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Multiage Teachers' Beliefs and Practices

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Abstract. This study examines the instructional and organizational practices of multiage teachers in the intermediate elementary grades and the beliefs that guide their practices. Qualitative case study design was used to construct individual portraits and a cross-case analysis of four teachers in multiage classrooms serving students in grades 3 through 5. Data collected via interviews and classroom observations revealed four categories of beliefs to be salient across the cases: differentiated instruction, social collaboration, flexible grouping, and student interest. Other commonalities among the cases included team teaching, a separation by grade level for one content area, and identifying the role of the teacher as a facilitator of the learning process. Also, three of the four teachers had special education backgrounds, and all teachers were instrumental in initiating multiage programs in their districts.

Currently, a high degree of interest in multiage education exists in public school systems throughout the United States and in many other countries as well. In the late 1980s, education systems developed an increased awareness of multiage education as child-centered strategies became more widely practiced. The National Association for the Education of Young Children's (NAEYC) initial and revised position statements on developmentally appropriate practices (Bredekamp, 1987; Bredekamp & Copple, 1997) created widespread understanding of the importance of instruction that was more tailored to meet the needs and interests of young children. In 1987, Goodlad and Anderson revised and republished *The Nongraded Elementary School* (originally published in 1967) and added their endorsement to NAEYC's support for mixed-age groupings as developmentally appropriate settings. By the early 1990s, the momentum toward forming multiage classrooms, particularly in the primary grades, was in full force.

Multiage classrooms represent diverse groups of students. Children of widely varied abilities, ages, cultures, and linguistic backgrounds are taught together, without division into grade designations. The age range of the students is commonly three or more years. Curriculum and teaching practices are such that children can approach tasks according to their individual needs and developmental levels. Some grade-specific teaching may occur because of state-mandated curricula and testing, but cross-grade teaching is the norm, dependent upon the teacher's judgment of the developmental level and unique instructional needs of each child. Children stay with the same teacher or teachers for several years and team teaching is common (Hoffman, 2000).

Multiage classes are often offered as a program option within the same school building as single-grade classrooms. Multiage programs commonly "bubble up" through a school. Districts usually begin by offering multiage primary programs (K-1, 1-2, K-2). As students experience success in these settings, parents look for a similar program in the intermediate elementary grades. Often administrators, teachers, and parents work together to continue offering multiage programs for students in grades 3 through 5.

A great deal of research has been con-

ducted since the 1960s on the academic and social benefits of multiage settings for students in the primary grades. Unfortunately, this research often has blurred the distinction between multigrade or combination classes and multiage and nongraded classrooms. Since multigrade or combination classes differ philosophically and organizationally from multiage and nongraded education, this lack of distinction has a potential impact on research findings and reviews of research (Lloyd, 1999; Mason & Doepner, 1998; Veenman, 1995).

A few studies have been helpful in terms of defining multiage philosophy (Gaustad, 1994; Lloyd, 1999; Marshak, 1994; Watson, Phillips, & Wille, 1995). Generally, one of the key hallmarks of a multiage philosophy is a classroom community in which deep relationships are formed between students, teachers, and parents. In this community, teachers perceive each student as an individual and themselves as a facilitator; and children learn to perceive each other in terms of specific personal qualities and capabilities rather than grade groupings. Therefore, multiage philosophy involves structuring learning activities to meet the needs of individuals rather than to teach to the imaginary "middle of the class." In doing so, student choice is integrated, and information is presented and skills are learned within meaningful contexts. Grouping in multiage classrooms can be done heterogeneously by age and other factors. The philosophy is that doing so promotes cognitive and social growth and reduces antisocial behavior. Teachers facilitate positive group interaction, including designing and facilitating cooperative and collaborative group work.

Studies generally have demonstrated results in favor of multiage grouping or yielded no significant differences between multiage and single-graded programs (Gutierrez & Slavin, 1992; Veenman, 1995). One drawback of this research was that studies rarely included observations of multiage classrooms; therefore, it was hard to determine what instructional or organizational practices were contributing to student achievement. A multiage classroom in one study may not be the same as the multiage classroom involved in another study. Researchers have suggested that detailed descriptions of multiage classrooms in operation are needed to provide information about how practices are implemented in this particular educational setting and about the possible relationship between these practices and student achievement.

