada, alternative schools operate as multi-age groupings as a pedagogical choice rather than as an administrative, financial, or numerical necessity (Gayfer, 1991).

**Instructional Practices**

The most complete picture of the instructional practices used in Canada’s multi-grade classrooms seems to be presented in Gajadharsingh’s study of more than 600 educators, including superintendents, principals, and multi-grade teachers. According to Gayfer’s report (1991) of the Gajadharsingh research, more than 80% of teachers have had no special inservice or pre-service training in teaching multi-grades. Many respondents believed that systematically designed inservice training for teachers would improve the quality of their instructional strategies.

According to Gayfer (1991), more than 80% of the teachers used the standard curriculum designed for single-grade classes. Teachers and administrators strongly expressed the need for the development of multi-grade curricula. At the time of her report, no standard set of curricular materials for multi-grade instruction existed. The most popular instructional strategy used by the teachers was to combine subject matter to teach to two (or more) grades at one time. Integrating the curricular content was also named as one of the biggest problems for most teachers.

Other strategies that teachers reported using were giving one grade “seat work”
while using direct instruction with another grade level, assigning group work, using resource and learning centers, assigning project work, and setting up peer instruction. Teachers and administrators stated that the most effective teaching practices used were grouping students for instruction; integrating content under themes, topics, or concepts; individualizing instruction; and using cooperative learning. Other practices mentioned were seat-work activities, independent research, and project work.

Administrators and teachers were in agreement on the areas of instruction that most needed assistance. These included integrating curricula, using effective multi-grade strategies for the basic subject areas, and developing skills in group work (administrators named cooperative learning skills), individualized teaching, and instructional planning and organization.

Most of the respondents believed that they needed additional time to plan and prepare, more interaction with peers (including the opportunity to observe in other multi-grade classrooms), and a larger choice of curricula designed for use in the classroom and in learning and resource centers. Teachers also expressed concern over the lack of philosophical, or pedagogical, guidelines for organizing multi-grade classes.

**Teacher Attitude**

As with other settings, the responses of the Canadian multi-grade teachers were mixed, although the majority seem to prefer teaching a single grade. Brown and Martin (1989) asked 34 teachers who had had experience in both single-grade and multi-grade classrooms for their views on multi-grade classes. Only three teachers expressed a preference for the multi-grade experience. Craig and McLellan (1987) concluded that
teachers would generally prefer to teach a “regular” class; indeed, several expressed a preference for eliminating the multi-grade class. Teachers of elementary-core French believed that the multi-grade structure affected their ability to provide quality French programming (Campbell, 1993). The Montreal Teachers’ Alliance (MTA) and the Alberta Teachers’ Association (ATA) (cited in Gayfer, 1991) announced keen opposition to multi-grade classes, emphasizing the difficulties of teachers trying to teach the curricula of two grades in the time allotted for one, providing individualized instruction, and struggling not to short-change one group of students while they focused their attention on another. The ATA expressed the concern that “the strain of below-optimum conditions”--multi-grade classes--would in time affect the teacher’s efficiency and enthusiasm (p. 12).

Perras (1983) quoted one teacher’s response: “Two curriculums to teach, a new method of class organization, the need to redo the planning of learning and evaluation, the need to rethink the use of teaching materials; in short, it’s almost another job” (p. 24). Several teachers who responded to Gajadharsingh’s survey commented that “no grade combination is effective; I don’t agree with multi-grade classes,” “it takes twice the organization and twice the work to make each grade feel special,” and “I feel as though I’ve run a marathon by the end of the day; then I spend two hours a night marking work” (Gayfer, 1991, p. 43).

Administrators in Gajadharsingh’s survey also made comments that put the onus on the teacher: “With a teacher comfortable with multi-grade there is no appreciable difference or disadvantage”; “teachers make or destroy the multi-grade concept . . . it’s the effort of teachers that makes them work.” (Gayfer, 1991, p. 49). Other comments put emphasis on the instructional and organizational skills of the teacher. Strauber (1985)
believed that teachers of multi-grade classes were likely to develop feelings of neglect, isolation, and lack of support.

The teachers themselves supplied some positive responses. Gajadharsingh (1991) reported that about 35% of the teachers surveyed had volunteered to teach multi-grade classes because they found doing so enjoyable and more challenging; some also stated that they felt more professional or effective when they taught multi-grade classes. Other teachers said that the multi-grade class had a revitalizing effect; some even commented that the experience led them to “reappraise their pedagogical practices and focus on the child’s total development!” (Perras, 1983, p. 25).

In Gajadharsingh’s study, several teachers who had had some experience with multi-grades also stated that this environment encouraged them to change their teaching styles (Gayfer, 1991). Teachers were more likely to have a positive perception of multi-grades “when they are implemented from a philosophical viewpoint rather than from administrative expediency” (Acheson, 1984, p. 13). A few teachers believed that grouping students simply by age did not seem natural; that “combination classes” were more like "the real world." Several teachers perceived affective benefits for their students and commented on "improved skills of cooperation, independence, and responsibility" (Gayfer, 1991, p. 41). As one teacher commented,

I continue to be delighted by the spirit of independence, cooperation, and sharing shown by students in family grouping classrooms. Older children within the group develop a sense of responsibility and caring toward the younger ones. Enthusiastic learning is the result (p. 50).

Multi-Grade Education in the United States

The configurations of mixed-age or mixed-grade classrooms are as many and
varied as the terminology used to name the configurations. Words such as multi-grade, multi-age, continuous progress, nongraded, split grades, combined grades, combination rooms, and family grouping are all terms used by educators to indicate a type of classroom containing students of more than one age or grade level. Some of these terms are used differently by different researchers; some are used interchangeably.

For the purpose of this study the multi-age classroom is one that has been organized for philosophical/pedagogical reasons. Students of various ages, abilities, and interests are intentionally integrated into one learning community. The instructional focus is on the continuous development of the whole child, using practices that are appropriate for and supportive of each child's developmental level. These practices promote interaction, cooperation, and learning among students without regard for specific ages, grades, or labels.

The multi-grade classroom (also often referred to in the literature as a “combined grade” classroom) is defined as one that combines several (in the case of the North American Division—three or more grades) grade levels of children in a classroom with one teacher. The students are grouped in this manner mostly because of administrative necessities, such as fluctuating or limited enrollment, unbalanced teacher load, and space and financial restrictions. The instructional practices may vary depending on the teacher and the situation. Grade distinctions are generally expected to remain intact, although these may be more or less blurred, again depending on the teacher and the setting.

**History of Multi-Grade Education**

The multi-grade classroom dates back to the earliest days of organized education
in the United States, when schools consisted of many students of various ages and abilities who worked, learned, and played together. The schools were essentially nongraded, so for the most part students functioned together as one class. Gulliford (1981) reported that there were about 200,000 one-teacher schools in operation in 1900. By 1948 the number had decreased to fewer than 75,000, and by 1959 to fewer than 24,000. To put those numbers into perspective, even at 24,000, one in every four public elementary schools in the United States was a one-teacher school (Lambert, 1960). However, within 25 years fewer than 850 of such schools were scattered among only 28 states (Barker, Muse, & Smith, 1984).

According to Shearer (1899), around 1835, as the numbers of children in school increased and communities decided to employ more than one teacher, the idea of graded schools began to take hold. Howard and Bardwell (1966) suggest that the Prussians originally devised the practice of grouping students by age in order to prepare young people for an authoritarian, militaristic society, an idea that was imported into the United States in 1848 through the Quincy Grammar School of Boston. This school, shaped by the efforts of George Emerson, John Philbrick, and Horace Mann, was based on the belief "that homogenous grouping and large group instruction would improve the instructional practices of the day" (Miller, 1991, p. 19).

In the historical perspective offered by Courtage, Joben, Stainback, and Stainback (1985), three assumptions are given as the basis for an age-graded system: students of the same chronological age are ready to learn the same objectives, students require the same amount of time to master predetermined content, and all students master all content for a given grade level at the same rate. The educators of the time believed that a teacher could
work more efficiently by teaching large groups of children of similar age level at one time. As graded schools became the norm, graded textbooks also appeared and "norms" were established for each age (grade) level (Rule, 1983).

Many educators also believed that graded schools offered administrative advantages. Classroom management, lesson preparation, and lesson presentation to the entire group were perceived as providing more efficient organization. Goodlad and Anderson (1963) suggest that state-supported education and the demand for trained teachers also were contributing factors to the "new" system.

These same assumptions and "efficient advantages" became the subject of much objection, however. As early as 1899 Shearer stressed the lack of individualization and the absurdity of the grading system by pointing out that if educators treated physical development as they did mental development, in an age-graded system of physical development, those naturally tall must gradually be compressed, and those naturally short must go through a stretching process, so that they may all come up to the desired average by the end of a given year (p. 27).

Miller (1989) echoed Shearer's concerns when he described the age-graded school as a system "driven by a need for managing large numbers of students rather than for meeting individual student needs" (p. x). Despite the number of objections and concerns, efforts to modify the age-graded structure have generally been unsuccessful. The following section discusses some of the trends and issues related to multi-grade education over the past several decades.

**Trends and Issues Related to Multi-grade Education**

In the 1900s many schools began to reorganize in order to allow students to progress at their own pace (Rule, 1983). Anderson (1987) describes several alternative
approaches to schooling, including Dewey's Laboratory School, Progressive Education, the Dalton Plan, the Winnetka Plan, ungraded primary programs, and others. None of these, however, have had much staying power or ultimate effect on the school program as parents, teachers, and students know it today.

From 1930 through 1970, according to Rule (1983), some educators believed placing students in rooms with students from other grade levels was preferable to "single-grading." Although the use of grade labels was familiar for parents and students, the perception that students were "better off" when schooled in an organizational structure that emphasized (rather than tried to minimize) individual differences also existed.

With this renewed interest in open education and individualized instruction, the multi-grade classroom "became an educational innovation" (Miller, 1989). Numerous studies were conducted to measure the effectiveness of the instruction in a multi-grade classroom. Nearly all of that research focused on the cognitive or affective growth of students in this organizational structure. In the next section I discuss some of the research focusing on the effect of multi-grade education on student outcomes in scholastic achievement and psycho-social development.

Multi-grade Research on Student Achievement

Most studies comparing student achievement in multi-grade classrooms and in single-grade classrooms show little significant difference between the two groups. Most of the research used achievement-test scores to measure outcomes; the usual focus was on math, reading (often including comprehension and vocabulary--especially at the primary level), language, and sometimes spelling.
One of the earliest studies prepared by Knight (1938) compared 7 third/fourth- and fourth/fifth-grade rooms with 6 fourth-grade rooms. He tested reading, math, language, and spelling. Although the results from the achievement testing favored the multi-grade students, none were statistically significant.

Another study by Chace (1961) compared the reading, math, and language achievement scores of 3 third-through-sixth-grade classrooms with single-grade classrooms in the same grade levels. His findings also favored the multi-grade students' scores, but not at a significant level. Some of the literature questions Chace's results, because he used a university-lab setting for the multi-grade groups and the public-school system for the single-grade classrooms.

Way (1979) compared the Comprehensive Tests of Basic Skills achievement scores in reading, math, and language of 135 second-through fifth-grade multi-grade students with 671 students in the same single grades. She found no significant difference on the effects of classroom type, sex, or the interaction of classroom type and sex for any of the achievement variables. When McDonald and Wurster (1974) compared the scores of first-through-third-grade multi-grade students with those of second-grade students on the Gates Reading Test, they found no difference between the two groups. However, when the school made the decision to pull the first grade out of the multi-grade situation, the reading test scores of the following year showed that the second-grade students who had been instructed in the single-grade classroom performed better in reading comprehension and vocabulary recognition than did the second-grade students who had been taught their first year in a multi-grade classroom.

An interesting comparison with this finding is Yerry and Hutchinson's (1964)
research, which compared the test scores in math, reading, and language for 500 students in first/second, third/fourth, and fifth/sixth combined-grade classrooms. Their results showed no significant differences in test scores between second-, third-, and sixth-grade students; however, grades 1 and 5 showed a significant difference in favor of the multi-grade instruction.

Several studies in recent years have reinforced the general findings of these earlier studies. Neither Brown and Martin (1989), who compared 418 students in multi-grade classes in eight New Brunswick schools with peers in single-grade first-through-fifth-grade rooms, nor Way (1981), who examined the reading and mathematics achievement test scores of single- and multi-grade students, found significant differences between the two groupings for any of the achievement variables. Both Pawluk (1993) and Thayer (1978) compared the achievement of students in multi-grade classrooms with students in single-grade classrooms in the Seventh-day Adventist educational system. They found no significant difference in achievement between the two groups of students. Pawluk concluded that what occurs in the classrooms with instruction is more important than the grade configuration or organizational structure.

**Multi-Grade Research on Students’ Affective Development**

Research seems to support some positive effects of multi-grade schooling on the affective growth and development of the child. Pratt and Treacy (1986), Cobham (1992), Delforge and Delforge (1990), and others interviewed multi-grade teachers in a variety of settings. Many teachers perceived that students in multi-grade classrooms gained in psycho-social skills. Among the advantages listed were the ability to work more
independently, better cooperation among the students, the socialization of different ages of
children, improved self-esteem, and more positive attitudes toward school, teachers, and
the classroom. In contrast to these responses, one teacher in a Virginia study (Appalachia
Educational Lab. and Virginia Education Association, 1990) responded in frustration, “I
can see no advantages—you cannot reach all the students and meet all their needs. They
become angry and turned off; teachers are left frustrated and emotionally and physically
drained” (p. 16).

Miller (1989) reviewed nine studies with 23 separate measures of student attitude
and found that 65% of the measures favored multi-grade students at a significant level,
13% showed a trend toward favoring the multi-grade setting, 22% revealed no difference
between the groups, and one measure favored the single-grade student responses. The
studies of Pratt and Treacy (1986) and Ford (1977) both showed results that generally
favored multi-grade classrooms on measures of student attitude toward self, school, and
peers. Schroeder and Nott (1974), Junell (1970), and Schrankler (1976) all reported
significant results in favor of multi-grade students on their attitudes toward school.

Way (1981), Milburn (1981), Junell (1970), and Schrankler (1976) studied the
effects of multi-grade grouping on students’ self-concept. Way studied three suburban
elementary schools that had both multi-grade and single-grade classrooms and a fairly
homogeneous middle-class population. The ages of the children ranged from 6 through 10
years in grades 1 through 5. The multi-grade classrooms were in their third year of
operation at the time of this study. Way measured self-concept using the Piers-Harris
Children’s Self-Concept Scale, an instrument that produces a total score plus scores on
these six factors: behavior, intellectual and school status, physical appearance and
attributes, anxiety, popularity, and happiness and satisfaction. The multi-grade scores were significantly higher on the "happiness and satisfaction" factor. On each of the other factors and on total self-concept, multi-grade scores were slightly but consistently higher than single-grade scores, although the differences were not significant. Milburn (1981) and Junell (1970) both obtained results that indicated a trend toward favoring multi-grade student scores. Schrankler's measures of self-concept, attitude toward school, and perception of school success all produced significant results in favor of the multi-grades.

Rationale for Organizing Multi-Grade Classrooms

The rationales for multi-grade classrooms are varied. For many schools, especially in rural, somewhat isolated, communities, the decision is not really a decision at all if children are to be educated near their homes. Small, rural schools, although decreasing in number, are still a reality for more than a few students (Miller, 1989).

For some communities and school districts, fluctuating enrollments require decisions about balancing class size, teacher load, and financial resources. The multi-grade classroom, or combination class, is often established as at least a partial solution to these administrative dilemmas. In some cases, the administration may believe that this type of classroom can be advantageous for students, but the primary reason for the decision is administrative necessity.

Other multi-grade classrooms (now often referred to as multi-age classrooms) are established based on a philosophy that this organizational structure provides a preferable environment for educating young people. This type of classroom was quite significant in the 1960s and 1970s, when ungraded schools, individualized instruction, and open
education became driving forces for school organization. Direction for instructional practices, classroom organization, and student evaluation are included in the multi-age philosophy (Anderson, 1992; Miller, 1991; Rule, 1983; and others).

**Instructional Practices Used in Multi-Grade Classes**

Multi-grade classes are an educational reality. The literature supports this instructional organization as a positive learning environment with advantages for some students. The literature is also consistent in pointing out that the effectiveness of these classrooms depends to a large degree on the instructional practices used by the teachers of these classrooms. Thomas and Shaw (1992) state that the multi-grade classroom can be a powerful place for learning, but teachers must master and use effective teaching practices. Dodendorf (1983) also maintains that the social and academic success of the multi-grade classroom depends on the ability of the teacher to organize and manage instruction. However, relatively little research exists on the actual strategies teachers use to deliver instruction to more than one grade at a time.

Over the past few decades, several researchers have placed themselves as observers in various multi-grade settings and have reported what they see teachers doing (Cobham, 1992; Miller, 1990; Pratt & Treacy, 1986; and others). Some researchers have asked teachers to respond in interviews or in surveys to questions about their teaching practices (Delforge & Delforge, 1990; Thomas & Shaw, 1992; AEL/VEA, 1990; and others). And, in a few instances, we have the words of the teachers themselves as they describe what they do and how they do it (Siu-Runyan, 1991; Wolfe, 1990).

From these sources we have a limited picture of some of the practices used in the
multi-grade setting. The variety of approaches could perhaps best be described on a continuum ranging from the total segregation of grade levels and separate grade preparations for all subject presentations to the nearly complete integration of grades and content material.

Interestingly, in some research, teachers stated the importance or effectiveness of certain practices, but did not necessarily use them. For example, in one state's study, 82% of the responding multi-grade teachers stated the value of integrating the curriculum, but only 64% did so; 62% believed that cooperative learning strategies were important, but only 44% used them; and 39% stated that team teaching was helpful, but only 21% were involved in the practice. When these teachers were asked which subjects required separate preparations for each grade level in their classroom, 87% cited reading; 86% cited math; 79% cited spelling; 64% cited science; 62% cited social studies; and 55% cited health, handwriting, and English mechanics. About 50% of the respondents prepared two lessons for family life and English composition (AEL/VEA, 1990).

Pratt and Treacy (1986) surveyed, interviewed, and observed multi-grade teachers in Australia and reported that the majority of teachers labeled, separated, and instructed students by grade levels. Only one teacher demonstrated strategies and skills for working effectively with groups across the grades. This teacher encouraged a cohesive familial atmosphere, independent work, and large-group activities that involved both of the grades in the classroom. Pratt and Treacy also found that most teachers tended to use closed, convergent tasks aimed at the middle-ability student. About 37% of the class time was used for whole-class instruction, and about 44% of the time students worked in grade-level groups. One teacher suggested to Pratt and Treacy that the multi-grade classroom
was more work partly because principals conveyed the message that “each grade needed to be planned for and taught separately” (cited in Miller, 1989, p. 24).

