Close-Up #14

Nongraded Primary Education

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INTRODUCTION

Kentucky: Legislative mandate calls for development of nongraded programs for all public school students in kindergarten through grade three.

British Columbia: Transition to universal nongraded primary education begins in 1991; mandate requires full implementation of nongraded education by the year 2000.

Oregon: State House Bill 3565 includes provisions for review of nongraded primary models and feasibility study for statewide implementation of nongraded primary education.

These and similar events reflect a keen contemporary interest in educational restructuring to improve student achievement. They also reflect a researchbased conviction on the part of child development specialists and others that traditional graded school structures are detrimental to the development of young children-and that nongraded arrangements are much more in keeping with the way these children grow and learn.

DEFINITION

Nongraded education is the practice of teaching children of different ages and ability levels together in the same classroom, without dividing them or the curriculum into steps labeled by "grade" designations (Gaustad 1992a, p.2).

Within these structures, children progress along a continuum of simple through more complex material at their own rates, making continuous progress rather than being "promoted" to the next grade at the end of a school year. Children in nongraded programs typically stay with the same teacher (or, preferably, teaching team) for two or three years. With the beginning of each new school year, one-half to two-thirds of the students from the previous year's class remain together as well, with only the oldest students entering new classes.

While students of any age can be grouped in nongraded clusters, it is nongraded PRIMARY

instruction that is the focus of most current interest and activity. This is because research on young children (those eight years old and younger) has revealed that the educational practices most beneficial to these children can best be delivered-and in some cases, can ONLY be delivered-in nongraded structures.

Although nongraded education has been part of the American educational scene since the beginning of the republic, many people remain confused about what it means. To some, the term "nongraded" has suggested programs in which letter grades are not given. To clarify the matter, some writers (e.g., Gaustad 1992a) have pointed out that, while alternative methods of assessing and reporting student progress are frequently used in nongraded programs, this is not the primary meaning of the term.

Further confusion has resulted from the many different terms used to designate more or less the same concept, e.g., UNGRADED, NON-AGE-GRADED, MULTIAGE GROUPING, MIXED-AGE GROUPING, HETEROGENEOUS GROUPING, OPEN EDUCATION, VERTICAL GROUPING, and FAMILY GROUPING (Gaustad 1992a; Katz, Evangelou, and Hart-man 1990; and Milburn 1981).

One also encounters the terms MULTI-GRADE (or -GRADED), MIXED GRADE, and SPLIT-GRADE, but these generally refer to structures in which students of different ages are taught in the same classroom, but with grade-level designations maintained and separate curricula used for students in each grade. Moreover, as Craig and McLellan (1987) point out:

Split-grade classes...respond to imbalances in pupil-teacher ratios, age-group placements, enrollment fluctuations, and budget constraints. [They] are an administrative necessity rather than a philosophical preference (p. 5).

BACKGROUND

NONGRADED TO GRADED SCHOOLS

In the U.S., nongraded education was the rule until the beginning of this century-not just for primary children, but for students in general (Connell 1987). Then, factors such as increased industrial development, the large-scale movement of people to urban centers, and the influx of large numbers of immigrants, put new pressures on the schools. Miller (1989) writes, "the ideal of mass public education took root and the practice of graded schools began in earnest" (p. ix). Miller goes on:

The graded school system was driven by a need for managing large numbers of students rather than for meeting individual students' needs [and] the graded school has survived as the dominant organizational structure since its emergence 150 years ago
(p. ix).

DEVELOPMENTALLY APPROPRIATE PRACTICE AND NONGRADED EDUCATION

The rationale for nongraded primary programming rests heavily on the concept of developmentally appropriate educational practice, as this concept has emerged from the work of child psychologists and other child development specialists (Bredekamp 1987; Gaustad 1992a). Before discussing contemporary thinking about developmentally appropriate practice, however,

it may be worthwhile to provide a brief summary of historical ideas about children's development and learning, and the way those ideas have been translated into practice.

Prior to the 18th century, Western writers and members of the upper classes tended to view children of five or six and older as "miniature adults" and expected them to learn in the same ways that adults do. The writings of Rousseau represented a departure from this notion, characterizing young children as moving through a succession of developmental stages, each of which governed the way that children perceive the world and learn about it (Williams 1987).

From that time forward, the approaches taken to educating young children in Europe and America have undergone considerable evolution, influenced by the work of such key figures as John Dewey, Maria Montessori, and Jean Piaget. Though these and other thinkers differed from one another in many respects, they all held to the idea that young children's ways of learning are different from those of older children or adults and that learning activities need to be responsive to the children's changing developmental needs.

In the U.S. in the late 1950s and early 1960s, major changes in our approach to educating young children began to occur. Distress over the low achievement of poor children, together with the push to "keep up with the Russians" after the launching of the Sputnik satellite in 1957, led the federal government to intervene in early childhood educational practices in ways that continue to exert considerable influence to the present day (Williams 1987).

In the interest of improving the quality of U.S. education, many program funders and developers moved away from developmentally oriented curricula for young children and began to focus more and more on an academically oriented one. The push for young children to acquire specific skills was characterized by an increased focus on preacademic skill building, teacherdirected activity, and the introduction of abstract concepts-in other words, the kind of learning activities typically used with older children and youth. Later, and in the same spirit, the trend toward all-day kindergarten brought with it increased preacademic, cognitively oriented work for kindergarten children.

Today, there is a strong movement-involving many child development specialists, psychologists, researchers, educators, legislators, and others-calling for a return to a developmentally oriented curriculum which includes nongraded learning arrangements for primary children.