For this study, interviews and observations of multiage teachers who taught grade level groupings above the primary level were used. The study investigated practices in three ways: 1) by providing descriptive accounts of multiage practices beyond the primary grades, 2) by examining beliefs about teaching and learning that are being carried out in multiage classrooms, and 3) by exploring the ways that multiage teachers address diversity in their classrooms. All teachers have to address increasing student diversity in the classroom (Buchanan, Burts, Bidner, & Charlesworth, 1998). Dimensions of diversity apply not only to cultural, racial, or ethnic differences, but also to all the things that make us different. Every classroom is made up of children with diverse families, abilities, learning styles, and behaviors. Learning how multiage teachers address diversity—what they do and how they do it—may help single-grade teachers address diversity more effectively.

The Design

This study was designed as a modified multicase study, and was conducted over a short, intensive period of time, providing a cross-sectional look at four New Jersey multiage teachers and their classrooms in action. Case studies were constructed of four elementary multiage teachers by examining each teacher and classroom closely, comparing each, and providing examples of beliefs and practices in these multiage classrooms.

Excellent teachers purposefully develop inter- and intrapersonal knowledge as well as professional knowledge. As Collinson

(1999) writes, "What makes excellent teachers recognizable may be a combination of competence (professional knowledge), skillful relationships (interpersonal knowledge), and character (intrapersonal knowledge)" (p. 10). All four of the participants were recommended by their principals as being excellent multiage teachers. Hearing their stories and looking into their classrooms has led to some understanding of the relationship between their beliefs and practices. If studied on a broader level along with multiage teachers' classrooms in other areas of the United States, we may be able to operationalize the practices in multiage classrooms and the teacher beliefs that guide these practices. Ultimately, the relationships between multiage practices and student achievement may be better understood.

Therefore, this study had three main purposes and one related issue to explore. The first purpose was to provide detailed descriptions of how instruction in multiage classrooms was operationalized in the classrooms of four multiage teachers. Researchers agree that interpretative observational research in this area will provide insight into how multiage education is actually being carried out in multiage classrooms (Lloyd, 1999; Mason & Burns, 1996; Veenman, 1995).

The second purpose of the study was to record these four multiage teachers' thinking about learning and teaching. Determining their beliefs was important since they were often responsible for initiating change and implementing various practices, such as identification of student interest or choice, using collaborative learning, and creating integrated curriculum. If we are going to understand how multiage classrooms work, then it becomes critical to learn more about the kinds of thinking and decision-making done by teachers in multiage settings.

The third purpose of the study was to investigate how four teachers' beliefs were reflected in their classroom practices and to determine what practices were common among them. Research on teachers' thinking often examines the consistency between beliefs and practices. For example, Fang (1996) reviewed studies indicating that teachers' beliefs are consistent with hypothetical lesson plans, but not with actual classroom practices (Konopak, Wilson, & Readance, 1994). However, multiage teachers apparently have never been participants in such studies. Therefore, examining the relationship between beliefs and practices was an important component of this study. When inconsistencies were found between beliefs and practices, contextual variables such as administrative mandates were examined.

Related to the issue of relationships between beliefs and practices, the study explored the influence that these four teachers had in initiating the multiage programs in their districts. While various factors have been credited for the renewed interest in multiage education, the influence of teachers has not been investigated. Unlike in Oregon and Kentucky, there has been no legislative directive or initiative in New Jersey to reconfigure primary classrooms into multiage clusters to provide developmentally appropriate environments; nevertheless, more than 30 districts in New Jersey offer multiage classrooms alongside single-graded classrooms. Exploring the role that teachers have had in the change process may provide some insight into the formation of multiage programs.

This research investigated these issues using the following framework and research questions. Isenberg (1990) suggests that researchers document teachers' thoughts before, during, and after the act of teaching, using a stimulated recall procedure. Such studies record and organize established standards of practice for particular areas of teaching—in this case, multiage teaching (Isenberg, 1990). This general framework was used to conduct a three-part qualitative study. By combining the use of interviews and observations, the beliefs and practices of four multiage teachers were observed and examined. The study addressed the following questions: 1) What are the teachers' beliefs about learning and

teaching? 1a) Did their beliefs lead to a role in the implementation of the multiage program in their school/district? 2) What are the instructional and organizational practices used by four multiage teachers and how do these practices reflect their beliefs about learning and teaching? 3) What practices and beliefs are common to these four multiage teachers?