Some teachers saw their situation as advantageous and de-emphasized grade-level distinctions. They reported using groups across grades, using common areas within a subject for instruction, beginning with open-ended activities to encourage total participation and then moving toward more individualized student-ability levels (Freeman, 1984; Miller, 1989; Pratt & Treacy, 1986).

Embry (1981) described a two-room school (a K-4 class and a 5-10 class) in Park Valley, Utah. The lower-level room had an aide for kindergarten. In this class, the teacher organized instruction around key concepts that she introduced to all students, then individualized it for different levels. The students met in flexible groups—sometimes by ability, and sometimes by task, interest, or special activity.

For Kingsland, a teacher in a one-room school in Alaska, individualization is the key to multi-grade teaching. He regards the student, not the content, as the vehicle for the learning process and adapts material to fit a variety of reading levels, interests, and needs. Whenever possible, he weaves local events, current events, or a combination of both into the curriculum and correlates the subject matter. Kingsland strives to create a family-like atmosphere while encouraging accountability and responsibility among the students (Wolfe, 1990).

Yvonne Siu-Runyan (1991) uses holistic principles in her classroom and a whole-language approach to literacy development. She works cooperatively with her students to organize their time and their lessons. She emphasizes the importance of watching and learning from the children.
Cobham (1992) interviewed and observed seven combined-classroom teachers in Jackson County. She found the greatest range of differences to be in the ways in which teachers combined grades for instruction. One man began the year by teaching all the grades separately, but he soon changed to combining them for all areas of the curriculum. This teacher also expressed an interest in having another multi-grade room so that he could keep on working on his organization "until it feels right" (p. 23).

Four of the teachers completely combined instruction from the first day of school (except for one teacher who taught math separately). They also developed integrated thematic units to teach the content of social studies and science. Students were part of the decision-making process, helping to determine the direction in which the theme would go. They did not sit in grade groups and they were not referred to by grade labels. These teachers also stated that they would be willing to have a multi-grade classroom again.

The sixth teacher, Mr. East, taught and seated his fourth- and fifth-grade students separately. He was not interested in teaching in a multi-grade room again but stated that if he did, he would teach it the same way.

The last of the seven teachers studied by Cobham, Ms. Ruth, seated her second- and third-graders by grade level, but in a u-shape that allowed everyone to come together. She taught some subjects together and some subjects separately. She stated that she would not mind teaching a multi-grade class again, but that if she did, she would combine students for all areas of the curriculum.

All the teachers used some form of the reading-and-writing workshop approach. Most described ways in which they individualized instruction. One teacher explained how she crossed grade levels and taught mini-lessons to all students who needed the
instruction. Teaching was student-centered, and students were actively involved in the process, often in groups teaching other classmates.

Teacher Attitudes

Just as the rationales for establishing multi-grade rooms vary, so do teacher responses. Some teachers find multi-grade teaching to be their most rewarding work, whereas others see no advantage to the practice. Nor are mixed feelings uncommon; teachers often feel both frustration and satisfaction.

Much of the positive reaction of teachers seems to focus on the affective advantages for the student. Studies by Miller (1989), the Virginia Educational Association (1990), and others report that teachers believed that having a student for more than one year was usually an advantage; they commented on the advantages of not having to start over each year with a totally new group, having more opportunity to really get to know their students, and having a more family-like, more cooperative, and more relaxed setting. Some found it to be more exciting, challenging (this was positive), and professionally satisfying—the most valuable work they had ever done.

For those teachers who prefer the single-grade classroom—and there were many—the focus was usually on the workload and the overwhelming nature of their task. Brown and Martin (1989) asked 34 teachers, all with single- and multi-grade experience, their views on multi-grade teaching. The majority, 79.4%, stated their preference for single-grade classes, 3% preferred the multi-grade class, and 17.6% had no preference. When they were questioned about workload, 75% expressed the belief that significantly more work was required to teach a multi-grade class than a single-grade class.
The Virginia Education Association (AEL/VEA, 1990) studied 87 combination-class teachers. The majority of the teachers, 71%, believed that there was insufficient time to instruct two grade levels, 62% stated that there was insufficient time to plan, 45% expressed the concern that they could never get caught up on written work, and 24% saw absolutely no advantage to this type of classroom.

Delforge and Delforge (1990) interviewed combination-grade teachers in rural North Carolina. Of those who responded, 65% stated that they would not like to teach them again, although 70% believed that their students performed as well academically and socially as did single-grade students, and 69% believed that their students enjoyed the multi-grade room.

The question of grouping students for instruction was also an issue in this study. Although 58% responded that they were in favor of integrating content and mixing grade levels, more than 50% of the teachers stated that students should be kept apart by grade level for academic instruction. The researchers decided that perhaps these mixed data were the result of misunderstandings on the part of the respondents.

Veenman et al. (1987) concluded from their study of students and teachers in mixed-age classes that most teachers provided separate instruction of each class and found this type of class to be very difficult to teach. Clearly, teachers need to be provided with ways to instruct students of different ages and grades together without using the traditional single-grade curriculum. Some of the factors that affect teachers’ reactions to multi-grade classes are discussed in the next section.
Factors That Affect Teacher Attitudes

Several factors were consistently mentioned in the literature as contributing to the difficulty of teaching a multi-grade class. One of the most frequently voiced negatives was the feeling of having to do double (or more) duty. Many teachers who expressed dissatisfaction with multi-grade classes also made statements about preparing "double lessons" and teaching "double groups of students" and made other comments that indicated that they planned for and taught each grade separately (Cobham, 1992; Delforge & Delforge, 1990; Miller, 1989; and others).

Another major frustration was the lack of training for multi-grade instruction. Many teachers said that the universities did not prepare them to teach in combination rooms nor did the school systems in which they were teaching provide adequate inservice to do so (Delforge & Delforge, 1990; Gardner, 1982; Horn, 1983). Related to this problem is another difficulty identified by Katz et al. (1989): That of a general lack of awareness of research information on cross-age studies, mixed-ability grouping, cooperative-learning literature, and other practices that enhance more developmentally appropriate environments. The concept still persists that "putting children of the same age together allows them to be taught all the same thing at the same time on the same day" (cited in Miller, 1991, p. 51). Katz et al. stressed the need for all teachers--but especially for multi-grade teachers--to have a thorough understanding of how children develop.

Some teachers responded negatively to which students were placed in their classes and when they were placed there. For example, they found that having students with special needs or having students placed at varying times throughout the school year was disruptive to their teaching. These practices contributed to the teachers' feelings that the
administration did not appreciate the demanding nature of their task (Delforge & Delforge, 1990).

Another barrier to multi-grade grouping was the lack of resources and materials--especially curricula designed for multi-grade instruction (Delforge & Delforge, 1990; Gayfer, 1991; Miller, 1989; AEL/VEA, 1990). Also, the fact that most published curricula are based on single-grade achievement standards contributes to the attitude that certain content areas are to be covered by students of a certain age (Miller, 1991). Single-grade curriculum expectations are deeply ingrained, and multi-grade teachers find it difficult to break out of the single-grade delivery mode to view their students as a group of learning individuals rather than as students who are "x" years old and who are expected to perform at "x" grade levels.

When multi-grade instruction is the organizational norm of the school, teacher attitudes tend to be more accepting (Pratt & Treacy, 1986). Also, teachers tend to have a more positive attitude when the decision to organize multi-grade classes is based on philosophy rather than on an administrative need (Miller, 1991). Teachers also seem to respond more positively when they use strategies for instruction that promote collegiality, cooperation, and celebration of differences rather than trying to maintain grade-level distinctions (Cobham, 1992; Delforge & Delforge, 1990; Gaustad, 1992; and others). Cobham and Delforge both stated in the conclusions to their studies that teachers who enjoy teaching multi-grades "integrate instruction and mix the grade levels for instruction" (Delforge & Delforge, p. 11).
Summary

This chapter surveyed the educational literature relevant to this study. The review was presented in three major sections: multi-grade education in the Seventh-day Adventist school system in North America, multi-grade education in Canada, and multi-grade education in the United States (one Australian study by Pratt and Treacy was included). Each section briefly examined issues surrounding multi-grade education such as rationale, instructional practices, impact on cognitive and affective development of students, and teacher attitudes.

Multi-grade schools were once the dominant model of education. Although they have been replaced for the most part by single-grade schools, they are still a fact in many parts of the world, in rural areas of the United States and Canada, and in Seventh-day Adventist education. More recently, multi-grade classrooms have been established in urban schools because of enrollment decline and the need to balance teacher/student load.

Several studies examined the effect of multi-grade instruction on the cognitive and affective development of students; few results were obtained at levels of significance (Veenman 1995). Basically student development seems to be as positive for multi-grade as it is for single-grade for most students. Some studies showed a slight advantage with multi-grade for specific areas of affective development, particularly “attitude toward school.”

Most of the studies provided little or no information on the instructional strategies multi-grade teachers use. Teachers most often mentioned teaching a lesson to one group (grade) while the other students worked on seatwork of some kind. Although integrating the curriculum to teach two or more grades at one time was seen as advantageous by
teachers and administrators, for many teachers the ability to do this was named this as one of their biggest problems. Other strategies teachers reported using effectively were group work, resource and learning centers, project work, individualized instruction, cooperative learning, and peer instruction.

The attitude of most teachers about multi-grade instruction was less than positive. Few stated that they preferred a multi-grade classroom to a single-grade room. One of the biggest issues for teachers was the lack of training for multi-grade organization of instruction. Teachers also struggled with trying to use curriculum designed for the single-grade classroom. Teachers who grouped students for instruction whenever possible, who promoted a cooperative, family-like environment, and who minimized the grade-level distinctions in their rooms were generally the most satisfied with their multi-grade class.
CHAPTER 3

METHODOLOGY

Introduction

The purpose of this study was to examine the instructional practices of multi-grade teachers in one- and two-room schools in the Seventh-day Adventist educational system in the United States and Canada. This study also examined the perceptions and attitudes that these teachers hold about their multi-grade teaching assignments. In this chapter, the research design, selection of the population, instrument development, procedure for collection of data, and data analysis are presented.

Research Design

A descriptive survey design was used for this study. A questionnaire was developed and validated before being mailed to a selected population of 500 multi-grade teachers. Research-based follow-up procedures were used to ensure an acceptable response rate.

Population and Sample

The subjects used for this research were drawn from the population of multi-grade teachers listed in the 1995 and 1996 union education directories, produced annually by each union in the NAD. These directories are available from the Andrews University.
School of Education. The names and addresses of each one- and two-room school and their teachers were entered into a data base to be used for printing mailing labels.

Selection of the Sample

In the educational system of the NAD of Seventh-day Adventists, 838 teachers were teaching in a one- or two-room school at the close of the 1994-1995 school year. From this population, a sample of 500 teachers was selected, using a proportionate stratified sampling procedure to ensure appropriate representation from each union in the NAD.

Procedure

A packet containing the following items was mailed to each respondent: a copy of the instrument, a description page that briefly states the critical components of each instructional practice listed in the survey, a self-addressed stamped envelope, and a letter of introduction co-signed by the dean of the School of Education of Andrews University and the researcher. The letter of introduction explained the purpose of the study and requested the respondent's assistance in completing the survey. A letter of endorsement for the study from Dr. Paul Brantley was included in the packet.

Three weeks from the date of the original mailing of the survey, a follow-up letter was sent to respondents who had not yet replied. Final reminder letters were sent four weeks from the original mailing to complete the survey follow-up activities. All questionnaires were given a code number to help in the follow-up process and to assure confidentiality for all respondents. Data were entered into the Statistical Package for the Social Sciences (SPSS) program as the instruments were returned.
Instrumentation

The questionnaire that was used for this study contains both closed- and open-ended questions. It is divided into four areas: (1) demographics, (2) grouping of students, (3) instructional practices, and (4) teacher attitudes and beliefs.

The first area, demographics, was designed to provide information about the individual teacher's age, gender, education, and teaching experience, as well as enrollment facts about his or her current school and classroom. The second area, grouping of students, examined how teachers arrange their students for classroom seating and instruction. In the third section, instructional practices, teachers were asked to respond to a Likert-type scale on their level of expertise and use of a list of practices the educational literature recommends for multi-grade instruction. It also asked teachers to respond to a variety of reasons about why they do or do not use each of these practices. The fourth section, teacher attitudes and beliefs, asked teachers to respond to an "inferior," "comparable," or "superior" Likert-type scale on their perceptions of their students' psycho-social and cognitive development as compared with students in single-grade classrooms. This section ended with four open-ended questions that asked the teachers to share their feelings—positive and negative—about teaching a multi-grade class.

Development of the Instrument

The construction of a valid survey instrument included a study of the literature relating to teacher practices and attitudes. I was unable to find an appropriate instrument for the particular purpose of this study. Many instruments were either totally open-ended...
or did not appear to be content-valid. Consequently, a questionnaire consisting of both open- and closed-response items was developed.

The first step in constructing the instrument was the selection of the instructional practices to use as the basis for teacher response. These practices were selected from among those consistently recommended in the educational literature as being effective for the multi-grade classroom. These instructional practices are cooperative learning, peer tutoring, flexible grouping, whole-group instruction, small-group instruction, computer instruction, literature-based reading, Silent Sustained Reading or Drop Everything And Read, process approach to writing, invented spelling, math manipulatives, hands-on science, project work, integrated thematic instruction, learning centers, individualized instruction, portfolio assessment, and content writing (Banks, 1995; Gaustad, 1992; Grant & Johnson, 1995; Katz et al., 1990; Miller, 1991; Politano & Davies, 1994; and Rathbone et al., 1993). Also, I solicited comments and suggestions from university advisors, teachers, students, and peers who currently are, or have been, involved with multi-grade classroom teaching and/or teachers. Based on an analysis of the literature and suggestions received from the above-mentioned groups, I identified the practices to include in the survey. Some of the practices like cooperative learning and peer tutoring for example, are broad strategies that affect the classroom organization. Other practices such as process writing, literature-based reading, and invented spelling, are specific to a certain discipline and to a philosophy of instruction for that subject area. After selecting the practices, the same procedure was used to decide lists of plausible reasons why teachers might use the practices they do or do NOT use as part of their program.

The focus of the demographic section of the survey was on personal and
educational data and teaching-load description. The specific items were (1) gender, (2) age groups, (3) grade levels taught, (4) student enrollment for room/school, (5) years of teaching experience, (6) educational degree, (7) certification, (8) years taught in multi-grade room, (9) years taught in single-grade rooms, and (10) administrative experience. These items serve as identifiable variables to allow for comparisons of responses and groups in the study population.

The section on teacher perceptions of students' cognitive and affective growth was adapted from a Canadian survey of multi-grade teachers used by Dr. Joel Gajadharsingh (Gayfer, 1991). Language arts, mathematics, science, social studies, art, music, and physical education were the areas listed for cognitive development. The affective development list included independence, dependability, confidence, cooperation, self-concept, social skills, study habits, and attitude toward school. Teachers were asked for their perceptions of how the cognitive and affective development of the average multi-grade student compares with the cognitive and affective development of the average single-grade student. The responses to this section were examined and compared to the number of years of multi-grade and single-grade teaching experience indicated in the demographic section.

The final section of the instrument contained open-ended questions intended to paint a picture of how multi-grade teachers feel about teaching in a multi-grade classroom. These questions asked teachers to name some positive and negative aspects about multi-grade classes, relate what would strengthen their multi-grade teaching, and reveal what they would do if they were offered a single-grade teaching assignment.

Alreck and Settle (1995) state that "a measurement of any kind is valid to the
degree that it measures that which it's supposed to measure" (p. 58). To establish the validity of the survey instrument, I selected a jury of four college professors of education and statistics, two conference educational supervisors, a director of research for a college, two union educational superintendents, and eight multi-grade teachers. Each member was mailed a questionnaire and a cover letter that described the project and its purpose, along with a request for suggestions concerning the content of the survey and construction of the questions. Based on the judgment of the jurors and the recommendations of the advisory committee assisting in the research project, final revisions were made to the survey. A letter of appreciation was sent to each juror and a copy of the abstract of the study was sent upon completion of the project.

Treatment of the Data

Descriptive statistics were the main form of analysis. The data were computer analyzed using the Statistical Package for the Social Sciences (SPSS) software program. The descriptive statistics included frequency counts, percentages, means, and standard deviations for different variables. A ranking of grouped responses was reported.

Summary

This chapter dealt with the research design, population, selection of the sample, development of the instrument, procedure for collection of data, and analysis of the data. A descriptive survey design was used to collect the data for the study. A proportionate stratified sample of subjects to receive the survey was selected from among the teachers listed in the union educational directories as teaching in one- and two-room schools in the United States and Canada. This instrument provided information about teachers'
instructional and grouping practices and their attitudes and beliefs about multi-grade teaching. Descriptive statistics were computed with the SPSS software package.
CHAPTER 4

PRESENTATION OF THE FINDINGS

Introduction

This study examined the instructional practices and attitudes of teachers in one- and two-room schools in the North American Division of Seventh-day Adventists. Data for this study were collected from a mail-out survey instrument. This chapter presents the rate of response for the study, a demographic description of the sample, instructional practices that multi-grade teachers indicate that they use, reasons for the use or non-use of certain instructional practices, teachers’ attitudes toward multi-grade teaching, and a summary.

Response Rate

Surveys were mailed to 500 teachers. Two hundred and eighty surveys were returned yielding a return rate of 56%. Four of the 280 returns were incomplete and therefore were not included in the data-analysis process. Two hundred seventy-six teachers returned completed survey instruments that were included in the data analysis, yielding a net return rate of 55.2%. Table 1 shows the number and the percentage of surveys returned from each of the nine unions.
TABLE 1
SURVEY DISTRIBUTION AND RETURN
BY UNION

<table>
<thead>
<tr>
<th>Union</th>
<th>Surveys Mailed</th>
<th>Surveys Returned</th>
<th>Response Rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic</td>
<td>30</td>
<td>23</td>
<td>0.77</td>
</tr>
<tr>
<td>Canadian</td>
<td>35</td>
<td>13</td>
<td>0.37</td>
</tr>
<tr>
<td>Columbia</td>
<td>58</td>
<td>28</td>
<td>0.48</td>
</tr>
<tr>
<td>Lake</td>
<td>73</td>
<td>49</td>
<td>0.67</td>
</tr>
<tr>
<td>MidAmerica</td>
<td>65</td>
<td>32</td>
<td>0.49</td>
</tr>
<tr>
<td>North Pacific</td>
<td>69</td>
<td>34</td>
<td>0.45</td>
</tr>
<tr>
<td>Pacific</td>
<td>54</td>
<td>38</td>
<td>0.72</td>
</tr>
<tr>
<td>Southern</td>
<td>86</td>
<td>37</td>
<td>0.43</td>
</tr>
<tr>
<td>Southwest</td>
<td>30</td>
<td>16</td>
<td>0.53</td>
</tr>
<tr>
<td>TOTAL</td>
<td>500</td>
<td>280</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Description of the Sample

Descriptive analyses of the data provided an overview of the sample. An examination of these data formed at least a partial profile of the respondents.

Age

As shown in Table 2, more than a third of the respondents were in the age range of 46 through 55 years. Another 14.6% were 56 years of age or older. These data describe a respondent population in which nearly 54% of the teachers are 46 years of age or older.
Gender

About 60% percent of the respondents are female, and about 40% are male. This proportion is similar to other studies of multi-grade teachers in the North American Division.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Frequency</th>
<th>Percentage*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing</td>
<td>8</td>
<td>2.8</td>
</tr>
<tr>
<td>25 or under</td>
<td>13</td>
<td>4.7</td>
</tr>
<tr>
<td>26 through 35</td>
<td>44</td>
<td>15.9</td>
</tr>
<tr>
<td>36 through 45</td>
<td>64</td>
<td>23.5</td>
</tr>
<tr>
<td>46 through 55</td>
<td>107</td>
<td>38.8</td>
</tr>
<tr>
<td>56 and over</td>
<td>40</td>
<td>14.5</td>
</tr>
</tbody>
</table>

*Due to rounding, column may not total 100%.

Teaching Experience

Years of teaching experience ranged from 1 year to 42 years with a mean of 15.8 and a standard deviation of 10.0. The mode was 2 years and the median was 15 years. About one third of the teachers have had 10 or fewer years of experience. Another third have taught more than 20 years.

This study also gathered information on the number of years of teaching experience in multi-grade classrooms and the number of years of experience as a teaching principal. As shown in Table 3, nearly 50% of the teachers have taught in multi-grade classrooms for 10 or fewer years.
About 84% of the respondents have served as teaching principals. About 45% of these teachers have had this administrative responsibility for 5 years or less (Table 3).

**TABLE 3**

YEARS OF TEACHING AND ADMINISTRATIVE EXPERIENCE

<table>
<thead>
<tr>
<th>Range of years of teaching</th>
<th>Multi-grade experience</th>
<th>Total years Teaching</th>
<th>Years as teacher/Principal*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>None</td>
<td>na</td>
<td></td>
<td>na</td>
</tr>
<tr>
<td>1 thru 5</td>
<td>77</td>
<td>27.8</td>
<td>54</td>
</tr>
<tr>
<td>6 thru 10</td>
<td>56</td>
<td>20.3</td>
<td>46</td>
</tr>
<tr>
<td>11 thru 15</td>
<td>46</td>
<td>16.6</td>
<td>46</td>
</tr>
<tr>
<td>16 thru 20</td>
<td>34</td>
<td>12.3</td>
<td>44</td>
</tr>
<tr>
<td>21 thru 30</td>
<td>49</td>
<td>17.8</td>
<td>59</td>
</tr>
<tr>
<td>Over 30</td>
<td>13</td>
<td>4.7</td>
<td>27</td>
</tr>
</tbody>
</table>

*43 respondents indicated they had never served as teacher/principals.

'Due to rounding, column may not total 100%.

**Enrollment Rooms and Schools**

In general, multi-grade schools function in locations where there are few students. It is not surprising, therefore, that the enrollment in many classrooms and schools is small. The range for number of students in a classroom was from 2 to 23, the mode was 9, and the mean was 11 with a standard deviation of 4.1. About two-thirds of the classrooms have 10 or more students.
The range for school enrollment was from 2 to 54 students with a mean of 17.1, a standard deviation of 9.1, and a mode of 9. About 50% of the schools have fewer than 16 students. Three schools had only 3 students; two teachers indicated a school enrollment of only 2 students (Table 4).

**TABLE 4**

**STUDENT ENROLLMENT IN CLASSROOM AND SCHOOL**

<table>
<thead>
<tr>
<th>Class Size</th>
<th>Classrooms Number</th>
<th>%*</th>
<th>Schools Number</th>
<th>%*</th>
</tr>
</thead>
</table>
| 5 or less  | 22                | 8.0| 10 or less     | 79 | 28.6
| 6 to 10    | 108               | 39.1| 11 to 20       | 100| 36.2
| 11 to 15   | 101               | 36.5| 21 to 30       | 70 | 25.4
| 16 to 20   | 34                | 12.3| 31 to 40       | 20 | 7.2
| 21 to 25   | 7                 | 2.5| 41 or more     | 3  | 1.1
| Missing    | 4                 | 1.4| Missing        | 4  | 1.4

*Due to rounding, column may not total 100%.

**Number of Grades Taught**

Table 5 shows that the range for number of grade levels taught is from one to nine. The mode is 4.0 and the mean is 4.8 with a standard deviation of 1.8. About one third of the teachers are currently teaching four grades; another third teach six or more grades. Because of enrollment declines, a few teachers had only one or two grade levels in their classrooms; their responses were included because they are and have been teaching in multi-grade situations even though the decreased enrollment has eliminated grade levels.
TABLE 5
NUMBER OF GRADES TAUGHT BY INDIVIDUAL TEACHER

<table>
<thead>
<tr>
<th>Number of Grades Taught</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>Two</td>
<td>6</td>
<td>2.2</td>
</tr>
<tr>
<td>Three</td>
<td>34</td>
<td>12.4</td>
</tr>
<tr>
<td>Four</td>
<td>90</td>
<td>32.6</td>
</tr>
<tr>
<td>Five</td>
<td>48</td>
<td>17.5</td>
</tr>
<tr>
<td>Six</td>
<td>43</td>
<td>15.3</td>
</tr>
<tr>
<td>Seven</td>
<td>18</td>
<td>6.5</td>
</tr>
<tr>
<td>Eight</td>
<td>22</td>
<td>8.0</td>
</tr>
<tr>
<td>Nine(^b)</td>
<td>5</td>
<td>1.9</td>
</tr>
</tbody>
</table>

\(^a\)Due to rounding, column may not total 100%.
\(^b\)Five teachers reported teaching grades 1 through 8 and kindergarten.

Teachers in multi-grade classrooms must be prepared to teach not only several grades but also a variety of grade configurations. Especially in the one-room school, teachers may have any one of many different grade configurations. (The data from this survey showed 68.) The fact that these configurations are quite likely to vary from one year to the next increases the difficulty of curriculum planning and lesson preparation. Also, having either a first grade or an eighth grade in combination with several other grades is considered to be somewhat more challenging than several middle grades. Table 6 shows the diversity of grade configurations in the respondents' multi-grade classrooms.
TABLE 6
GRADE CONFIGURATIONS TAUGHT BY INDIVIDUAL TEACHERS

<table>
<thead>
<tr>
<th>Grade configuration</th>
<th>Number</th>
<th>Grade configuration</th>
<th>Number</th>
<th>Grade configuration</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 through 4</td>
<td>20</td>
<td>1 through 8</td>
<td>24</td>
<td>5 through 8</td>
<td>53</td>
</tr>
<tr>
<td>K through 8</td>
<td>7</td>
<td>K and 4 or more grades</td>
<td>24</td>
<td>1st and 4 or more grades</td>
<td>20</td>
</tr>
<tr>
<td>8th and 4 or more grades</td>
<td>35</td>
<td>Neither 1st nor 8th but 4 or more grades</td>
<td>8</td>
<td>1st and 8th with 4 or more grades</td>
<td>40</td>
</tr>
<tr>
<td>Mixed levels with 3 or 4 grades</td>
<td>38</td>
<td>9th or 10th with any elementary grades</td>
<td>4</td>
<td>Fewer than 3 grades</td>
<td>3</td>
</tr>
</tbody>
</table>

The survey instrument provided more data than was feasible to address in this particular study. Some of it is referred to only briefly where it provides needed clarification. The material on student grouping for instruction (page 2 of the survey) was used as part of the description of those teachers who are very satisfied or very dissatisfied with their multi-grade teaching assignment. The material not used will be analyzed and interpreted in another study.

Research Questions

Research Question 1

What instructional strategies are used by teachers in one- and two-room schools in the North American Division of Seventh-day Adventists?

The teachers were asked to determine the degree to which specific instructional practices contribute to the effectiveness of their multi-grade programs. The rating scale had five levels: essential, to a great extent, to some extent, very little, or not at all. Table 7 shows the teachers’ ratings of these instructional practices on each level.
### Table 7

**Effectiveness Levels of Instructional Practices As Indicated by Teacher Response**

<table>
<thead>
<tr>
<th>Instructional Practice</th>
<th>&quot;Essential&quot; Number (%)</th>
<th>&quot;To a Great Extent&quot; Number (%)</th>
<th>&quot;To Some Extent&quot; Number (%)</th>
<th>&quot;Very Little&quot; or &quot;Not at All&quot; Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualized instruction</td>
<td>122 (46)</td>
<td>75 (29)</td>
<td>47 (17)</td>
<td>21 (8)</td>
</tr>
<tr>
<td>Small-group instruction</td>
<td>116 (45)</td>
<td><strong>86 (33)</strong></td>
<td>48 (18)</td>
<td>9 (3)</td>
</tr>
<tr>
<td>Silent Sustained Reading</td>
<td>70 (27)</td>
<td>66 (25)</td>
<td><strong>92 (35)</strong></td>
<td>32 (13)</td>
</tr>
<tr>
<td>Whole-group instruction</td>
<td>66 (26)</td>
<td>79 (30)</td>
<td>100 (39)</td>
<td>16 (6)</td>
</tr>
<tr>
<td>Peer tutoring</td>
<td>49 (19)</td>
<td>75 (29)</td>
<td>113 (45)</td>
<td>19 (7)</td>
</tr>
<tr>
<td>Hands-on science</td>
<td>48 (18)</td>
<td>59 (23)</td>
<td>113 (45)</td>
<td>33 (14)</td>
</tr>
<tr>
<td>Math manipulatives</td>
<td>48 (19)</td>
<td>42 (16)</td>
<td>118 (46)</td>
<td>54 (21)</td>
</tr>
<tr>
<td>Flexible grouping</td>
<td>47 (18)</td>
<td><strong>86 (33)</strong></td>
<td>84 (34)</td>
<td>41 (15)</td>
</tr>
<tr>
<td>Content writing</td>
<td>37 (15)</td>
<td>57 (22)</td>
<td>105 (41)</td>
<td>58 (23)</td>
</tr>
<tr>
<td>Project work</td>
<td>36 (15)</td>
<td>57 (22)</td>
<td>105 (41)</td>
<td>56 (22)</td>
</tr>
<tr>
<td>Cooperative learning</td>
<td>36 (15)</td>
<td>63 (24)</td>
<td><strong>123 (47)</strong></td>
<td>38 (14)</td>
</tr>
<tr>
<td>Process writing instruction</td>
<td>30 (12)</td>
<td>63 (24)</td>
<td>97 (38)</td>
<td>68 (28)</td>
</tr>
<tr>
<td>Integrated thematic instruction</td>
<td>25 (10)</td>
<td>50 (18)</td>
<td>81 (30)</td>
<td>105 (40)</td>
</tr>
<tr>
<td>Computer instruction</td>
<td>23 (9)</td>
<td>37 (13)</td>
<td>100 (39)</td>
<td>99 (39)</td>
</tr>
<tr>
<td>Literature-based reading</td>
<td>22 (8)</td>
<td>53 (20)</td>
<td>98 (37)</td>
<td>90 (34)</td>
</tr>
<tr>
<td>Invented spelling</td>
<td>17 (7)</td>
<td>28 (11)</td>
<td>66 (26)</td>
<td>142 (56)</td>
</tr>
<tr>
<td>Learning centers</td>
<td>16 (6)</td>
<td>21 (8)</td>
<td>82 (32)</td>
<td>140 (54)</td>
</tr>
<tr>
<td>Portfolio assessment</td>
<td>9 (3)</td>
<td>25 (10)</td>
<td>51 (21)</td>
<td><strong>170 (67)</strong></td>
</tr>
</tbody>
</table>

**Note.** Numbers in bold indicate highest column number (percentage).
Individualized instruction, small-group instruction, Silent Sustained Reading, whole-group instruction, and flexible grouping are practices that at least 50% of the teachers rated as either essential to or as having a great impact on the effectiveness of their multi-grade teaching. Practices rated at this level of effectiveness by at least one third of the teachers were peer tutoring, hands-on science, math manipulatives, content writing, project work, cooperative learning, and a process approach to writing instruction.

Fewer than 20% of the teachers identified integrated thematic instruction, math manipulatives, computer instruction, invented spelling, portfolio assessment, and learning centers as having a great impact on their teaching.

Those practices rated as used very little or not at all by more than one third of the teachers were portfolio assessment, learning centers and invented spelling, computer instruction, and integrated thematic instruction, and literature-based reading. Between 20% and 30% of the teachers responded that they used content writing, process approach to writing, math manipulatives, and project work very little or not at all.

Level of expertise

The teachers were also asked to rate their level of expertise in the use of these specific instructional practices. The scale for levels of expertise included proficient in use, have had training and use, try to use, aware of, and never heard of. Reported levels of expertise varied considerably for the different practices. About one half or more of the respondents indicated having proficiency or at least some training in small-group instruction, individualized instruction, whole-group instruction, Silent Sustained Reading, math manipulatives, and hands-on science. Between one third and

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one half of the teachers reported proficiency or some training in peer tutoring, flexible
(grouping, computer instruction, literature-based reading, content writing, process writing,
project work, integrated thematic instruction, and learning centers. About 20% of the
teachers indicated that they had proficiency or some training in invented spelling and
portfolio assessment.

The practices that one third or more of the teachers reported having tried to use
included peer tutoring, process approach to writing, computer instruction, hands-on
science, content writing, cooperative learning, flexible grouping, math manipulatives, and
learning centers.

Teachers most often rated invented spelling (58%), portfolio assessment (59%),
integrated thematic instruction (34%), and literature-based reading (30%) as either "never
having heard of" or "only being aware of." Computer instruction and cooperative learning
were reported at these levels of expertise by 14% of the respondents. Table 8 shows the
rounded percentages for each practice and rating.

Research Question 2

Why do teachers choose to use or not use specific instructional practices?

The responses indicating why teachers choose to use each of the practices on the
survey varied somewhat with each particular instructional practice. In general the range
for each reason, however, was not great. The reason most often cited for using a
particular practice (19.9%) was "effective for multi-grade." The second most often cited
reason for using a particular practice was "fits my teaching style" (15.2%). Several
TABLE 8

PERCENTAGE OF TEACHERS' SELF-RATED LEVELS OF EXPERTISE
BY SPECIFIC PRACTICE

<table>
<thead>
<tr>
<th>Instructional Practice</th>
<th>&quot;Proficient in use&quot;</th>
<th>&quot;Have had training and use&quot;</th>
<th>&quot;Try to use&quot;</th>
<th>&quot;Aware of&quot; / &quot;Never heard of&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small-group instruction</td>
<td>53</td>
<td>28</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Individualized instruction</td>
<td>50</td>
<td>25</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>Whole-group instruction</td>
<td>43</td>
<td>30</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>Silent Sustained Reading</td>
<td>38</td>
<td>31</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Peer tutoring</td>
<td>24</td>
<td>24</td>
<td>49</td>
<td>3</td>
</tr>
<tr>
<td>Flexible grouping</td>
<td>23</td>
<td>26</td>
<td>36</td>
<td>15</td>
</tr>
<tr>
<td>Math manipulatives</td>
<td>19</td>
<td>34</td>
<td>36</td>
<td>11</td>
</tr>
<tr>
<td>Project work</td>
<td>18</td>
<td>26</td>
<td>44</td>
<td>12</td>
</tr>
<tr>
<td>Content writing</td>
<td>15</td>
<td>28</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>Hands-on science</td>
<td>14</td>
<td>39</td>
<td>41</td>
<td>6</td>
</tr>
<tr>
<td>Literature-based reading</td>
<td>14</td>
<td>30</td>
<td>25</td>
<td>31</td>
</tr>
<tr>
<td>Process approach to writing</td>
<td>13</td>
<td>27</td>
<td>41</td>
<td>19</td>
</tr>
<tr>
<td>Cooperative learning</td>
<td>13</td>
<td>37</td>
<td>36</td>
<td>14</td>
</tr>
<tr>
<td>Integrated thematic instruction</td>
<td>11</td>
<td>32</td>
<td>23</td>
<td>34</td>
</tr>
<tr>
<td>Learning centers</td>
<td>11</td>
<td>23</td>
<td>34</td>
<td>32</td>
</tr>
<tr>
<td>Computer instruction</td>
<td>9</td>
<td>30</td>
<td>43</td>
<td>18</td>
</tr>
<tr>
<td>Invented spelling</td>
<td>5</td>
<td>15</td>
<td>22</td>
<td>58</td>
</tr>
<tr>
<td>Portfolio assessment</td>
<td>3</td>
<td>17</td>
<td>21</td>
<td>59</td>
</tr>
</tbody>
</table>
other reasons given for the teachers' choices of instructional practices were: it fit their educational philosophy (13.2%), it accommodated the multiple intelligences (12.9%), teacher education (9.4%), ease of implementation (7.2%), inservice training (5.7%), encouraged by their conferences (4.7%), and peer recommendations (2.6%) (Table 9).

### TABLE 9

**REASONS FOR USE OF INSTRUCTIONAL PRACTICES**

<table>
<thead>
<tr>
<th>Reasons for Use of Instructional Practice</th>
<th>Rank Order of Reasons</th>
<th>Percentage of Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher education training</td>
<td>5th</td>
<td>9.4</td>
</tr>
<tr>
<td>Inservice training</td>
<td>8th</td>
<td>5.7</td>
</tr>
<tr>
<td>Recommended by a peer</td>
<td>10th</td>
<td>2.6</td>
</tr>
<tr>
<td>Encouraged by conference</td>
<td>9th</td>
<td>4.7</td>
</tr>
<tr>
<td>Effective for multi-grade</td>
<td>1st</td>
<td>19.9</td>
</tr>
<tr>
<td>Accommodates multiple intelligences</td>
<td>4th</td>
<td>12.9</td>
</tr>
<tr>
<td>Fits my educational philosophy</td>
<td>2nd</td>
<td>15.2</td>
</tr>
<tr>
<td>Fits my teaching style</td>
<td>3rd</td>
<td>13.2</td>
</tr>
<tr>
<td>Easy to implement</td>
<td>7th</td>
<td>7.2</td>
</tr>
<tr>
<td>I would like more training</td>
<td>6th</td>
<td>9.2</td>
</tr>
</tbody>
</table>

Although fewer than 10% of the total number of responses indicated that teachers would like more training, questions about specific practices received a much greater response. Nearly one third of the teachers expressed a desire for additional training in computer use, about one fourth wanted to learn about portfolio assessment, and slightly
fewer than one fifth indicated an interest for training in the combined areas of language-arts development, literature-based instruction, content writing, process approach to writing, and invented spelling.