The Participants

Participants and schools for this study were chosen through purposeful sampling or criterion-based sampling (Maxwell, 1996; Merriam, 1988). The first determining factor for the school context was that multiage classrooms were offered in addition to single-grade classrooms. This is typical of public school multiage contexts. Second, a participating school had to have demonstrated its support of the multiage philosophy. In all cases, the participating schools met this requirement, at least in part, as demonstrated by the growth of multiage programs in their districts and buildings. A principal at one school recently had applied for and won a state department of education Best Practice Award for the school's multiage program. Third, schools needed to offer multiage programs that served the intermediate elementary grades.

The participating teachers were recommended by their principals as being exemplary multiage teachers. While these teachers had a variety of experiences and training, none had specific multiage training. They all, however, have been successful in articulating the multiage philosophy to parents and the school community. In two of the three schools, parents chose for their children to be in multiage classrooms. Table 1 summarizes the criteria used in the selection of the sample.

As a result of the selection process, Teachers A, B, C, and D were chosen. Teacher A was a 34-year-old male who had been teaching for six years. For four of these six years, he was a special education teacher, and he had two years of experience in multiage classrooms. He was the only teacher in the sample who had out-of-state experience, teaching in a multiage classroom in Nevada. He had a teaching partner, but they did not team-teach in the same classroom. His involvement in the study was as a 4th- and 5th-grade multiage teacher. Teacher B was a 37-year-old male who had taught for 14 years. Some of those years were in special education, and most recently he had taught three years in a multiage classroom with a combination of 4th- and 5th-graders. Teacher C was a 50-year-old female with eight years of teaching experience. Five of the eight years were spent as a special education teacher, and three years were in the multiage 4th- and 5th-grade class she team taught with Teacher B. Teacher D was a 33-year-old female with seven years of teaching experience. She had taught middle-school language arts, single-graded 1st grade, three years of multiage 1st- and 2nd-grade class and, during the study, team-taught a 3rd- and 4th-grade multiage class.

Table 1
Criteria for Sample

Participating Schools	*Participating Teachers*
1. Offer multiage classrooms in addition to single-grade classrooms.	1. Each has administrative recommendation as exemplary multiage teachers and has been successful in articulating the multiage philosophy.
2. Demonstrate support of the multiage philosophy.	2. Each chooses to teach in the multiage classroom and had not been assigned to that position.
3. Offer multiage programs serving the middle elementary grades.	3. Each has had at least two years of experience as a multiage teacher.

Data Collection

Data collection occurred in three stages. For each participant a pre-observation interview, a videotaped classroom observation, and a post-observation interview were conducted. The purpose of the pre-observation interview was to collect background information and data about each participant's beliefs (see Figure 1).

The purpose of the classroom observation was to compile details of the experience. The observation took place through the course of one whole school day. An observation guide was used to record the data gathered (see Figure 2). The guide was designed to focus on several key elements, such as the physical layout of the classroom, instructional content and strategies, and classroom interactions between teacher and student and between students and other students. It also was designed to allow recording of descriptive data in the left-hand column, while comments and interpretations were posted in the right-hand column. While the author took field notes, a multiage teacher from another district videotaped classroom interactions. The videotaping in the classroom was unobtrusive due to technology that enables quality recording from a distance, allowing students to go about a normal school day without undue distraction.

In the post-observation interview, participants reflected on the meaning behind statements made in the pre-observation interview and interpreted classroom practices as viewed on the videotape, the stimulated recall tool. Prior to the post-observation interview, the videotapes were edited to approximately 40 minutes. The participants used the videotaped observation of their classrooms as the stimulus for recalling specific examples of teaching practices and for explaining contexts that were critical to the decisions they had made. The post-observation interview was informal compared to the initial interview. There were no predetermined questions; instead, participants were asked to freely discuss whatever aspect of their classroom they felt was relevant. The participants were encouraged to think about their classrooms in terms of their responses from the pre-observation interviews, which were provided for them.

Figure 1
Guiding Questions for the Pre-Observation Interview

1. Tell me about your journey in becoming a multiage teacher.
   ~Were you once a single-graded teacher?
   ~How is your teaching in a MA classroom different from what you used to do in a single-grade classroom?
   ~Were you part of the multiage initiative in your district?

2. Describe your classroom as a learning and teaching environment.
   ~How are children learning in your classroom?
   ~How are your beliefs about how children learn reflected in your classroom?

3. Now describe what your ideal teaching and learning environment would be.
   ~How is it different than your real classroom?

4. What do you feel is the teacher's role in the classroom?

5. Explain how you meet the wide range of abilities in your multiage classroom.
   ~Peer tutoring? Collaborative groups? Flexible grouping?

6. What are the advantages of a multiage classroom?

7. What are the disadvantages of a multiage classroom?

8. What school issues support or obstruct the implementation of your multiage classroom?

Data Analysis

From the literature on multiage teaching and philosophy, the data were expected to reflect five categories when analyzed for evidence of teacher beliefs. Beliefs were defined as theoretical agreement with educational practices, and a line of data was determined to be evidence if it was 1) a statement that indicated support or otherwise corroborated a belief in one of the categories or 2) an observed practice that served as documentation of a belief in a category.

The first category of belief was "importance of multiage grouping." Multiage teachers generally believe that students benefit from working with older and younger classmates (Watson et al., 1995), and set up their classroom and learning situations accordingly. A second belief category was the "role of the teacher." It was expected that teachers would see their role as one of facilitator and social coach. The third belief category was "differentiated instruction," including sensitivity to individual differences by modifying content, process, and product when necessary (Tomlinson, 1995). Marshak (1994) found that teachers are motivated to structure learning activities to meet the needs of individuals, rather than teach to the imaginary "middle of the class." The fourth category of belief was the "socially collaborative climate" in the classroom. Nearly every study identifies the social climate of the classroom as being positively affected by the multiage environment (Lloyd, 1999; Marshak, 1994; McClellan, 1994; Veenman, 1995). Multiage teachers need to value social collaboration, and it was anticipated that they would refer to it often. A fifth belief category was "flexible grouping for instruction." Suggested practices for multiage classrooms (Stone, 1994/95) stress the need for teachers to be flexible in grouping for instruction. The two last categories,

Figure 2
Observation Guide for Multiage Classrooms

Teacher's Name/Grade Levels: _____
Date: _____

1. CLASSROOM ENVIRONMENT
   Physical Layout:

descriptive data	comments/interpretations
2. INSTRUCTION Instructional Context: Instructional Strategies:	
3. CLASSROOM INTERACTIONS Teacher - Student: Student - Student:	

Table 2
Categories of Beliefs

Category of Belief	*Belief*	*Belief Indicators Explicit Statement*	*Belief Indicators Implicit Statement*	*Belief Indicators Instructional practice stated / observed*
Importance of MA grouping	Learning benefits from interacting with both older and younger classmates.	"The wider range of ages and abilities is a big advantage of MA."	"I love seeing the older kids taking on the role of the mentor."	Grouping for reading by shared interest and across grade levels.
Role of teacher	Teacher as facilitator.	"I see myself as a facilitator in the classroom."	"I encourage children to find out information which they're interested in."	Planning for student research activities.
Differentiated instruction	Each student is instructed at appropriate level of cognitive ability.	"Each child needs instruction at his or her instructional level."	"Everyone is at a different place in their math learning."	"Each day I write four different levels of math computation."
Socially collaborative classroom	Providing opportunities and having expectations for students to collaborate benefits both academic and social development.	"I think working in small groups helps children learn to get along and appreciate differences."	(while viewing tape) "This group is great. They have figured out each other's strengths."	Activities designed to enhance the collaborative process.
Flexible grouping for instruction	Groups for instruction should be varied and fluid. Opportunities to work independently, in small group, or as whole class.	"I constantly work to keep my groups fluid for instruction."	"Small groups for instruction form or reform throughout the day."	Many combinations of children in "book clubs"—students reading independently, in partners, small groups.
Integrated curriculum	Students get more understanding and meaning from curriculum when the content areas are integrated.	"I think it is important to integrate the subjects and make connections between them."	"Under the umbrella of a particular theme, we teach skills and content in all the different content areas."	"They have chosen one of the four novels having to do with Space for Themed Reading."
Student interest	Students are more motivated when the teacher allows students to pursue their interests.	"There is always room for a student to take an assignment in a direction based on his/her interest."	"The students and I plan open-ended project assignments for each unit."	Two students are working on "Independent Learning Projects."

"integrated curriculum" and "student interest," were added early in the course of data collection as trends emerged.

Table 2 illustrates the process of analyzing for beliefs. Within each of the categories, statements of beliefs were coded as either explicitly or implicitly stated and practices were coded as either stated by the participants or observed in their classrooms. For example, a teacher might have described her/his use of guided reading strategies. This would be identified as a belief indicator (coded as a stated instructional practice), which then would be assigned to the broader category of flexible grouping for instruction.