TABLE 10

<table>
<thead>
<tr>
<th>STRATEGIES FOR WHICH MORE THAN 25 TEACHERS DESIRED TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Computer Instruction</td>
</tr>
<tr>
<td>Portfolio Assessment</td>
</tr>
<tr>
<td>Literature-based Instruction</td>
</tr>
<tr>
<td>Process Writing</td>
</tr>
<tr>
<td>Integrated/thematic Instruction</td>
</tr>
<tr>
<td>Invented Spelling</td>
</tr>
</tbody>
</table>

Non-use of practices

The greatest percentage of teachers stated that “Am not familiar with, don’t know if I’d like to use or not” was the reason for their nonuse of a practice. The second ranked reason was “requires too much preparation time.” However, the third, fourth, and fifth ranked reasons all related to the need for training and resources. The reason for non-use that received the fewest number of responses from the teachers was “not helpful in the multi-grade classroom” (Table 11).

Table 12 itemizes the number of teacher responses for each non-use “reason” for
### TABLE 11

**REASONS FOR NON-USE OF INSTRUCTIONAL PRACTICES**

<table>
<thead>
<tr>
<th>Reasons for Non-use of Instructional Practice</th>
<th>Rank Order of Reasons</th>
<th>Percentage of Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not fit my educational philosophy</td>
<td>6th</td>
<td>7.4</td>
</tr>
<tr>
<td>Am not familiar with: Don't know if I'd like to use or not</td>
<td>1st</td>
<td>17.4</td>
</tr>
<tr>
<td>Would like to use if I had training and/or resources</td>
<td>3rd</td>
<td>15.6</td>
</tr>
<tr>
<td>Does not contribute to completion of course work</td>
<td>9th</td>
<td>3.5</td>
</tr>
<tr>
<td>Does not support my management style</td>
<td>7th</td>
<td>6.6</td>
</tr>
<tr>
<td>Not helpful in a multi-grade classroom</td>
<td>10th</td>
<td>2.2</td>
</tr>
<tr>
<td>Do not have the necessary resources</td>
<td>5th</td>
<td>11.1</td>
</tr>
<tr>
<td>Requires too much preparation time</td>
<td>2nd</td>
<td>15.8</td>
</tr>
<tr>
<td>Have not had needed training</td>
<td>4th</td>
<td>15.4</td>
</tr>
<tr>
<td>Too unstructured</td>
<td>8th</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Those instructional practices used at the “essential” or “great extent” level by fewer than 50% of the teachers. Several strategies are not included in this table because more than 50% of the teachers reported using them at the “essential” or “to a great extent” level. To facilitate readability, several similar variables were combined to form one “reason.”

“Does not fit my educational philosophy,” “does not support my management style,” etc.
style,” “does not contribute to completion of course work,” and “too unstructured” were combined and named as “does not fit my teaching style.” “Would like to use if I had training and/or resources,” “do not have necessary resources,” and “have not had needed training” are combined and named as “need training and/or resources.”

The percentage figure after each strategy gives the percentages of teachers who reported using that particular practice at the “essential” or “great” level. Since teachers responded to this table only if they did not use the practice, the numbers of responses are few for those strategies used by more teachers.

The “reason” that received the greatest number of responses (371) was the combination of need for training and resources. Computer instruction, portfolio assessment, literature-based reading, learning centers, and integrated/thematic instruction were the practices most frequently marked in this category.

The next highest marked reason was (218) was “Does not fit teaching style.” The three practices marked most frequently were invented spelling, portfolio assessment, and learning centers. “Am not familiar with; don’t know if I’d like to use or not” was a reason marked for invented spelling 42 times and for portfolio assessment 32 times.

Another frequently expressed reason for non-use (162 times) was “requires too much preparation time.” This statement received particularly heavy attention for the practices of portfolio assessment (32), integrated thematic instruction (26), and learning centers (46). Very few teachers indicated that any of the practices were not helpful in the multi-grade classroom. (I was surprised that even 6 teachers indicated that cooperative learning was “not helpful.”)
<table>
<thead>
<tr>
<th>Instructional Practice</th>
<th>&quot;Does not fit teaching style&quot;</th>
<th>&quot;Not familiar with practice&quot;</th>
<th>&quot;Practice not helpful in multi-grade&quot;</th>
<th>&quot;Too much preparation time&quot;</th>
<th>&quot;Need training and/or resources&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer tutoring / 48%</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Hands-on science / 42%</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Cooperative learning / 38%</td>
<td>16</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Project work / 37%</td>
<td>6</td>
<td>12</td>
<td>1</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Content writing / 37%</td>
<td>5</td>
<td>14</td>
<td>2</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>Process writing / 36%</td>
<td>4</td>
<td>14</td>
<td>2</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>Math manipulatives / 34%</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Literature-based read / 28%</td>
<td>13</td>
<td>14</td>
<td>2</td>
<td>10</td>
<td>52</td>
</tr>
<tr>
<td>Integrated/thematic / 28%</td>
<td>27</td>
<td>12</td>
<td>4</td>
<td>26</td>
<td>41</td>
</tr>
<tr>
<td>Computer instruction / 22%</td>
<td>2</td>
<td>12</td>
<td>0</td>
<td>3</td>
<td>66</td>
</tr>
<tr>
<td>Invented spelling / 18%</td>
<td>52</td>
<td>42</td>
<td>0</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>Learning centers / 14%</td>
<td>37</td>
<td>1</td>
<td>1</td>
<td>46</td>
<td>42</td>
</tr>
<tr>
<td>Portfolio assessment /13%</td>
<td>45</td>
<td>32</td>
<td>1</td>
<td>32</td>
<td>63</td>
</tr>
</tbody>
</table>

TABLE 12

NUMBER OF TEACHER RESPONSES FOR REASONS OF LIMITED USE OF CERTAIN INSTRUCTIONAL PRACTICES

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Statistical analysis were done to determine any possible relationships between the demographic data and teachers' indicated use and expertise levels of practices. There was no consistent, significant pattern of relationship shown on the Chi Square tests. However, a few individual tests show significance at the .05 level.

There was a significant positive correlation between years of teaching experience and higher levels of expertise for the instructional practices of peer tutoring and small group instruction (those with 11 or more years of teaching experience indicated higher levels of expertise). There was a significant negative correlation between years of teaching experiences and expertise level with literature-based reading (those with 1-5 years of experience indicated higher levels of expertise) (Appendix D). (Interestingly, this significance was not present for “use-level” of these strategies.)

There was also a significant negative correlation (.05 level) between years of teaching experience and “teacher education training” indicated as a reason for using portfolio assessment, invented spelling, integrated/thematic instruction, and literature-based instruction.

All data was analyzed by Unions. In one union there was a significant (.04311) correlation between “Inservice training” as a reason for using literature-based instruction. Although one union had somewhat more teachers than would be expected reporting high levels of use and expertise for cooperative learning and peer tutoring, and another union had fewer teachers than would be expected reporting high expertise for flexible grouping.
and whole group instruction, there were no other significant (at the .05 level) relationships found (Appendix D).

Grouping for instruction

The data on grouping of students across grade levels was difficult to analyze with clarity because of the disparity of grade-level configurations in each classroom. I have organized the data into four groups: classrooms with grades 1-4, classrooms with grades 1-8 (with at least 6 grade levels present including 1st and 8th), classrooms with grades 5-8, and all other grade-level configurations. I examined the grouping practices for Bible, Social Studies, Science, and Language Arts since these are the core subjects for which there is at least some support from the administration and in the manner of the curriculum organization for grouping across grade-levels. I did not include the data from the "all other grade-level configurations" in tables 13-15.

TABLE 13

GROUPING PRACTICES OF GRADES 1 TO 4 TEACHERS FOR BIBLE, SCIENCE, SOCIAL STUDIES, AND LANGUAGE ARTS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Grades 1-2/3-4</th>
<th>Grades 1-4</th>
<th>All Grades Separate</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bible</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Science</td>
<td>12</td>
<td>8</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Social Studies</td>
<td>14</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Language Arts</td>
<td>6</td>
<td>0</td>
<td>14</td>
<td>0</td>
</tr>
</tbody>
</table>

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TABLE 14

GROUPING PRACTICES OF GRADES 5 TO 8 TEACHERS FOR BIBLE, SCIENCE, SOCIAL STUDIES, AND LANGUAGE ARTS

<table>
<thead>
<tr>
<th>Subject</th>
<th>N=63 Grades 5-6/7-8</th>
<th>Grades 5-8</th>
<th>Grades Separate</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bible</td>
<td>58</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Science</td>
<td>52</td>
<td>10</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Social Studies</td>
<td>53</td>
<td>9</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Language Arts</td>
<td>5</td>
<td>10</td>
<td>48</td>
<td>0</td>
</tr>
</tbody>
</table>

TABLE 15

GROUPING PRACTICES OF GRADES 1 TO 8 TEACHERS FOR BIBLE, SCIENCE, SOCIAL STUDIES, AND LANGUAGE ARTS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Grades 1-2/3-4</th>
<th>Grades 1-4</th>
<th>Grades 5-6/7-8</th>
<th>Grades 5-8</th>
<th>All Grades Separate</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bible</td>
<td>0</td>
<td>67</td>
<td>64</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Science</td>
<td>58</td>
<td>13</td>
<td>62</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Social Studies</td>
<td>56</td>
<td>15</td>
<td>59</td>
<td>12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Language Arts</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>45</td>
<td>12</td>
</tr>
</tbody>
</table>

All teachers combine grades 1 to 4 to teach Bible. The majority of the teachers taught Language Arts to separate grades. Most teachers taught social studies and science to two grades at a time (1-2, 3-4, 5-6, 7-8). One teacher (recorded under “other”) grouped Bible by combining grades 1-6 and 7-8. Another teacher taught language arts by combining grades 1 and 2 together, and 3 through 8 together.
Research Question 3

How do multi-grade teachers feel about teaching multi-grade classrooms?

Data were gathered about teachers' attitudes and beliefs on two parts of the survey. The first part asked teachers to respond to questions about their attitudes and beliefs about the psycho-social and cognitive development of the "average student" in the multi-grade classroom in comparison to the "average student" in the single-grade classroom. They were asked to indicate if they believed that the development of students in a multi-grade classroom was "inferior," "comparable," or "superior" to that of their peers in single-grade classrooms.

The traits listed for the comparison of psycho-social development were those commonly cited in the literature. They were used in a similar manner in Gajadharsingh's study of multi-grade teachers in Canada and included independence, dependability, confidence, cooperation, self-concept, social skills, study skills, and attitude toward school (Gayfer, 1991). As can be seen in Table 16, the majority of ratings were in the "comparable" or "superior" range. The "inferior" ratings ranged from a low of .4% for dependability and confidence to a high of 4.1% for social skills. None of the teachers rated the development of independence as inferior in the multi-grade room. In fact, nearly 80% of the teachers rated it at the superior level. Cooperation was given a "superior" rating by about 68% of the teachers. Those traits that were rated as superior by at least 40% of the teachers were study skills (53.5%), social skills (52.4%), confidence (47.2%), and self-concept (40.7%). Dependability (38.5%) and attitude toward school (35%) were rated at the superior level by the fewest number of teachers.
TABLE 16
RATINGS OF THE DEVELOPMENT OF PSYCHO-SOCIAL TRAITS
BY PERCENTAGES OF MULTI-GRADE TEACHERS

<table>
<thead>
<tr>
<th>Trait</th>
<th>N</th>
<th>Inferior</th>
<th>Comparable</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independence</td>
<td>254</td>
<td>0.0</td>
<td>21.2</td>
<td>78.8</td>
</tr>
<tr>
<td>Dependability</td>
<td>244</td>
<td>.4</td>
<td>61.6</td>
<td>38.5</td>
</tr>
<tr>
<td>Confidence</td>
<td>246</td>
<td>.4</td>
<td>52.4</td>
<td>47.2</td>
</tr>
<tr>
<td>Cooperation</td>
<td>247</td>
<td>.7</td>
<td>30.8</td>
<td>68.4</td>
</tr>
<tr>
<td>Self-concept</td>
<td>243</td>
<td>2.1</td>
<td>57.2</td>
<td>40.7</td>
</tr>
<tr>
<td>Social Skills</td>
<td>246</td>
<td>4.1</td>
<td>43.5</td>
<td>52.4</td>
</tr>
<tr>
<td>Study Skills</td>
<td>245</td>
<td>1.6</td>
<td>44.9</td>
<td>53.5</td>
</tr>
<tr>
<td>Attitude Toward</td>
<td>243</td>
<td>3.7</td>
<td>61.3</td>
<td>35.0</td>
</tr>
</tbody>
</table>

The greatest percentage of teachers rated cognitive development of the average multi-grade student as "comparable" to that of the single-grade student in all of the subject areas. The "inferior" ratings ranged from 3.7% for language arts to 32.5% for physical education. The other subject areas that the greatest percentage of teachers rated as "inferior" were music (27.3%), art (18.4%), and science (13.2%); only about 5% of the teachers rated cognitive development in math and social studies as inferior.

At least half of the teachers rated the cognitive development of multi-grade students as "comparable" to their single-grade peers in all of the subject areas. About one third of the teachers rated multi-grade students' development in mathematics and language...
TABLE 17
MULTI-GRADE TEACHERS' RATING OF THE COGNITIVE DEVELOPMENT OF THEIR MULTI-GRADE STUDENTS

<table>
<thead>
<tr>
<th>Subject</th>
<th>N</th>
<th>Inferior (%)</th>
<th>Comparable (%)</th>
<th>Superior (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language arts</td>
<td>246</td>
<td>3.7</td>
<td>59.3</td>
<td>37</td>
</tr>
<tr>
<td>Mathematics</td>
<td>245</td>
<td>4.9</td>
<td>55.9</td>
<td>39.2</td>
</tr>
<tr>
<td>Science</td>
<td>243</td>
<td>13.2</td>
<td>58.8</td>
<td>28</td>
</tr>
<tr>
<td>Social studies</td>
<td>245</td>
<td>5.7</td>
<td>66.5</td>
<td>27.8</td>
</tr>
<tr>
<td>Art</td>
<td>244</td>
<td>18.4</td>
<td>68.9</td>
<td>12.7</td>
</tr>
<tr>
<td>Music</td>
<td>242</td>
<td>27.3</td>
<td>59.1</td>
<td>13.6</td>
</tr>
<tr>
<td>Physical education</td>
<td>243</td>
<td>32.5</td>
<td>55.6</td>
<td>11.9</td>
</tr>
</tbody>
</table>

arts as "superior" and about one fourth rated development in science and social
studies as “superior.” Only a little more than 10% of the teachers rated cognitive
development of art, music, or physical education as superior (Table 17).

Qualitative Responses

Data on teachers' attitudes and beliefs were also gathered from several open-ended
questions. Teachers were asked to complete the following statements:

1. I prefer teaching in a multi-grade classroom because . . .
2. I do NOT prefer teaching in a multi-grade classroom because . . .
3. My multi-grade teaching would be strengthened if . . .
4. If I were offered a single-grade classroom I would . . .

An examination of the responses revealed several repetitive themes. The teachers'
comments were grouped under general headings based on similarity of phrases, ideas, or
concerns. The following section discusses the grouped responses and some of the teachers' specific quotes.

Statement 1

*I prefer teaching in a multi-grade classroom because . . .*

The responses to this statement were grouped under the following headings: professional satisfaction, flexibility of instruction to meet students' needs, cross-age cognitive interaction, family setting and small class-size, cross-age social interaction, number of years with same student, students more cooperative and/or independent, closer teacher-student relationship, location--country, small church, etc.--no other options, and parental support. The number in parentheses following the subheading indicates the number of comments in that category.

*Professional satisfaction (115)*

Responses under this heading described multi-grade teaching as autonomous, satisfying, challenging, exciting (not boring, and full of variety). Some specific comments were "I really like the variety and the challenge of teaching all eight grades," "I can be independent and run my own program," "I am not bored; there is always something exciting happening," "I feel like I am my own boss; I can run my own program," "I like the uniqueness and the variety. . . . I'd probably be bored in a single-grade room."

Although the "variety and challenge" were viewed as professionally satisfying to some teachers (but little short of a nightmare to others), the autonomy was viewed as positive by some who were not otherwise satisfied with multi-grade teaching.
Flexibility of instruction to meet needs (95)

More than one third of the teachers named the ability to meet individual needs as an advantage in their multi-grade classroom. Some spoke of the ability to be flexible in student learning levels and of the ease with which learning could be speeded up or slowed down, depending on the content or the students. One teacher stated, "I can go slow or fast for a particular student without it being a problem with peers." Another teacher referred to being able to allow students to work and learn at different levels "with less stigma for the student."

Cross-age cognitive interaction (91)

Again, more than one third of the teachers wrote of the power of students learning from one another across age levels and ability levels. Some discussed the multi-grade classroom as a "serendipitous" learning experience, with students hearing other children being taught and thus assimilating at least some portion of the information themselves. This information might serve as a type of advance organizer for learning above the student's level or for material already covered by the student; it also has the potential to serve as a helpful or much-needed review. Several specific comments were "the learning just seems to overflow and reinforce skills at several levels at the same time," "the children learn from each other and this can accelerate their rate of learning," and "the cross-section of abilities provides many opportunities for peer tutoring and allows students to learn from and work with students at all grade levels."
Family setting and small class-size (83)

Many teachers referred to their class structure as being like a family. Those who had a smaller class-size appreciated this feature and the closeness that it engendered. Numerous specific comments referred to “the family atmosphere” or “the family-like setting.” Although nearly one third of the teachers considered the smaller number of students a definite advantage in multi-grade teaching, their overall satisfaction with their multi-grade classrooms did not seem to be significantly affected by either greater numbers of students or increased numbers of grade levels. In fact, some of the teachers with the heaviest teaching loads were among the most positive or the least dissatisfied, whereas some of the teachers who expressed the most negative feelings toward multi-grade teaching had classrooms with fewer numbers of students and grade levels.