Findings and Discussion

Findings Regarding Teachers' Beliefs

The multiage teachers in this study had the following six beliefs in common: 1) The teacher and the students must get to know one another well so that the teacher can understand students' learning styles and unique personalities, and the students can come to understand similar information about each other and their teacher. The best way for this to happen is through a longer amount of time spent together and through many opportunities for students to work together to accomplish tasks. Joint problem solving, whether with teacher involvement or by students working together independently, allows for students to learn from each other and for growth in the social skills of compromising and accepting each other's strengths and weaknesses. 2) The teacher's role is that of facilitating avenues for learning. Teaching should include students and teachers learning and problem solving together. 3) Students should be flexibly grouped throughout a school day, depending on type of instruction being delivered, including whole-group instruction. When direct instruction is needed, working one-on-one or in small groups is the best venue. 4) Teacher planning should include designing activities that can be modified and adapted for their students' wide range of abilities and learning styles, allowing students to work at their own pace. 5) Opportunities for student choice should be built into the curriculum and typical school day. Students making meaningful choices is not only beneficial to academic growth but also helps maintain motivation. Curriculum should be tailored to, and be the result of, students' interests. Planning should be flexible enough to allow for expansion of content to encompass different directions of student interest. 6) Every classroom, whether it is a multiage classroom or a single-grade classroom, is made up of children with diverse abilities, learning styles, and behaviors. The school day and use of instructional time must be structured so that diversity is accommodated and celebrated as an important resource.

Findings Regarding Teachers' Practices

The following four descriptions best exemplify the practices found to be common to the four classrooms: 1) Student seating, for the most part, is organized to provide for heterogeneous groupings where interaction and collaboration are encouraged and expected. When some other groups are formed for instruction, as in the example of reading groups, teachers still feel heterogeneity is important and provide for such in the formation of the groups. 2) The instructional and organizational practices also are intended to encourage student-directed learning. Whenever possible in the curriculum, students are allowed to make choices to reflect their interests and learning styles, as in the examples of choosing how to present information or choosing a theme novel. Student independence also is supported by student-accessible materials and independent use of resource materials, including technology. 3) Instruction and organization in the classroom are built on accepting and celebrating diversity among students. Practices meeting the needs that this diversity implies include flexible grouping, differentiated instruction, and promotion of social collaboration. An important key to these practices is the teacher's role of monitor, facilitator, or coach. Teachers in this role support student-directed learning and are able to meet all of their stu-

dents' needs, delivering direct instruction to small groups or individual students. 4) Teachers also organize content so that meaningful connections are made among the content areas and, when possible, make connections relevant to their students' lives. They organize material to allow for student interest. Instructional practices include allowing students to make content more personally meaningful by taking a concept in a different direction.

Table 3 contains a summarized list of the observed or noted practices that the participants carried out in their classrooms, alongside the categories of beliefs these practices reflect.

Additional Findings and Discussion

Other findings from the study concerned: 1) the common practice of team teaching and the physical space of the classrooms facilitating or impeding this practice, 2) the special education backgrounds of three of the teachers, and 3) the numbers of children with special needs in these four multiage classes.

All four teachers had experience with team teaching. In Teacher A's situation at the time of the study, he did not share a classroom with his team partner, but they did share the students and the planning. More common was the team teaching situation that Teacher B and C had, and that

Table 3

A Summary of the Observed Findings: Participants' Beliefs and Practices

Multiage Practices	Reflecting Teacher Beliefs
(1) Student seating provides for heterogeneous groupings where interaction and collaboration are encouraged and expected. When some other groups are formed for instruction, as in the example of reading groups, teachers still feel heterogeneity is important and provide for such in the formation of the groups.	Social Collaboration
(2) Instructional and organizational practices also are intended to encourage student-directed learning. Students are provided with opportunities to make choices that reflect their interests and learning styles. Student independence also is supported by student-accessible materials and independent use of resource materials, including use of technology.	Student Interest Teacher's Role of Facilitator
(3) Instruction and organization in the classroom are built on accepting and celebrating diversity among students. Practices that meet the needs that this diversity implies include flexible grouping, differentiated instruction, and promotion of social collaboration. An important key to these practices is the teacher's role of monitor, facilitator, or coach. Teachers in this role support student-directed learning and are able to meet all of their students' needs, delivering direct instruction to small groups or individual students.	Flexible Grouping Differentiated Instruction Social Collaboration Teacher's Role of Facilitator
(4) Content is organized so that meaningful connections are made with the content areas and, when possible, connections are made relevant to students' lives. Material is organized to allow for student interest. Instructional practices include allowing students to make content more personally meaningful by taking a concept in a different direction.	Student Interest Integrated Curriculum