Cross-age social interaction (60)

Many teachers expressed the advantages of social interaction between students of several age levels, grade levels, or both. Several commented that they believed that the opportunity better prepared students for later socialization in their personal and professional lives. Others mentioned that the decreased effect of peer pressure with a more diverse age group was a positive factor.

Number of years with student (48)

Most of the teachers who held positive beliefs about multi-grade teaching mentioned having students for more than 1 year as an advantage. They commented on “getting to know them [the students] better,” “having longer to help the student grow and learn,” and the opportunity to work for several years with “students who have difficulty
learning or working with other children." Obviously, having to work for several years
with students who have behavior or learning problems might be considered a negative; yet
only two teachers made unfavorable comments about this factor. Two other teachers who
expressed concern in this area did so from the standpoint that the weaknesses of the
teacher might pose a problem for students over time.

_Students more cooperative and/or independent (48)_

Several of the comments in this area were similar to or in conjunction with the
comments about "family-like atmosphere" or small class-size. Teachers' responses were
included in this category only if they described improved cooperation or independence.
More than a few teachers expressed the belief that students working together with
students who were both younger and older than themselves tended to encourage a more
cooperative environment in which they learned to work more independently and
cooperatively with each other as well as with the teacher.

_Closer teacher-student relationship (38)_

This heading is examined separately from "number of years with student," because
several teachers referred specifically to the increased closeness and strength of a
relationship when it has a longer period of time to develop. The comments included in this
category seemed to go beyond the idea of having the student longer as being a way to
develop a relationship; rather, they focused on the endurance and power of the longer-t
term partnership formed by the student and the teacher and the family.
Location—country, small church, and so forth (25)

Some teachers plainly stated that one of the biggest appeals of the small school was the fact that it was often located in a less populated area. Several teachers qualified their answer to the question about whether or not they would accept a single-grade classroom by stating they would be interested in moving only if they were able to live in a “country-like” setting. Others who were already in such a setting stated that they would not want to leave it.

No other options (14)

A few teachers commented that the multi-grade classroom was the only opportunity that they had had for a teaching assignment. One teacher who had spent a number of years in a multi-grade setting said, “I am locked into it [multi-grade teaching]—superintendents have said that I am good at it, and that’s where they want me to stay.” Another replied, “I’ve never had an option not to [teach multi-grade]!” Some teachers seemed frustrated by this situation; others were much more accepting—even expressing a kind of pride in having “stuck with it” or in being considered successful at what they perceived as a less-than-easy task!

Parental support (5)

Unfortunately, support from parents was not often mentioned in the “positive “ category. More often “lack of support” was mentioned, although not by a great number of teachers.
Statement 2

"I do not prefer teaching a multi-grade classroom because . . ."

Many of the teachers (even those who spoke positively about multi-grade teaching) stated that teaching in a multi-grade classroom was much more difficult than teaching a single-grade room. For some teachers, the challenge was worth the additional effort because they perceived "other" benefits or because they generally enjoyed the challenge. For others, the challenge mostly meant that they would have to invest more time and effort into their teaching. In the words of one teacher, "[multi-grade teaching] requires a LOT of hard work and organization, all of which can be quite overwhelming."

Another teacher stated that "the preparation and teaching load is overwhelming, leading to regular burnout. Also, I don’t have the time or expertise to deal with necessary administrative work [of being a principal, too]."

The most frequently stated (238 times) reason for not teaching in the multi-grade classroom could probably be summed up as "too much": too heavy a workload, too many lesson preparations, too many roles to satisfy, too many age levels or grade levels, too many classes to teach. Several teachers expressed their concern about not being able to meet all the demands adequately: "I feel I can never shine in one area"; "I feel I am simply ‘maintaining’ most of the time"; "In language arts I can give my best because it comes naturally to me, [but] I CANNOT do it every day!"; "Many times I feel shortchanged on the amount of attention and time I can give to individual concepts and skills"; "I fear that sometimes I’m not able to provide as ideal a learning environment—sort of like the man at the circus spinning plates!"

Teachers consistently voiced distress about trying to cover all the subjects and all
the grade levels. They were concerned about having time for review, adequate time for class discussion, time to teach new concepts, time to do the amount of studying and reading needed for junior-high subjects, and time to “get to” each student or class or subject each day. Many felt that grading and paper work occupied too much of their time, so that they are forced “[to go] through the book and/or workbook instead of using projects or research” as much as they would prefer. The following statement echoes the theme of numerous responses:

Planning for and instructing multiple grades can be a logistical nightmare. This is especially true if there are multiple ability levels within each grade. At times I feel that I am just a dispenser of assignments because the opportunity to present full-sized lessons with sufficient follow-up time is limited.

A number of teachers verbalized that increased use of group work, combined grade-level instruction, and more integration of subject matter would improve their teaching (and their life), but many seemed either at a loss as to how to actually do that, or felt that they could not because of the structure of the textbook, or the expectations of the organization.

Although a majority of the teachers grouped grade levels for music, art, and physical education, these areas were often named as being the most difficult to teach well. About 20 teachers specifically mentioned a feeling of inadequacy or frustration at having to add these preparations to their already-complex task. A few of the teachers also expressed the feeling that grouping the grades in these areas was more a matter of management necessity than of desirability.

Multi-grade teachers also have to “do it all”! Again, for some this prevents boredom, or it is at least a tolerable challenge; for others, “the challenge is more than I can handle at times.” One teacher’s list included “fixing the broken toilet, ordering school
supplies, planning field trips, and encouraging people to pay their bills.” Others added being nurse, counselor, and janitor, principal, and board secretary. The amount of paperwork, especially as the principal or head teacher, was frequently mentioned as consuming too much of the teacher’s time.

The teachers’ responses included 35 specific references to feelings of isolation and professional stress. The count would be much higher if all the statements that had isolation or stress as an underlying theme were included. Several teachers lamented the fact that they had not had even a few minutes in the day to themselves. Some of the responses included being overworked, no time for a life except for school, spending 6 days a week on grading and lesson planning, having too much responsibility and always being behind. And the list goes on. These frustrations are heightened by the fact that many of these teachers have no opportunity for peer interaction or support. One poignant response was, “It’s so lonely—there is no other teacher to commiserate or rejoice with!”

Areas of concern that were specifically mentioned by a few teachers were the lack of resources—materials, money, and space; students with special needs; and unstable school situations. Teachers who must teach in what they perceive to be inadequate space—a room too small to allow space for learning centers or teaching in “fellowship hall” or in a Sabbath School room—feel the additional challenge. Several teachers also stated that necessary materials—especially library books, computers, and science equipment—are often in short supply.

The challenge of meeting the needs of special students was specifically referred to by only a few teachers. The consensus seemed to be that their load was already too heavy and they were ill-prepared to cope with any additional problems. They felt that the
student with a serious difficulty demanded too great a proportion of their time and that they were probably not able to do the best for that particular student.

The five references to an “unstable situation” described settings where because of low enrollment it was difficult to determine from year to year if the school would continue to operate. Several of these teachers spoke of having to get out to recruit or campaign in the spring to be sure of a school (and a teaching position) in the fall. Obviously, this condition is neither encouraging nor reassuring.

Statement 3

“My multi-grade teaching would be strengthened if...”

The responses to this statement were grouped under four general headings: specific needs for multi-grade training, curriculum, and strategies; additional resources—human, material, time, and money; increased support (or felt support) from conferences, pastors, boards, and parents; and finally, a decrease—in the number of papers to grade, the quantity of conference paperwork to fill out, and the number of grade levels to teach.

Over 175 statements described specific multi-grade needs. About one fourth of the teachers indicated that their teaching would be strengthened if they had curricula designed expressly for the multi-grade classroom and if they increased their use of multi-grade teaching strategies. However, about one third of the teachers commented on their lack of training. Some believed that they had been ill-prepared to teach multi-grade in their pre-service education; more asked for additional training in multi-grade strategies. Clearly, a considerable number of teachers feel they are working very hard but are hampered in obtaining the goals they would like for lack of training and materials.
The cry for multi-grade curricula was repeated numerous times; indeed, it was the single most named response that teachers gave for strengthening their teaching. Some teachers commented on the helpfulness of the *Small Schools English*. However, nearly 50% of the teachers were not combining grades at all for language arts, about 20% were teaching two grades together (1-2, 3-4, 5-6, 7-8), another 20% were combining grades 1-4 or 5-8 for instruction, and a few others had a variety of grade configurations. Only 10 teachers with more than five or six grade levels reported combining them for language-arts instruction. (Nine of these teachers were in the “satisfied” group discussed later in this chapter.) Possibly some of the teachers do not even know about or have this particular small-schools curriculum because several teachers stated that they were going to sit down with their English textbooks and “cross-reference their English lessons” to teach the content to more than one or two grades at a time. Another teacher asked for “inservices to provide practical instruction; e.g., take six of our math books or English books and show us how to teach out of just one book for a month.” This same teacher stated that she had more than 40 different assignments and preparations a day; this was not an unusually high number--several teachers listed more.

Teachers commented on having “little or no training in the teaching practices needed to teach multi-grade classrooms,” on wanting to be “taught how to use the multi-grade teaching style.” They wanted “realistic, pertinent inservices” that provided “useful, workable” information and training on using multi-grade strategies and in the “latest techniques” that would help them to integrate grade levels and content materials. The teachers also asked for thematic and literature-based units as well as instruction in how to work across grade levels without having to depend so heavily on the text/workbooks.
The responses about combining grade levels for the teaching of science, social studies, and—to a lesser degree—Bible were similar to those for the language arts discussed earlier. Most of the teachers combined grades 1 through 4 for Bible instruction (a few combined grades 1 through 6), and prepared two Bible lessons for grades 5-6 and 7-8. Upper-grade science and social studies were taught across the 5-through-8 grade levels by only about 10% of the teachers; only six reported combing five or more grades. The rest of the teachers prepared lessons for each two-grade combination in their classroom.

Teachers asked for both training and resources in their plea for “updated computers” and the instruction needed to use equipment in their classroom. Teachers also stated the need for an aide—either full-time or part-time—and for materials to enrich the instructional programs in their classrooms. (Math manipulatives, materials for science instruction, and books for literature-based reading were specifically mentioned by several teachers.) The survey did not specifically ask teachers whether or not they had an aide, but more than 50 mentioned the need for additional help. Money can also be scarce in many small schools. Teachers talked about being unable to buy materials for learning centers, science experiments, art, and other content areas. Several mentioned having to pay for materials out of their own money. The lack of time was frequently an issue: time to teach so many different grade levels, time to prepare so many different lessons, time to grade so many papers, time to fulfill multiple roles. More than a few teachers asked for 54-hour days.

Nearly 70 teachers spoke of the need for more support. It was difficult to narrow this request to a particular need, but some common themes existed. For example, teachers wanted the conferences (and unions) to provide more multi-grade materials, more training,
and more opportunities to meet with other multi-grade teachers. Several teachers expressed feelings of just “being out there on my own.” “That no one comes around, and when they do it seems as if it is to just check and see that we are there.” Another teacher suggested that her teaching would be strengthened if “I knew who to turn to when I had a question.”

About 40 teachers mentioned the need for more local support from pastors, board members, and parents. Comments such as “I could use volunteers for anything!” “if only our school had policies so I could focus on teaching,” “if I had fewer church duties,” and “I wish our parents could be trained on the pros and cons of the multi-grade program so they would know what to expect” illustrate some of the frustrations that these teachers feel.

Political power wielded by a few parents can also be a problem in the small-school/church setting. One teacher lamented that her parents insisted that “the books and workbooks had to be completed to the very last page.” She went on to suggest that she could teach more creatively if her parents “weren’t so limited in their concept of school and the teaching of the subjects being confined to reading every word and doing every question.” Unfortunately, this was also a teacher who felt that she was simply “maintaining” most of the time. It was obvious that many teachers felt “left out there,” with very little material or moral support.

The final group of responses included a cry for less paperwork and grading and for fewer grade levels. Although several teachers stated outright that they loved teaching all eight grades together, about one fourth believed that their teaching was stronger when they did not have more than four grades. Too many books or papers to grade was
mentioned specifically by about 10% of the teachers. This is obviously a greater problem for teachers who have more students in more grades.

Statement 4

"If I were offered a single-grade classroom I would..."

The responses to this statement were grouped under three headings: "take the position," "consider the position," and "not take the position."

Teachers who would take the single-grade position "in a heartbeat" were definitely in the majority. Teachers gave the reason for changing to a single-grade classroom as "not having to teach so many grades/levels"; a few indicated that they would like to teach a single-grade because they would just like to try another type of classroom. A few teachers wanted to relocate for personal reasons or needs; for example, they had children ready for the academy or they wanted to be in a situation where they did not have to teach their own children. These were also factors for teachers who responded that they would "consider" taking a single-grade position.

Most of the teachers who responded that they would not take a single-grade room if it were offered indicated that they preferred to teach in the multi-grade setting. A few chose to stay because they wanted to remain in their current location, they were ready for retirement, or they believed that moving to a single-grade position would require their moving to a larger community and church (Table 18).

Comparison of “Satisfied” and “Dissatisfied” Teachers

Based upon the data from the qualitative portion of the survey, two smaller data
groups were compiled. One group was formed from the responses of teachers who were the most negative about teaching in a multi-grade room. These teachers stated that they neither preferred nor enjoyed multi-grade teaching and that they would take a single-grade room if they had the opportunity. The other group was formed from teachers who responded the most positively about multi-grade teaching. These teachers expressed their preference for this type of classroom and stated that they would remain in the multi-grade room even if they had the opportunity to make a change to a single-grade setting. A total of 32 surveys were pulled for the “dissatisfied” group and 34 surveys for the “satisfied” group. Frequencies were run on these two groups of responses and comparisons made with each other and with the general population.

No consistent significant relationship between any of the basic demographic variables and teacher satisfaction or dissatisfaction was apparent. One isolated relationship (significant at the .03908 level) existed between “years of teaching experience” and the choice to “stay in a multi-grade room” or to “take a single-grade classroom.” Teachers who had taught for 10 or fewer years were more likely to “go”; teachers with 11 or more years of teaching experience were more likely to remain.

A few specific areas, however, showed greater or lesser percentages than would be
expected from the results in the general population. Males and teachers in the "56 years of age or older" range seemed to have a greater percentage of dissatisfied responses. Of the dissatisfied respondents, 56% were male yet only 38% of the total number of respondents were male. In the total population, 15% of the respondents were in the age range of "56 years or older," yet only 9% of the "satisfied" respondents were in this age range as compared with 31% of the "dissatisfied" respondents. Tables 19 and 20 show the comparisons for gender groupings and age groupings.

**TABLE 19**

COMPARISON OF GENDER FOR SATISFIED AND DISSATISFIED RESPONSES

<table>
<thead>
<tr>
<th>Gender</th>
<th>General Population</th>
<th>Satisfied %</th>
<th>Dissatisfied %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38%</td>
<td>35%</td>
<td>56%</td>
</tr>
<tr>
<td>Female</td>
<td>62%</td>
<td>65%</td>
<td>44%</td>
</tr>
</tbody>
</table>

**TABLE 20**

COMPARISON OF SATISFIED AND DISSATISFIED RESPONSES WITH AGE GROUPS

<table>
<thead>
<tr>
<th>No. Of Years</th>
<th>General Population</th>
<th>Satisfied %</th>
<th>Dissatisfied %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 25 years</td>
<td>5</td>
<td>6</td>
<td>none</td>
</tr>
<tr>
<td>26 to 35 years</td>
<td>16</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>36 to 45 years</td>
<td>24</td>
<td>38</td>
<td>22</td>
</tr>
<tr>
<td>46 to 55 years</td>
<td>39</td>
<td>38</td>
<td>31</td>
</tr>
<tr>
<td>56 or more</td>
<td>15</td>
<td>9</td>
<td>31</td>
</tr>
</tbody>
</table>
Response Differences Between “Satisfied” and “Dissatisfied” Teachers

There were, however, several important areas of difference in the data gathered from the two groups of teachers. “Satisfied” teachers were more likely to make less distinction between grade levels in their instruction, to use certain instructional practices, to report a higher level of expertise in the use of these practices, to feel that these practices fit their instructional style, and to rate the psycho-social and cognitive growth of their students more highly. These differences are discussed in the following paragraphs.

Grade-level distinctions for instruction

Teachers were asked to respond to a Likert-type scale of 1 to 6, with 1 being “very distinct grade-level separation for instruction” and with 6 being “very blurred grade level distinctions with integration of levels and subjects as much as possible.” The indications of grade-level separation or integration as marked on this scale were very different for “satisfied” and dissatisfied” teachers. The number of recorded scores in the “blurred” end of the scale (4-6) was 18, or 53%, for teachers who felt positive about multi-grade teaching. For teachers who expressed negative feelings about multi-grade teaching the number of scores at the “blurred” end was 9, or 28%. The 1 (very distinct grade-level separation for instruction) was marked by 5, or 16%, of the “dissatisfied” teachers and by 1, or 3%, of the “satisfied” teachers.

Instructional practices used

The responses from the two groups of teachers were compared with each other and with population percentages on their use of certain instructional practices. The
practices chosen for this comparison were those that would be particularly related to the management and organization of classroom instruction; they included cooperative learning, peer tutoring, flexible grouping, whole-group instruction, integrated thematic instruction, individualized instruction, computer instruction, and learning centers. All of these practices were rated as "essential to" or contributing "to a great extent to" the effectiveness of their multi-grade programs by a greater percentage of the "satisfied" teachers than either by the "dissatisfied" teachers or the general population. Table 18 shows the percentages of teachers in each sub-group and in the general population who rated these practices for high use in their multi-grade classrooms. Clearly, a greater percentage of the "satisfied" teachers indicate high levels of use than of the "dissatisfied" teachers or the study sample. Project work and integrated/thematic instruction were the only two practices that had fewer than 10 points difference between percentages.

The teachers' reported level of expertise and training in their use of each of these practices were also compared. The responses from the two descriptor "proficient in use" and "have had training" were combined to obtain these data. There was a definite disparity between the two groups of teachers' levels of expertise. A greater percentage of "satisfied" teachers reported proficiency and training than in either the "dissatisfied" group or in the study sample (Table 21).