Teacher D had with her partner (Hoffman, 2000). During the pre-observation interviews, Teachers B and C mentioned team teaching as an advantage for their multiage approach. They believed they were better equipped to meet the needs represented by the wide range of abilities among the students in their classroom. They also expressed the opinion that team teaching helped foster a positive classroom community. However, the biggest advantage to team teaching they mentioned was the opportunities it afforded to model how to resolve conflicts. Students learned to compromise through working collaboratively and from watching their teachers compromise. Recent support in the literature for this advantage of team teaching can be found. As Jones (2003) states, "One of the greatest relationship benefits that team teaching offers the children is the modeling of secure and happy friendly partnerships between two adults [who] are very important to them, and encountered on a daily basis" (p. 7).

However, the physical design of the school space used for the multiage classrooms in the study varied widely. Teacher A's classroom situation was not conducive to team teaching. His team teaching partner was across the hall, yet they shared a class of 38 students. Teacher A found it to be a difficult situation. In Teacher D's case, she and her partner struggled with inadequate classroom space and a single door between the two classrooms. They knew that they were to move to a bigger, double classroom the following school year, and so accepted the insufficient room situation under these conditions. In contrast, Teacher B and C worked in a classroom that was large enough to facilitate team teaching.

A second interesting finding was that three of the teachers were once special education teachers. This was not any part of the criteria for selection of participants; the researcher did not know of their teaching backgrounds (except for having at least two years' experience as a multiage teacher) prior to the first interview with each. The special education perspective that the teachers brought to their classrooms may have been instrumental in the choosing of a multiage classroom, as well as to how they managed their multiage classrooms at the time of the study.

Finally, both in Teacher A's class and in Teachers B and C's class, several students were classified as learning disabled. Teacher A had the largest percentage and the least amount of support; yet, he described that other teachers in his building, including those connected with special education, felt the multiage program was "elite." Teachers B and C also had a large number of classified students; because theirs was an inclusive classroom, however, they had a full-time aide and other part-time support staff. Their administration and the Child Study Team were philosophically committed to the multiage inclusion model. Teacher D, on the other hand, had to fight to have a classified student placed in her class. The special education staff in her school provided little support for the multiage program.

Grant (1993) and Grant and Johnson (1994) have identified overburdening a multiage classroom with children with special needs as a potential obstacle to the success of a multiage program. All three of these teachers, however, considered their programs to be very successful, and this was due to their abilities and backgrounds as special education teachers. In Teacher A's case, he was adept at modifying curriculum and differentiating instruction, and he encouraged heterogeneous groupings to include classified children. Teachers B and C's classroom was an inclusion model and several supports were in place, as well as practices similar to those employed by Teacher A.

Limitations of the Study

There were two limitations to the study. One limitation was the time frame. Time and resources made it prohibitive to spend more days with the participants. Ideally, a once-a-month visit over a longer period of time would have been beneficial. Nevertheless, the interviews and observations

of these multiage teachers and their active classrooms provided the data needed to define and compare their beliefs and classroom practices. The interviews provided data about the teachers' beliefs, and the observations provided data about their organizational and instructional practices. Clearly, these classrooms operated with fully established routines and expectations. Extending the study over a longer time period would have provided a richer, more complex description of the teaching performance, and might well have determined a stronger relationship between beliefs and consistent practices.

Another limitation of the study involved generalizability. Generalizing the findings from one case study to a broader population is inappropriate; however, a clear, multicase design with detailed accounts of data collection procedures was offered. Comparing the details of responses and contexts to findings from other multiage classrooms using the same methods of collecting and presenting data in similar detail would be feasible. As Erickson (1986) suggested, with interpretive research it is effective to study a specific case in great detail and then compare the results to other cases studied in detail.