Responses from the "satisfied" and "dissatisfied" groups were also compared on three descriptors from the "reasons for use of instructional practices" section of the survey. The first descriptor used was "[I consider the practice] effective for the multi-grade classroom." "It fits my educational philosophy" and it "fits my teaching style" were also included. More "satisfied" than "dissatisfied" teachers affirmatively that the
practices named in the survey agreed with their educational philosophy, fit their teaching style, and were effective for the multi-grade classroom. (see Table 22).

**TABLE 21**

**COMPARISON OF SATISFIED AND DISSATISFIED TEACHER RESPONSES ON USE AND EXPERTISE OF INSTRUCTIONAL PRACTICES**

<table>
<thead>
<tr>
<th>Instructional practice</th>
<th>USE</th>
<th>EXPERTISE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% satisfied</td>
<td>% dissatisfied</td>
</tr>
<tr>
<td>Cooperative learning</td>
<td>54</td>
<td>30</td>
</tr>
<tr>
<td>Peer tutoring</td>
<td>65</td>
<td>30</td>
</tr>
<tr>
<td>Whole-group instruction</td>
<td>79</td>
<td>37</td>
</tr>
<tr>
<td>Computer instruction</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td>Flexible grouping</td>
<td>79</td>
<td>33</td>
</tr>
<tr>
<td>Integrated/thematic inst</td>
<td>29</td>
<td>26</td>
</tr>
<tr>
<td>Learning centers</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>Individualized instruct</td>
<td>88</td>
<td>60</td>
</tr>
<tr>
<td>Project work</td>
<td>51</td>
<td>44</td>
</tr>
</tbody>
</table>

Note. Sample Size: “Satisfied” N = 34 “Dissatisfied” N = 32

On the section of the survey that asked teachers to rate the psycho-social and cognitive development of the average multi-grade student in comparison with the average single-grade student in the Seventh-day Adventist educational system, the group of “satisfied” teachers tended to rate the multi-grade students’ development higher than did the group of “dissatisfied” teachers. For the psycho-social traits, “satisfied” teachers gave a total of 2 “inferior” ratings, 82 gave “comparable” ratings, and 175 gave “superior” ratings. “Dissatisfied” teachers gave a total of 3 “inferior” ratings, 135 gave
"comparable" ratings, and 60 gave "superior" ratings. "Satisfied" teachers rated
cognitive development at the "inferior" level 21 times, at the "comparable" level 138

times, and at the "superior" level 70 times. "Dissatisfied" teachers gave cognitive
development a total of 31 "inferior" ratings, 106 "comparable" ratings, and 35 "superior"
ratings. For all the psycho-social traits and for nearly all the cognitive areas, "satisfied"
teachers' ratings of development were higher than the population percentages, and the
"dissatisfied" teachers' ratings were lower than the general population percentages. The

TABLE 22

COMPARISON OF PERCENTAGES OF SATISFIED AND DISSATISFIED TEACHERS ON THEIR PERCEPTIONS ABOUT CERTAIN INSTRUCTIONAL PRACTICES

<table>
<thead>
<tr>
<th>Instructional Practice</th>
<th>Agrees with educational philosophy Satisfied</th>
<th>Dissatisfied</th>
<th>Fits my teaching style Satisfied</th>
<th>Dissatisfied</th>
<th>Effective for multi-grade Satisfied</th>
<th>Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative learning</td>
<td>35</td>
<td>1</td>
<td>32</td>
<td>6</td>
<td>65</td>
<td>29</td>
</tr>
<tr>
<td>Peer tutoring</td>
<td>41</td>
<td>19</td>
<td>38</td>
<td>16</td>
<td>71</td>
<td>38</td>
</tr>
<tr>
<td>Flexible grouping</td>
<td>38</td>
<td>13</td>
<td>32</td>
<td>15</td>
<td>68</td>
<td>38</td>
</tr>
<tr>
<td>Whole-group instruction</td>
<td>27</td>
<td>16</td>
<td>47</td>
<td>19</td>
<td>50</td>
<td>29</td>
</tr>
<tr>
<td>Computer instruction</td>
<td>21</td>
<td>9</td>
<td>21</td>
<td>6</td>
<td>27</td>
<td>12</td>
</tr>
<tr>
<td>Project work</td>
<td>41</td>
<td>22</td>
<td>41</td>
<td>28</td>
<td>44</td>
<td>21</td>
</tr>
<tr>
<td>Integrated thematic</td>
<td>32</td>
<td>16</td>
<td>21</td>
<td>19</td>
<td>27</td>
<td>18</td>
</tr>
<tr>
<td>Learning centers</td>
<td>32</td>
<td>16</td>
<td>24</td>
<td>9</td>
<td>35</td>
<td>18</td>
</tr>
<tr>
<td>Individualized instruction</td>
<td>56</td>
<td>22</td>
<td>53</td>
<td>25</td>
<td>59</td>
<td>24</td>
</tr>
</tbody>
</table>

Note. Sample size: "Satisfied" N = 34; "Dissatisfied" N = 32.
only exceptions were music, art, and physical education, in which the percentages were
either about equal, or, as in music, the "dissatisfied" teachers gave it a slightly higher
rating than the "satisfied" teachers.

Summary

Chapter 4 presented the findings of the study. The chapter began with a
description of the study's return rate. Total returns received were 280. This resulted in a
gross return rate of 56%. Usable returns of 276 resulted in a net return rate of 55%.

The second section of this chapter presented a descriptive analysis of the context
variables included in the survey instrument. Participants in this study averaged 15.8 years
of teaching experience; about 60% were female and about 40% were males. The greatest
percentage of teachers (39.2%) were in the 46-through-55 age range. Although 87% had
never been a full-time principal, nearly 50% have been a teacher/principal for 5 or fewer
years. About 60% teach 6 through 14 students in four though six grade levels.

Descriptive statistics were also presented for the reported use and expertise level
for specific instructional practices. The two practices that the greatest percentage of
teachers rated as "essential" for their multi-grade program were individualized instruction
and small-group instruction. The three practices that teachers reported using the least (or
not at all) were portfolio assessment, invented spelling, and learning centers. The greatest
percentages of teachers reported the high levels of expertise in small-group instruction,
whole-group instruction, and Silent Sustained Reading. Invented spelling, portfolio
assessment, computer instruction, and learning centers were reported at a high level of
expertise by the fewest number of teachers.
The next section discussed reasons why teachers used (or did not use) the instructional practices. The reason given for using a particular practice by the greatest percentage of teachers was “effective for multi-grade.” Training was the single most often cited reason for why a practice was not used or was not being used at a higher level of proficiency. The next most frequently mentioned reasons for nonuse of a practice were “am not familiar with; don’t know if I’d like to use it or not,” “requires too much preparation time,” and a lack of resources—especially for computer instruction, integrated thematic instruction, and learning centers.

Data were also presented on teachers’ attitudes and beliefs about their teaching. Teachers most frequently rated development of independence and cooperation at the superior level. Self-concept, dependability, and attitude toward school were rated at the superior level by the fewest number of teachers. In the area of cognitive development the subject areas most often rated as inferior were physical education, music, and art. The subjects most often rated as superior were math and language arts.

The reasons given by the greatest number of teachers for teaching in a multi-grade classroom were professional satisfaction and flexibility of instruction. The reasons given by the greatest number of teachers for not teaching in a multi-grade classroom were the heavy workload and the number of class preparations. The greatest number of teachers believed that their multi-grade programs would be strengthened if they had more specific training in multi-grade strategies and more multi-grade specific curriculum and instructional materials. A majority of teachers said that they would take a single-grade classroom if it were offered to them. Some said they would consider such a change, and a lesser number of teachers said they would prefer to remain in the multi-grade classroom.
The last section of chapter 4 presented the data for a group of teachers who were very satisfied with teaching in a multi-grade classroom and a group of teachers who were dissatisfied with multi-grade teaching. The greatest differences between the two groups were in the teachers' reported use and expertise levels of specific instructional practices and in their evaluation of multi-grade students' psycho-social and cognitive development.
CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter contains a brief summary of the study from its inception through the statistical analysis of the data, the statement of conclusions drawn as a result of the data analyses, discussions about these conclusions, and recommendations for further research.

Purpose of the Study

The purpose of this study was threefold: to provide a description of some of the instructional practices and attitudes of teachers in one- and two-room schools in the Seventh-day Adventist school system in North America; to determine why teachers choose to use, or to not use, certain instructional practices; and to examine how teachers feel about teaching in a multi-grade classroom, and to determine what factors contribute to these feelings.

Methodology

This was a descriptive study that analyzed data collected with a self-reporting survey instrument. The four sections of the instrument dealt with demographic information, the grouping of students, instructional practices, and teacher attitudes and beliefs.
The study sample consisted of multi-grade teachers in one- and two-room schools in the North American Division of Seventh-day Adventists. The sample of 500 teachers was obtained from directories published annually by each union in the North American Division.

Conclusions

The conclusions for this study were based upon data supplied by the study sample population and are directly related to the use of specific instructional practices, factors that impact the use or nonuse of these practices, and teacher attitudes and beliefs about multi-grade teaching.

1. Of the list of practices specifically recommended for the multi-grade classroom, teachers reported the highest level of use and expertise for individualized instruction and small-group instruction. Computer instruction, learning centers, and portfolio assessment were the practices that teachers reported using least. Teachers indicated the lowest levels of expertise for portfolio assessment, learning centers, integrated thematic instruction, and computer instruction.

2. Less than 20% of the teachers considered the instructional practices that relate to specific subject areas including hands-on science, math manipulatives, literature-based reading, content writing, invented spelling, and process approach to writing instruction as “essential” to their multi-grade programs. The range for the percentage of teachers that indicated proficiency in the use of these practices was from 6% to 19%. About 20% of the teachers indicated a desire for additional training in these practices.

3. Teachers indicated that they were most likely to use practices that they
perceived to be effective in the multi-grade classroom, that fit their teaching style and educational philosophy, and for which they had received adequate training.

4. Recommendations from a peer and encouragement by the conference were factors that teachers indicated least often as affecting their use of instructional practices.

5. Teachers most frequently cited lack of information, training, or resources as the reasons for NOT using certain instructional practices. These reasons for nonuse were focused most heavily on computer instruction, learning centers, integrated/thematic instruction, and portfolio assessment.

6. Teachers who indicated a high level of expertise with a certain practice did not necessarily indicate a high level of use for that practice. The greatest discrepancy between expertise and use was with cooperative learning, computer instruction, hands-on science, whole-group instruction, math manipulatives, integrated thematic instruction, and learning centers.

7. Although one of the main objectives for the development of the Small Schools English curriculum was to facilitate instruction across the grade levels, only about 15% of the teachers indicated that they grouped more than three grade levels for language arts, and less than 5% said they combined more than four grades. Nearly 50% of the teachers did not group for language-arts instruction at all. The majority of teachers do group across the grade levels for instruction in art, music, physical education, and grades 1 through 4 in Bible, however.

8. Teachers most frequently teach language arts, reading, math, and upper-grade science and social studies to single grades or to a combination of two adjacent grade levels. In the lower grades, the proportion for teaching grades 1 through 4 or grades 1
through 2 and 3 through 4 separately was about 50/50 for science instruction and about 40/60 for social studies. In the upper grades, the proportion for teaching grades 5 through 8 together or 5 through 6 and 7 through 8 separately was about 30/60 for both social studies and science. About 10 teachers indicated grouping five or more grade levels for instruction in these subjects.

9. When comparing the development of psycho-social traits of multi-grade students with their single-grade peers, most teachers gave “comparable” or “superior” ratings for multi-grade students. About 75% of the teachers rated independence as superior.

10. Teachers felt most positive about the cognitive development of multi-grade students in language arts, social studies, science, and math. However, they were more likely to rate cognitive development as “comparable” rather than “superior.”

11. Teachers more frequently rated cognitive development in physical education, music, and art as “inferior.”

12. Teachers appreciated the autonomy, flexibility, cross-age/grade social and cognitive interaction, and “family-like environment” of the multi-grade classroom.

13. Teachers resented the heavy workload (too many classes, too many lesson preparations, too much paper work, and so on), the expectation of having to “be all things to all people” and feelings of isolation.

14. Multi-grade teachers believe that their teaching would be strengthened by having available more curriculum materials designed for multi-grade classrooms, by training in instructional strategies and in how to combine grades for instruction, and by
stronger support from parents, pastors, boards, and conference personnel. Thirty percent of the teachers also expressed the need for more materials and for classroom aides.

15. If offered a position in a single-grade classroom, about 20% of the multi-grade teachers responded that they "would not take it," about 30% "would consider the offer," and about 50% "would take it."

Responses from Satisfied and Dissatisfied Teachers

Two smaller samples were isolated from the total population. These were comprised of teachers (N = 34) who expressed strong satisfaction and teachers (N = 32) who expressed strong dissatisfaction with multi-grade teaching. The following conclusions are drawn from the comparison of the data between these two groups.

1. The satisfied teachers were more likely to use cooperative learning, peer tutoring, flexible grouping, whole-group instruction, and project work with their students. They were somewhat more likely to use computer instruction, integrated thematic instruction, and learning centers.

2. The satisfied teachers indicated higher levels of expertise in the use of certain instructional practices.

3. The satisfied teachers stated that the instructional practices were effective for the multi-grade classroom. They were also more likely to indicate that these practices were compatible with their teaching style and educational philosophy.

4. The satisfied teachers were more likely to group students across grade levels for instruction. In addition, they were more likely to perceive the delineation of grade levels in their classroom as more "blurred" rather than distinctly separated.
5. Satisfied teachers were more likely to rate both the psycho-social and cognitive development of multi-grade students higher than the total population rated them.

Discussion of the Findings

Descriptive data from the study provided information on instructional practices and teacher attitudes in one- and two-room schools in the Seventh-day Adventist educational system in the United States and Canada. The practices examined in the survey were those cited in the literature as best supporting the multi-age philosophy. Dodendorf (1983), Thomas and Shaw (1992), and Pratt and Treacy (1986), among others, maintain that the effectiveness of the multi-grade classroom depends to a large degree on the instructional practices used, although little research exists on the practices multi-grade teachers employ in the classroom. What the small amount of available information does tell us is that generally teachers who are not well-versed in practices and organizational skills that are especially supportive of multi-grade education will continue to try to teach as they did in a single-grade room, that is, to present a lesson to one group (grade) while the other students work on independent seatwork or other activities.

It was not surprising that the instructional practices most frequently used by the greatest percentage of teachers in this study were individualized instruction and small-group instruction. In Gajadharsingh's (1988) Canadian study, for example, multi-grade teachers reported consistently using these two practices, and Embry (1981) and Wotje (1990) describe various uses of individualized instruction: one teacher who also used flexible grouping in her K through 4 classroom, introduced key concepts to all the students, rather than individualized activities for different levels. Embry (1981) described
another teacher, who believed that individualization was the key to multi-grade instruction, viewed the student as the vehicle for the learning process and adapted material to fit individual students’ levels, interests, and needs. These strategies are a natural, especially in classrooms with few students; however, for optimum learning to occur, these practices must be balanced with interactive learning and teacher-directed instruction across grade and age levels.

 Teachers most often ranked the instructional practices that relate to specific areas such as hands-on science, math manipulatives, literature-based reading, content writing, invented spelling, and process approach to writing instruction as contributing “to some extent” to the effectiveness of their multi-grade program. “Try to use” was the rating teachers most frequently designated as their level of expertise. The exception was invented spelling, which 56% of the teachers stated they used very little or not at all and 58% indicated an expertise level of just awareness or of no knowledge at all. Although a description of each practice was included in the survey, some teachers responded that invented spelling was not compatible with their teaching philosophy; several others indicated that it took too much time to prepare. These responses suggest that there was probably some confusion about the nature of the practice. Teachers indicated a need for training for all the language-arts practices. Multi-grade studies do not generally address these practices specifically although they are considered a necessary part of the multi-age teacher's repertoire because they do support learning and instruction with diverse groups of students. Of the 380 teachers in Gajadharsingh’s (1988) study, 351 requested assistance in learning teaching strategies for the multi-grade classroom and 316 wanted help with teaching methods for specific disciplines.
There was some attempt with the *Small Schools English* to encourage a more holistic approach to language-arts instruction rather than focusing on textbooks and assignment by grade levels, but the training and the use of the curriculum have not really supported such a change. A few responses indicated that conferences encouraged the use of hands-on science and math manipulatives, but again, the teachers need more than a few hours of inservice to sustain practices they are not entirely familiar with and that, at least initially, feel like "more work."

Teachers and administrators in several multi-grade studies stated that combining grades for instruction was one of the most effective methods; it was also named as one of the biggest problems for teachers. Veenman (1995) in his extensive review of the literature found that students are rarely grouped across grade levels for instruction. In the Virginia Education Association Study (AEL/VEA, 1990) 82% of the teachers expressed the value of integrating the curriculum but only 64% stated that they did so. The NAD teachers in this study grouped for some subject areas more than for others and few teachers grouped across the grade levels for much of their content instruction. But the overall picture is still one of too many teachers frantically preparing and trying to teach forty 5-minute lessons each day rather than seeking out and building on the connections between content areas, concepts, and student strengths and ability levels.

That grade levels need to be held sacrosanct, with each one being planned for and taught separately, is neither of recent vintage nor unique to any particular group of teachers. It is probably of questionable educational value in any classroom given the diversity of students' ability and maturity levels, but in the multi-grade classroom it compounds the difficulty of the task. Pratt and Treacy (1986), Delforge and Delforge
(1990), and Gajadharsingh (1988) all reported that most teachers separated and taught students by grade levels. They also reported that many of the teachers who felt more positively about their multi-grade classrooms encouraged a more cohesive atmosphere. Grade-level distinctions were de-emphasized, and instruction was addressed to groups across grades using common areas within a subject for instruction. There needs to be a shift from teaching "x number of grades" to teaching "x number of students." Teachers must be trained in the collaborative and organizational skills needed to work with a variety of age and ability levels. The lack of training is not just an issue with NAD teachers. Indeed, I found no study that indicated that a majority of teachers in multi-grade classrooms felt they had had anything close to adequate preparation for the task. In the Gajadharsingh study, 84.1% of the teachers currently teaching multi-grade classes indicated they had had no special training (Gayfer, 1991). After his extensive review of multi-grade studies, Veenman (1995) also concluded that teachers are "ill-prepared to teach two or more grades at the same time" (p. 371).