Implications for Practice

All teachers in today's schools are faced with an ever-increasing range of academic, social, cultural, and linguistic diversity among the student population. In multiage classes, the diversity can be even greater. The teachers participating in this study demonstrated practices that met the wide-ranging needs of their students. These practices included instructional practices such as differentiated instruction, flexible grouping, social collaboration, student choice, and adaptive curriculum that can be approached from different levels of interest and ability. This study provided insight into these teachers' classrooms, revealing how their instructional beliefs were operationalized in their classrooms.

Single-grade teachers often approach their students as members of a particular grade with expectations of similarity rather than expectations of diversity. They often rely on whole-class teaching situations and sameness in curriculum and assessment. This study provided descriptions of practices that were successful in meeting the needs of students in multiage classrooms where there was an expectation of diversity. Knowledge of these practices is relevant to single-grade teachers as well, as they, too, struggle to meet the ever-widening range of cultural and cognitive diversity present in today's classrooms.

In addition, some contextual features of the multiage programs involved in the study may have implications for multiage practices, in that they appear to have had either inhibited or facilitated the participants in their multiage endeavor. First, as discussed in the findings, all four participants supported the practice of team teaching; however, the physical design of the school space used for the multiage classrooms in the study varied widely. One implication of the study for multiage settings may concern the need for adequate school space when team teaching. When schools are not equipped with double rooms, as in Teacher A's older neighborhood school, it may be advantageous to have self-contained multiage classrooms with one teacher.

A second contextual feature that may have implications for practice was the extent to which 1) multiage teachers had special education backgrounds, and 2) multiage programs had the support of Child Study Teams and special education teachers. One implication for multiage practice may be that it might be wise to gain the support of the special education staff, including the Child Study Team, when offering multiage programs. Another implication might be that teachers with special education experience may be a better match for teaching in multiage classrooms.

The third contextual feature that might have implications for multiage practice is the extent to which the teachers were curriculum creators. In this study, all teachers helped write the curriculum for their program; however, each had to separate by

grade level for one part of the curriculum that was grade-level specific. Three of the participants found this situation to be frustrating. An implication might be that the more empowered teachers are in the curriculum planning process, the more frustration they feel when mandated curriculum is imposed.

Implications for Future Research

One of the problems in multiage research has been trying to understand what variables affect the relationship between student learning and multiage settings. Findings from this study are congruent with survey research done in Oregon and Kentucky that indicates common practices in those states' primary multiage classrooms. However, further observational research in elementary multiage classrooms is needed so that we can more fully understand the practices implemented to meet students' individual differences and determine the ways student learning is affected by multiage settings.

Future research also should investigate how practices in multiage primary classrooms characterized as developmentally appropriate (Gaustad, 1994; Miller, 1994) are translated into intermediate elementary multiage practices. Evidence such as student choice and self-directed learning that was coded under the category of student interest during this study seems to be similar to constructs identified as developmentally appropriate practices for younger children (Bredekamp & Copple, 1997; Chapman, 1995; Chase & Doan, 1994; Gaustad, 1994; Lloyd, 1999; Miller, 1994). Are these the constructs behind developmentally appropriate practices as they continue into the intermediate elementary years of schooling and beyond?

Researchers have argued (Delpit, 1988; Lubeck, 1985, 1998) that generalizing developmentally appropriate practices as suitable for all children fails "to capture the nuances, ambiguities, and complexities of teaching young children in a wide diversity of communities" (Lubeck, 1998, p. 3). As Lubeck argues, educators' practices need to address diversity among young children and refrain from categorizing practices as being either developmentally appropriate or inappropriate. She encourages educators to accept that there are many ways of teaching, since teachers often mix methods based on previous experiences or particular contexts. In light of what we have learned about multiage practices, another possible area of future research would be to investigate if some children are not suited for learning in multiage classrooms.

Another area of inquiry that this study examined was how multiage teachers' beliefs were reflected in their instructional practices. Findings from each case in this study reveal that beliefs were closely matched to classroom practices. Further research with these participants could continue to document consistent practices, as well as examine why this occurred. More widespread research should explore if the same pattern of consistency between beliefs and practices exists among other multiage teachers, and, if so, what conditions and variables account for this tendency.

Finally, future research should examine the practice of team teaching in the multiage classroom. This is an area of inquiry that seems to have potential benefits for both teachers and students. Team teaching appears to help teachers meet students' instructional needs and provide students with a model of collaboration and compromise. Students seem to benefit from individual and small-group access to teacher instruction and from experiencing the spirit of enhanced cooperation.

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