Veenman (1995) also concluded that the instructional materials teachers used rarely addressed the issue of multiple grades. They seldom support cross-age grouping, cooperative learning, peer tutoring, and so forth. For far too long curriculum has been prepared, developed, and adopted for the single-grade class (Is there really such a creature?). And multi-grade teachers are expected to adapt it for effective use with a variety of grade levels. Rarely are they trained in techniques to do this, nor is the curriculum usually organized in such a way that promotes across grade instruction and learning. This dearth of multi-grade materials is definitely a challenge with the teachers in one- and two-room schools in the NAD.
Material resources alone, however, are not the answer. The *Small Schools English Curriculum* (1992) is an example of good intentions less than fully applied. Although it was designed to provide multi-grade teachers with a framework for English across 1 through 8, fewer than 5% of the teachers reported actually combining more than 4 or 5 grades for instruction. Several gave responses that would indicate they are not even aware of or they do not have access to the program. Most are still struggling to teach four, five, even eight different English classes (often to about that many different students!). It is obviously of little value to prepare curriculum and other resources if implementation is not preceded by and combined with appropriate and sufficient training. Often those teachers who are trained and even indicate a reasonable level of expertise with a certain practice may not use it because of other factors such as the amount of time they perceive it takes to implement it. For example, learning centers are well-supported in the literature as a powerful tool for teaching a diverse group of students, yet many teachers reported not using them because of the time they take. But many of these same teachers also reported spending hours preparing, presenting, and grading 30 and 40 lessons on a daily basis. Clearly this is also a time-consuming task and quite possibly less effective from either an instructional or affective perspective than would be several thoughtfully prepared centers that allowed students to learn and apply concepts across age levels and included learning in a variety of intelligences. But this type of thinking and action needs to be taught, explained, and modeled. It is not enough that teachers be made aware of these practices and even trained in how they work, they must have developed the skill to apply them—in a variety of settings including the multi-grade classroom. Materials need to be made available to help teachers get started.
The responses from NAD teachers on the assessment and comparison of psycho-social and cognitive development were quite similar to those of the Canadian multi-grade teachers in Gajadharsingh’s study (1988). Both groups of teachers found it easier to evaluate the psycho-social development than the cognitive development. Teachers in both groups commented on the difficulty of making such evaluations. Typical comments from NAD teachers included “I have never taught in a single-grade classroom, so I don’t know how to compare the students”; “It can all depend on your group, especially with a small enrollment, one or two children can change the atmosphere or the learning curve of the classroom,” and “The students (and the group) can vary tremendously from year to year.” Also in both groups, a greater percentage of teachers gave “superior” ratings to psycho-social development than they did to cognitive development. Only about 10% of the NAD teachers rated cognitive development of multi-grade students in art, music, and physical education as “superior.” (Gajadharsingh’s study did not include these particular subject areas in the survey.) Many of the NAD teachers suggested that one of the difficulties of teaching in a small school was the necessity to teach all the subjects—especially art, music, and physical education. They believed that they were inadequately trained or did not have the “talent” or the time to invest in developing a quality program in these areas. They frequently used the phrase “stretched too thin” when referring to their efforts to be effective in all subject areas.

The findings from this study are generally compatible with the data obtained from other studies of multi-grade education. Instructional practices, teacher attitudes and concerns, and organizational patterns and problems varied little among the studies. The issues of minimal training and resources, the lack of a philosophical or pedagogical
framework to support multi-grade teaching, and the feeling of “having to survive this” because of having no options but to do so, were echoed and re-echoed by many of the teachers in these classrooms. Too many teachers are dissatisfied with their multi-grade assignments and want out. Others see benefits to this type of instruction but feel overwhelmed by their task.

In contrast to the responses of teachers who often expressed feelings of resignation or frustration about teaching in multi-grade classrooms, responses from teachers who taught in multi-age classrooms that had been formed deliberately for their perceived educational benefit were generally positive. In such classrooms, the philosophy, the practices, and the organizational approach were specifically identified. Because most of the literature strongly suggests that multi-age classrooms not be started until the teachers are comfortable with a majority of the recommended practices (cooperative learning, peer tutoring, flexible grouping, whole-group instruction, individualized instruction, literature-based reading, process approach to writing, Silent Sustained Reading, content writing, hands-on science, math manipulatives, and integrated/thematic instruction), training was inherent in these programs.

There appears to be support for this contrast in the comparison of the responses of those NAD teachers who were very satisfied and very dissatisfied with teaching in a multi-grade classroom. The satisfied teachers indicated a higher level of use and expertise with these same multi-age practices that were listed on the survey; they were also more likely to group students across grade levels for instruction. Cobham (1992), Delforge and Delforge (1990), Gaustad (1992), and others reported in their studies that teachers who like to teach multi-grade generally use strategies that promote cooperation, that integrate...
instruction, and that focus on the similarities of the students rather than trying to maintain
grade-level distinctions for instruction.

Implications for Practice

If multi-grade schools are to realize their full power for psycho-social and
cognitive growth, if a greater proportion of teachers are to feel this type of instruction is
advantageous and desirable, and if multi-grade teaching and learning are to be regarded as
celebration rather than a survival tactic, change is critical. There must be a paradigm shift
in our thinking about multi-grade instruction from viewing it as an “administrative
necessity” to recognizing it as a potentially “powerful vehicle” for the education of
children. The following recommendations for practice are offered:

1. That multi-age philosophy and practices be studied, evaluated, and observed
   in action; that a studied philosophical and pedagogical approach be developed from the
   findings of this study to provide focus and guidance for multi-grade instruction

2. That curriculum and resource materials that specifically enrich and support
   multi-grade instruction be developed

3. That informational material to educate parents and constituencies on the
   philosophy, instructional practices, and benefits of multi-grade education be developed

4. That a systematic plan for providing inservice for multi-grade teachers in the
   collaborative, organizational, and instructional skills and practices be developed

5. That ways to bring multi-grade teachers together—to let them visit in other
   multi-grade classrooms, to share materials, ideas, concerns, and so forth be implemented
(Perhaps teachers with four or more grades could be paid an additional 2 weeks’ salary
with the understanding that they would come together during that period of time in the summer and prepare materials for the coming school year. This is not an inexpensive suggestion, but it could more than pay for itself in increased teacher satisfaction and effectiveness—perhaps reducing the number of personnel changes and problems.)

6. That preservice teacher education place a high priority on training teachers in methods for organizing multi-grade instruction, working with small and large groups, teaching across the grade levels, integrating content, and using cooperative learning, peer tutoring, authentic assessment procedures, and other practices that are not only valuable for the multi-grade classroom but that are GOOD teaching for ALL children

7. That preservice teachers be involved in both observation and participation in multi-grade classrooms throughout their teacher training

8. That every methods course provide modeling of and opportunity for the application of these practices within a multi-grade environment

9. That study be given to promote and implement a closer working relationship between higher education and conference, union, and division educational personnel. This interaction could be beneficial for the development and implementation of curriculum and other materials, and for preservice and inservice teacher training.

College Departments of Education could work with the conferences and union in their geographical area to determine needs assessments for teachers, to organize long-range training goals and plans; to help teachers support one another through study groups, mentoring, and other networking possibilities; to provide “hot line” services to small schools teachers; and to prepare materials useful for “educating” parents and church constituencies about the multi-grade classroom.
Implications for Research

Research on alternative procedures for instruction and organization must be conducted. The findings of such research should lead to more efficient and more effective ways to train teachers and to implement practices for the multi-grade classroom. Also, recent research is needed on the effectiveness of multi-age practices for student development. These data could be helpful in planning structures and practices for multi-grade classrooms. The following suggestions for future study are offered (it will be important to use both qualitative and quantitative approaches):

1. The cognitive and emotional development of multi-grade students.
2. The relationship between instructional practices and organizational patterns and students’ cognitive and psycho-social development
3. The cognitive and psycho-social development of students in the multi-age classroom (Comparisons of outcomes with different age-levels of students might also be helpful.)
4. A longitudinal study of the development of skills and attitudes of students educated in multi-grade classrooms for a period of at least 5 years
5. A longitudinal study conducted over a period of 3 through 5 years, beginning with a first-year teacher in a multi-grade classroom (The focus would be on practices, organizational style, attitudes, and growth.)
6. A qualitative study with observations over a period of at least a year of several effective multi-grade teachers thus providing a composite “picture” of a successful multi-grade classroom.
January 22, 1996

Multi-grade Teacher
North American Division

Dear Colleague:

This letter has two purposes: (1) to inform you of a special study that Andrews University is conducting to better understand ways to support multi-grade educators and (2) to request that you kindly assist Mrs. Judy Anderson, our researcher, by responding to this enclosed survey.

We need your response now. Please take the 15 minutes needed and fill out this questionnaire today. A self-addressed, stamped envelope is furnished for mailing the survey back to Andrews. Thank you for helping with this research.

Sincerely,

Paul S. Brantley, Ph.D.
Professor Curriculum and Instruction
Andrews University
January 22, 1996

Dear Fellow Educator:

Your name was randomly selected from among the teachers in one- and two-room schools in the North American Division. We need your response to assist us in understanding and developing ways to assist multi-grade education in our SDA system. More than 70% of Adventist schools are multi-grade, so this study is of paramount importance. Your response is needed to ensure scientific accuracy and validity.

Please give us your frank, candid opinions. We are coding questionnaires so that no names appear on the face of the survey form. We are taking precautions to insure that no individual identity will be divulged in any way.

Enclosed please find:

(1) survey/letter of introduction
(2) stamped/self-addressed return envelope

Your response will contribute to the representation of all multi-grade teachers in the North American Division. This is why every survey form counts! Please complete the survey immediately and mail it back to us in the envelope provided. We are conducting this research within a very short time frame; so please respond quickly. Thank you in advance!

Cordially yours,

Judith A. Anderson
Adjunct Professor
Andrews University
February 23, 1996

to: Teachers selected for Multi-Grade Research Project
re: Return of Multi-Grade Survey

Hello!

Just a note to say we haven't received your response to the Multi-Grade Survey we sent you a
while back. If you sent your reply to us within the last few days, maybe it's still in the mail.

We know your schedule is very busy, but your response to this survey is very important. Please
return it NOW so we can include your ideas in the final results.

Thank you for helping with this research.

Most gratefully,

Judith Anderson
MULTIGRADE TEACHER SURVEY

GENERAL BACKGROUND

Gender:  
- Male  
- Female  

Age:  
- 25 or under  
- 26-35  
- 36-45  
- 46-55  
- 56 or over  

Grade Levels Taught:  
What grades do you CURRENTLY teach?  

- Kindergarten  
- 1st  
- 2nd  
- 3rd  
- 4th  
- 5th  
- 6th  
- 7th  
- 8th  

How many students are in each grade in your school?  

<table>
<thead>
<tr>
<th>Grade</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Education  
(Please mark all you have COMPLETED)

- BA  
- MA  
- EDS  
- PhD/EdD  

Major ____________________________  

Do you hold the newly-developed NAD Small Schools Specialist Certification endorsement?  
- Yes  
- No  

Student Enrollment  
_______ In your ROOM  
_______ In your SCHOOL  

Teaching Experience  
Years teaching at this school  

- ____________________________  

Years teaching in multi-grade rooms  

- ____________________________  

Total years teaching  

- ____________________________  

Administrative Experience  
Years as a full-time principal  

- ____________________________  

Years as a principal and a teacher  

- ____________________________  

Certification(s)  
(Mark all that apply.)  

- Elementary  
- Denominational  
- Secondary  
- State  

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## GROUPING PRACTICES

### Physical Grouping of Students

<table>
<thead>
<tr>
<th>Are desks in clusters?</th>
<th>If yes, how are they grouped?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Grouped by grade levels</td>
</tr>
<tr>
<td>No</td>
<td>Groups have mixed grade levels</td>
</tr>
</tbody>
</table>

### Grouping for Instruction

How many preparations do you generally have for each subject listed (i.e., teaching math to each of 8 grades separately = 8 preparations).

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of Preparations</th>
<th>Grouped?</th>
<th>If Yes, How They're Grouped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bible</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Social Studies</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Language Arts</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Reading</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Art</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Physical Education</td>
<td></td>
<td>Yes</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
</tbody>
</table>

Please indicate where you would place yourself on the following continuum?

- **1** Very distinct grade level separation for instruction
- **6** Very blurred grade level distinctions with integration of levels and subjects as much as possible

Please briefly describe how you group students for reading:

- [Description]

- Do you integrate any subjects for instruction?
  - Yes
  - No

If yes, please list the subjects integrated and grade levels involved.

<table>
<thead>
<tr>
<th>Subjects Integrated</th>
<th>Grade Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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# INSTRUCTIONAL PRACTICES

Your responses for this section should include a check in Columns A and B for each item.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential</td>
<td>Proficient in use</td>
</tr>
<tr>
<td>To a great extent</td>
<td>Have had training and use</td>
</tr>
<tr>
<td>To some extent</td>
<td>Try to use</td>
</tr>
<tr>
<td>Very little</td>
<td>Aware of</td>
</tr>
<tr>
<td>Not at all</td>
<td>Never heard of</td>
</tr>
</tbody>
</table>

- Cooperative learning
- Peer Tutoring
- Flexible grouping
- Whole group instruction
- Small group instruction
- Computer instruction
- Literature-based reading
- Silent Sustained Reading
- Content writing
- Process approach to writing
- Invented spelling
- Hands-on Science
- Math manipulatives
- Project work
- Integrated/thematic Learning centers
- Individualized Instruction
- Portfolio assessment

In Column A, circle the level that best indicates the degree to which each of the following practices contributes to the effectiveness of your multi-grade program.

In Column B, circle the level that best indicates your expertise in each of these practices.
On the next TWO pages are identical lists of teaching practices.

On this page mark the responses that best describe WHY you use each of the practices that are important in your multi-age program.

NOTE: Please do not rate any practice on BOTH pages
On THIS page for any of the following practices that you DO NOT USE mark the responses that best describe why you do NOT use them. Check all responses that apply.

PLEASE NOTE: Do not rate any practice on this page that you rated on the previous page.

Cooperative learning
Peer tutoring
Flexible grouping
Whole group instruction
Small group instruction
Computer instruction
Literature-based instruction
Silent Sustained Reading
Content writing
Process approach to writing
Hands-on Science
Invented spelling
Math manipulatives
Project work
Integrated/thematic instruction
Learning centers
Individualized instruction
Portfolio assessment
ATTITUDES AND BELIEFS

What are your attitudes and beliefs about the psycho-social and cognitive development of the average student in multi-grade classrooms as compared to the average student in single grade classrooms in the Seventh-day Adventist Education system. Fill in the oval after each of the listed traits to indicate if you believe the development of students in multi-grade classrooms is inferior, comparable, or superior to the development of their peers in single grade classrooms.

<table>
<thead>
<tr>
<th>Psycho-social Development</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of students in multi-grade classrooms compared to their peers in single grade classrooms is...</td>
<td>Inferior</td>
</tr>
<tr>
<td>Independence</td>
<td>○</td>
</tr>
<tr>
<td>Dependability</td>
<td>○</td>
</tr>
<tr>
<td>Confidence</td>
<td>○</td>
</tr>
<tr>
<td>Cooperation</td>
<td>○</td>
</tr>
<tr>
<td>Self-concept</td>
<td>○</td>
</tr>
<tr>
<td>Social Skills</td>
<td>○</td>
</tr>
<tr>
<td>Study Skills</td>
<td>○</td>
</tr>
<tr>
<td>Attitude Toward School</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cognitive Development</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of students in multi-grade classrooms compared to their peers in single grade classrooms is...</td>
<td>Inferior</td>
</tr>
<tr>
<td>Language Arts</td>
<td>○</td>
</tr>
<tr>
<td>Mathematics</td>
<td>○</td>
</tr>
<tr>
<td>Science</td>
<td>○</td>
</tr>
<tr>
<td>Social Studies</td>
<td>○</td>
</tr>
<tr>
<td>Art</td>
<td>○</td>
</tr>
<tr>
<td>Music</td>
<td>○</td>
</tr>
<tr>
<td>Physical Education</td>
<td>○</td>
</tr>
</tbody>
</table>
TEACHER ATTITUDES AND BELIEFS

Please complete each of the following statements (feel free to respond in either a "list" or a paragraph format).

1. I prefer teaching in a multi-grade classroom because...

2. I do NOT prefer teaching in a multi-grade classroom because...

3. I feel my multi-grade teaching would be strengthened if...

4. If I were offered a teaching position in a single-grade SDA classroom I would...
Critical Components of the Instructional Practices Named in this Survey

Cooperative Learning: An instructional method that groups students heterogeneously for academic and social gains. It has several important components that are necessary if it is to be effective. These components are: the make-up of each group should be as representative as possible of the make-up the classroom, each individual should have a clearly specified role to perform in the group, individual accountability must be built into the task, there must be a purpose for the group to work together (as opposed to each person functioning separately) and specific social skills must be taught and monitored.

Peer tutoring: The practice of students helping one another. This is very powerful for both the tutor and the tutee. However, several points must be considered. "Ways to help another student" should be modeled and practiced to eliminate simply "telling answers". It is not appropriate to have a few students in the room that are always the "extra teacher", rather the goal should be to have "experts" in many ability areas so that each student has the opportunity to coach and share with another. This is a very effective tool to use in the writing process, having students serve as "advisees" for one another on content, concepts, and editing.

Flexible grouping: A grouping practice that emphasizes similarities among the grades and ages and teaches to them. Students are grouped and regrouped for different purposes throughout the day. The groups may be formed because of student-demonstrated needs or abilities, by student choice, for a particular task or project. The concept is that students are not locked into any one grouping because of performance or grade. For example: reading groups such as "robies" bluejays" etc would not be a part of the reading program. Rather students would be grouped in a variety of ways—with a friend to share a book of mutual interests, with a more able student for reinforcement, with a small group that needs instruction or assistance on a particular concept, with several peers to practice for sight words or fluency, etc.

Whole group instruction: This is teaching to the whole group such as in a mini-lesson that might relate to a class theme, student presentations, demonstrations, videos, films, teaching social skills, planning group activities, presenting a writing or pre-writing activity such as brainstorming, listing, etc. Whole group presentations should be of the type that benefits the whole group.

Small group instruction: This instruction is skills-related and taught to a selected group of students that have a similar need. Grouping is quite often across age/grade levels. It might include grouping for problem solving, interest, multiple intelligences, and reinforcement and practice.

Computer instruction: There are a variety of possibilities here. Students are using software that supports current learning by providing opportunity for practice, review, and extension of concepts. Also, some of the tools are part of the program, such as keyboarding tutors, and word processing programs for producing student work such as finished writing, newspapers, posters, letters, banners, etc.

Literature-based reading: The use of children's literature to teach and reinforce skills. This does not eliminate basals, but rather supports student learning in a wholistic fashion. Students are exposed to many easy readers, Big Books, picture books, poetry books, etc. These are shared with groups and with one another. Specific books might be chosen to introduce certain sounds, words, or other concepts. Children see and are taught letters, sounds, words, and skills in the context of actual stories rather than in isolation. Often activities are pulled from these stories and used for practice and reinforcement in lieu of worksheets and workbook pages.

Silent Sustained Reading (SSR): All students are involved in independent, silent reading on material of their choice and at their ability level for a specified length of time on a daily basis. (The name-SSR-is not important; the activity described is)
Process approach to writing: Teaching writing as a series of activities which writers "do" to produce a piece of finished writing. The process should include prewriting activities such as brainstorming, reading a story, listening to music, looking at art, etc.; the actual writing of the draft; revising the content to be sure it says what the author intended—this will require several attempts; editing for spelling, punctuation, etc., and finally, publishing in some form—putting on the wall, sharing with the class, putting in a class book or newsletter, etc. Emphasis is on writing and content, there is clear delineation between revising for meaning and editing for mechanics. Students are held accountable for those editing skills that they have been TAUGHT. Time to write, freedom to choose content, and repeated feedback are crucial for learning. These writing process steps are considered to be cyclical and recursive, not linear.

Invented spelling: Learning to spell—like learning to talk—is developmental. Therefore, students are encouraged to write from the very beginning and their temporary spellings are accepted as part of the developmental process. Teachers appreciate and encourage these "best attempts". Editing skills are taught, usually in the context of the writing. At first, children write, and teachers edit. As children become more experienced, they begin to take responsibility for this part of the process.

Content Writing: The frequent use of writing activities to support and enrich learning in the content areas such as social studies, science, math, and Bible. This might involve completing a finished product such as a letter inviting a scientist to come and speak to the class, or it may mean using a pre-writing activity to share information about a concept. Writing is understood and used as a tool to explore, learn, and apply content.

Hands-on science: Science instruction is organized in a hands-on, discovery, experimentation approach. Inquiry types of strategies are used. Materials are made available for students to use to develop and extend concepts.

Math manipulatives: A concrete approach to learning mathematical concepts. A variety of materials appropriate for diverse levels of ability and problem types are available for and regularly used by the students. These materials could include "counters", pattern blocks, place value cubes, balance scales for visualizing and solving algebraic equations, geometric shapes, tangrams, and other devices. The emphasis is on a manipulating, visualizing, and problem-solving.

Project work: Students are required/encouraged to work on projects involving a variety of skills and presentation modes. Students are involved in topic choice; the work—accomplished over a period of time appropriate to the developmental level of the child—may be done in school and/or home.

Integrated/thematic: The curriculum is organized around a theme. This may include all the curriculum or certain areas such as language arts, social studies, and art. Some themes may be year-long; others may involve a briefer time-span.

Learning centers/stations: Areas in the room that contain materials/activities designed to educate, reinforce, or enrich a skill or concept and to support students as self-directed, responsible learners. The environment should provide opportunity for choice, allow for individual ability levels and rates, and promote active student involvement with materials and/or with one another. The following components are important: clear directions for use, an obvious purpose, content that supports current learning, and activities with a variety of developmental levels and multiple ways to apply the learning.

Individualized instruction: Providing for differences in abilities, interests, and needs by planning for and supporting individualized work. This is NOT having a few students consistently work alone because they are the only one in their grade, or at their ability level.

Portfolio assessment: An assessment tool that includes a collection of the student's works over a period of time representative of the student's efforts, progress, and achievement. It is more powerful if both the child and the teacher are involved in the selection process.
Teacher comments

“I prefer teaching in a multi-grade classroom because...”

“It’s a real-life situation—ages are not separated in life experience. It is easier to provide slower or faster reading groupings. I like the family-type atmosphere and the independence.”

“I have more freedom to implement what I feel is important. I look for each student’s gifts and what all of us can learn from them. I do make a difference in the students’ attitudes, learning, and love for Jesus! Thanks to the Holy Spirit.”

“I love the kids, “my kids”, year after year. I can use my own timing and scheduling. I can be my own boss. I am well-organized and can just “do it” without having to waste time explaining to people. I feel the Lord has called me to do this. Not everyone is cut out to do this type of work.”

“I’m able to become better acquainted with my students and can meet their individual needs, both scholastically and personally in a multi-grade environment. I like the small school, family setting. Larger schools are more impersonal.”

“I like the smaller student-teacher ratio. I also like the cooperative/family atmosphere that develops when students of various ages are required to work together. Because of the smaller class size learning problems/special needs are quickly noticed. There’s also more accountability in the smaller class even with multiple grades.

“Enjoy it and believe it is an excellent way to make SDA schools available. I intentionally taught in multi-grade schools while our children were in elementary school. I have stayed in multi-grade schools because I enjoy it.

“I do NOT prefer teaching in a multi-grade classroom because...”

“There is no interaction with teaching peers, reinforcement at day’s end, it’s lonesome at times, and no principal besides me—I am ‘it’ for discipline or any problem—be it extra snow to shovel or a questioning parent.”

“I have more preparations per day and must divide my time between several levels each class period. I enjoy up to four grades, but having six or seven grades is very difficult for me and I “need” another teacher to talk to at the end of the day.”

“I didn’t have to teach in a one-room situation—I really hate teaching in these situations because of the multiple preparations, the diversity of age groups, the challenge of classroom discipline.”
“You often have to help with fund-raising for your own salary...you have no breaks all day long.”

“Multiple lesson plans are a killer...particular training is needed to master the nuances of a multi-grade classroom.”

“I’m exhausted! The load of preparation for 8 grades, logistics of getting through a day’s lesson plans, grading, extras...i.e. special projects, art for 1-8, music for 1-8, field trips, computers, P.E., social studies projects, science experiments, etc. seem overwhelming. I never feel as though I’ve completed everything on a day’s lesson plans, given attention to all those who needed extra help, got sufficient paper work done (grading and principal/office duties, mail, etc.), had time to instruct in handwriting, computers, story-writing, etc. I feel over-loaded, over-worked, inefficient, and exhausted. In addition to being teacher, principal, librarian, secretary, nurse, computer “expert”, janitor, counselor, policeman, I’m expected to do programs for church, Home and School, church socials, fund-raising, put out a school newspaper, advertise for new students, do community PR and newspaper publicity, get donors for worthy students, do board meeting agendas and minutes, serve on school board, church board, and hold several major church jobs. Is it any wonder I’d like to take a job teaching less grades?”

“Moving every two to three years or less and the lack of uncertainty of what is going to happen from year to year. Having students take out their frustrations on my children when they are upset with me. Having parents threaten to pull their children out of school when things don’t go their way knowing the school would close for lack of students. Lack of support from pastors on the local level. Lack of support from the conference level for our spouses who have to follow us around.”

“Some days I think I’m crazy to be doing this, but if I don’t (and I can do 50 things at once) who will? I do not have anyone to discuss my frustrations with. Someone else may have encountered my problem before, but I can’t talk with anyone.”

“The bad thing about multi-grade is that my weaknesses as a teacher may adversely affect students because I teach the same students for several years.”

“A ‘problem child’ stays with you! The multiple preparations. We seem to be ‘looked down on’ by single-grade teachers in large schools, we seem to be passed over for awards also.”

“There are many responsibilities that a 1-8 teacher takes on that a one-grade level teacher does not have to tackle—for instance from addition and subtraction to geometry, the vast areas of knowledge (needed) and dealing with each age group can be mind boggling.”
“My multi-grade teaching would be strengthened if..”

“If some classes like Bible could be made on a four year cycle for 5-8 with activities for various levels. If English 5 and 6 and 7 and 8 or even 5 through 8 could be combined. In our English series the examples are different, but the contents are basically the same. Most teacher education classes are not designed for multi-grade classrooms. If classes were designed with very practical preparations for multi-grade rooms, it would help.”

“We had less requirements and more plans for combining classes. I have more than 40 different assignments per day. More money to provide teacher aides when enrollment won’t allow it, but special-needs kids do. If our inservices could really provide practical instruction, e.g. take 6 of our math books or English books and show us how to teach out of just one book for a month.”

“We had more space and money to buy equipment. We use a church basement and share with our Sabbath School as well as Church socials, prayer meeting, any other weekly meetings, and a Baptist Sunday School.”

“I had grades 1 and 2 and grades 3 through 5 more integrated and could do more whole group instruction while still maintaining some of the structure and form of the textbooks.”

“I could spend a week in someone else’s classroom to learn all that I could from a fellow teacher who was experienced, a master teacher.”

“If more realistic and pertinent inservice was provided also assistance for special ed and mainstreamed students. If more support were given from pastors.”

“If I had more integrated-thematic units or training in how to do it myself, also if I had a computer and the training so I could go on-line and talk to someone.”

“If more whole-class direct teaching could be done. My immediate goal is to cross reference my English lessons for all grades so that I can have all students at the same topic and working at grade appropriate exercises at the same time.”

“If parents wouldn’t insist that the books and workbooks had to be completed to the very last page. Teacher could be much more creative and use many tools to teach concepts if parents weren’t so limited in their concept of school and the subjects confined to reading every word and doing every question.”

“If I had more multi-grade specific curriculum and materials, more available resources-- both people and ‘stuff’ to help once in awhile.”
### Table 23

**CHI SQUARE TABLE OF YEARS OF EXPERIENCE WITH TEACHER EDUCATION TRAINING AS A REASON FOR TEACHER USE OF INVENTED SPELLING**

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>NonUse N=241 (%)</th>
<th>Use N=26 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>42 (15.7)</td>
<td>8 (3.0)</td>
</tr>
<tr>
<td>6 through 10</td>
<td>41 (15.4)</td>
<td>3 (1.1)</td>
</tr>
<tr>
<td>11 through 15</td>
<td>39 (14.6)</td>
<td>5 (1.9)</td>
</tr>
<tr>
<td>16 through 20</td>
<td>43 (16.1)</td>
<td>1 (.4)</td>
</tr>
<tr>
<td>21 or more</td>
<td>82 (30.7)</td>
<td>3 (1.1)</td>
</tr>
</tbody>
</table>

Chi Square = 9.85938  
\[ df = 4 \]  
\[ p = .04286 \]

### Table 24

**CHI SQUARE TABLE OF YEARS OF TEACHING EXPERIENCE WITH TEACHER EDUCATION TRAINING AS A REASON FOR USE OF PORTFOLIO ASSESSMENT**

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>NonUse N=247 (%)</th>
<th>Use N=20 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>39 (14.6)</td>
<td>11 (4.1)</td>
</tr>
<tr>
<td>6 through 10</td>
<td>39 (14.6)</td>
<td>5 (1.9)</td>
</tr>
<tr>
<td>11 through 15</td>
<td>39 (14.6)</td>
<td>5 (1.9)</td>
</tr>
<tr>
<td>16 through 20</td>
<td>42 (15.8)</td>
<td>2 (.7)</td>
</tr>
<tr>
<td>21 or more</td>
<td>82 (30.7)</td>
<td>3 (1.1)</td>
</tr>
</tbody>
</table>

Chi Square = 10.62903  
\[ df = 4 \]  
\[ p = .00764 \]
### Table 25

**CHI SQUARE TABLE WITH YEARS OF TEACHING EXPERIENCE WITH TEACHER EDUCATION TRAINING AS A REASON FOR THE USE OF PROCESS WRITING**

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>N=241 (%)</th>
<th>Use N=26 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>36 (72.0)</td>
<td>14 (28.0)</td>
</tr>
<tr>
<td>6 through 10</td>
<td>38 (86.4)</td>
<td>6 (13.6)</td>
</tr>
<tr>
<td>11 through 15</td>
<td>35 (79.5)</td>
<td>9 (20.9)</td>
</tr>
<tr>
<td>16 through 20</td>
<td>41 (93.2)</td>
<td>3 (6.8)</td>
</tr>
<tr>
<td>21 or more</td>
<td>79 (92.9)</td>
<td>6 (7.1)</td>
</tr>
</tbody>
</table>

Chi Square = 14.73726, df = 4, p = 0.00528

### Table 26

**CHI SQUARE TABLE OF YEARS OF EXPERIENCE WITH TEACHER EDUCATION TRAINING AS A REASON FOR USE OF LITERATURE-BASED INSTRUCTION**

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>N=241 (%)</th>
<th>Use N=26 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>32 (64.0)</td>
<td>18 (36.0)</td>
</tr>
<tr>
<td>6 through 10</td>
<td>36 (81.8)</td>
<td>8 (18.2)</td>
</tr>
<tr>
<td>11 through 15</td>
<td>33 (75.0)</td>
<td>11 (25.0)</td>
</tr>
<tr>
<td>16 through 20</td>
<td>39 (88.6)</td>
<td>5 (11.4)</td>
</tr>
<tr>
<td>21 or more</td>
<td>76 (89.4)</td>
<td>9 (10.6)</td>
</tr>
</tbody>
</table>

Chi Square = 15.94616, df = 4, p = 0.00309

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### TABLE 27

**CHI SQUARE TABLE OF YEARS OF EXPERIENCE WITH TEACHER EDUCATION TRAINING AS A REASON FOR USE OF INTEGRATED/THEMATIC INSTRUCTION**

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>NonUse ( N=226 ) (%)</th>
<th>Use ( N=41 ) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>34 (68.0)</td>
<td>16 (32.0)</td>
</tr>
<tr>
<td>6 through 10</td>
<td>38 (86.4)</td>
<td>6 (13.6)</td>
</tr>
<tr>
<td>11 through 15</td>
<td>35 (79.5)</td>
<td>9 (20.5)</td>
</tr>
<tr>
<td>16 through 20</td>
<td>40 (90.9)</td>
<td>4 ( 9.1)</td>
</tr>
<tr>
<td>21 or more</td>
<td>79 (92.9)</td>
<td>6 ( 7.1)</td>
</tr>
</tbody>
</table>

Chi Square= 17.46739  \( df = 4 \)  \( p = .00157 \)
APPENDIX E

HUMAN SUBJECTS REVIEW BOARD APPROVAL
March 8, 1996

Judith Anderson
425 Phillip
Niles MI 49120

Dear Judith:

_RE: APPLICATION FOR APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS_

<table>
<thead>
<tr>
<th>HSRB Protocol #</th>
<th>Category</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>95-96-7</td>
<td>Exempt</td>
<td>Approved</td>
</tr>
</tbody>
</table>

**Protocol Title:** Teaching Practices and Attitudes of Multi-Grade Teachers in the North American Division of Seventh-day Adventists

On behalf of the Human Subjects Review Board (HSRB) I want to advise you that your proposal has been reviewed and approved. You have been given clearance to proceed with your research plans.

All changes made to the study design and/or consent form after initiation of the project require prior approval from the HSRB before such changes are implemented. Feel free to contact our office if you have any questions.

The duration of the present approval is for one year. If your research is going to take more than one year, you must apply for an extension of your approval in order to be authorized to continue with this project.

Some proposal and research designs may be of such a nature that participation in the project may involve certain risks to human subjects. If your project is one of this nature and in the implementation of your project an incidence occurs which results in a research-related adverse reaction and/or physical injury, such an occurrence must be reported immediately in writing to the Human Subjects Review Board. Any project-related physical injury must also be reported immediately to the University physician, Dr. Loren Hamel, by calling (616) 473-2222.

We wish you success as you implement the research project as outlined in the approved protocol.

Sincerely,

James R. Fisher, Director
Office of Scholarly Research

c: Jimmy Kijai
APPENDIX F

LAKE UNION CONFERENCE RESEARCH APPROVAL FORM
Lake Union Conference
Research Approval Form

Research that is to be conducted in an academy or elementary school within the Lake Union Conference needs prior approval. The topic and the research instrument needs to be reviewed either by the Lake Union Educational Management Team or the Superintendents Council which ever is appropriate.

Guideline Steps for Research Approval.

Step Number 1.

Judith Anderson has satisfactorily defined the research problem, justified the research, and given evidence of having completed a reasonably thorough literature review on this subject and has presented an acceptable outline of his/her research proposal. The plan for testing the research hypothesis is satisfactory. The instrument(s) for collecting the data is appropriate and the statistical design for the data is acceptable. The research procedures are in harmony with published ethical standards.

Teaching Practices and Attitudes of Multi-grade Teachers
the North American Division of Seventh-day Adventists

Topic

Advisor/Dissertation Chair

1-5-96

Date

Graduate Program Director

1-10-96

Date

Director of Scholarly Research

1-12-96

Date

Step Number 2.

Attach a copy of the research approval form and the survey instrument to be used.

Approved: Hami Randolph
Lake Union Director of Education

1-3-96

Date

School/s Participating in this Study: random sample
of one and two teacher schools in SLC.

This Form is to be completed and signed by all indicated individuals before any research is started in the Lake Union Conference. A copy of this form should be filed with the Lake Union Conference Director of Education, the School of Education Graduate Program Director and the Dean of the School of Education.

Revised November 1995, Dean, SED

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TO: Judy Anderson  
425 Philip Road  
Niles, Michigan 49120

DATE: January 29, 1996

RE: Research Approval

Judy, on January 26, 1996 the Lake Union Conference superintendents approved your request to conduct your research survey in a random sample of one and two teacher schools in the Lake Union Conference.

We will be interested in the final results of your study. Please keep us informed.

Thank you for your patience with our last minute request.

Sincerely,

Gary E. Randolph
Director
Office of Education

xc: Warren Minder
Jerry Thayer
SELECTED BIBLIOGRAPHY


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Miller, B. (1994). *Children at the center: Implementing the multiage classroom*. Portland, OR: Northwest Regional Educational Laboratory.


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VITA

NAME: Judith Leist Anderson

DATE OF BIRTH: July 25, 1946

PLACE OF BIRTH: Petosky, MI

FAMILY: Husband: Bruce A. Anderson

Children: Michelle
Scott
Steven

EDUCATION:

1996 Doctor of Philosophy--Curriculum and Instruction
Andrews University

1992 Masters of Education--Curriculum and Instruction
Andrews University

1969 Bachelor of Arts--Behavioral Science
Andrews University

PROFESSIONAL EXPERIENCE:

1993-96 Contract teacher Andrews University
1991-94 Principal/teacher Niles SDA School
1986-91 Principal/teacher Glen Ellyn SDA School
1981-85 Teacher North Shore Junior Academy
1978-80 Teacher Ruth Murdoch Elementary School
1977-78 Teacher Music, PE Garrett Elementary
1975-77 Teacher grades 1-4 Hartford SDA School
1974-75 Substitute teaching Berrien County
1972-73 Teacher grades 1-2 River School
1970-72 Teacher grades 1-4 Alpena SDA School
1968-70 Teacher grades 1-2 River School