Just what is developmentally appropriate practice as it applies to the education of primary-age children? Sue Bredekamp, articulating the research-based position of the National Association for the Education of Young Children writes:

The concept of developmental appropriateness has two dimensions: age appropriateness and individual appropriateness.

1. Age appropriateness. Human development research indicates that there are universal, predictable sequences of growth and change that occur in children during the first 9 years of life. These...occur in all domains of developmentphysical, emotional, social, and cognitive. Knowledge of typical development of children within the age span served by the program provides a framework from which teachers prepare the learning environment and plan appropriate experiences.
2. Individual appropriateness. Each child is a unique person with an individual pattern and timing of growth, as well as individual personality, learning style, and family

background. Both the curriculum and adults' interactions with children should be responsive to individual differences (Bredekamp 1987, p. 2).

Many volumes have been written citing specific practices and activities that are developmentally appropriate for primary-age children, and it is outside the scope of this report to detail these here. Instead, the following list (drawn from Bredekamp 1987) identifies general characteristics of developmentally appropriate schools and programs for these children:

- Curriculum goals include (1) developing children's knowledge and skills in all areas (physical, social, emotional, and intellectual); (2) developing children's self-esteem and positive feelings about learning; and (3) being responsive to individual differences in developmental stage, ability, and interests.
- Different levels of ability, development, and learning styles are expected, accepted, and used to design curriculum.
- Curriculum is integrated so that children's learning in all traditional subject areas occurs primarily through projects and learning centers that are organized around themes and that reflect children's interests and suggestions.
- Teachers plan and prepare the environment so children can learn through active involvement with materials and with each other, with adults, and with older children serving as informal tutors.
- Individual children or small groups are expected to work and play cooperatively, collaboratively, or alone in learning centers and on projects that they may select themselves or be guided to by the teacher(s). Centers are changed frequently.
- Learning materials and activities are concrete, real, and relevant to children's lives.
- Teachers promote prosocial behavior through offering stimulating activities and facilitating choices.
- Teachers involve parents through conferences, invitations to help in classrooms, and the provision of home-based activities for parents to engage in with their children.
- Progress is assessed primarily through observation and recording at regular intervals; comparisons are made only with the child's own past performance, not with others. Children are actively involved in assessing their products and progress.
- Children are neither promoted nor retained; instead, they continually work to acquire competence in all areas.

Finally, and most relevant to the present topic, Bredekamp writes:

Developmentally appropriate schools are also flexible in how they group children. Rigid adherence to chronological age/grade groupings or ability groupings is inappropriate....Combina-tion classrooms or ungraded primary schools provide a vehicle for preserving heterogeneous groups while also providing more time for children to develop at their own pace and acquire early literacy and mathematical skills (p. 66).

THE RATIONALE FOR NONGRADED PRIMARY PROGRAMS

With the concept of developmentally appropriate practice as the backdrop, then, many researchers and other educators are currently calling for the use of nongraded primary school structures. The rationale (drawn from the work of Davis 1992; Hunter 1992; Milburn 1981; Calkins 1992; Miller 1992; Elkind 1989; and Purdom 1992) includes the following components:

- Chronological age and mental age do not always correspond.
- A child may excel in one curricular area and simultaneously have difficulty in another.

- Children are able to work at different developmental levels without obvious remediation, thus avoiding the social or emotional damage typically caused by retention.
- Students stay with their teacher(s) for more than one year; thus teachers get to know students well and provide for continuity in their learning, and children avoid the trauma of adjusting to new teachers annually.
- Children have more time to assimilate and consolidate learnings in a familiar environment.
- Age and achievement differences are accepted as normal by children.
- Nongraded arrangements lend themselves to integrated curriculum.
- Nongraded grouping lends itself to the use of validated practices such as cooperative learning and cross-age tutoring.
- The increasing diversity of contemporary society is more easily accommodated by nongraded programs.
- Research shows that nongraded grouping leads to more positive student attitudes and behavior than graded structures and that achievement outcomes are similar.
- The team teaching and family-like atmosphere typical of nongraded programs leads to increased job satisfaction for teachers.

In addition, proponents note that nongraded programming is more in keeping with the way children in naturalistic settings spontaneously group themselves for play and projects. Researchers (such as Day and Hunt 1975; Ellis, Rogoff, and Croner 1981; Gaustad 1992a; and Pratt 1986), have found that, given the opportunity, children will select friends, playmates, and groupmates of a wide age range and interact with them more successfully than they do with peers in sameage groups.

In citing the benefits of nongraded programs, proponents also point to the drawbacks of graded structures. Some of these, such as the affective damage caused by retention in grade, have been referenced. Connell (1987) writes further of the poor fit between graded programs and the reality of children's developmental differences:

In most American schools today, by third grade most classroom rosters will reveal a spread of 3 years, not 12 months. Along the way some children have been retained, and some accelerated. Both decisions result in trauma for the individuals involved (p. 37).

In a stirring call for educational redesign to meet the real needs of real children, Cuban (1989) writes:

One of the most inflexible of the structures of schooling is the graded school. The graded school categorizes, segregates, and, as a last resort, eliminates those whose performance and behavior deviate too sharply from the norm....The implicit theory underlying the graded school is that educational quality comes through uniformity.

...the graded school unintentionally worsens [the] social disadvantages [of poverty and racism] by branding students for the duration of their careers through the mechanisms of separate classes and programs (p. 782).

And Goodlad and Anderson (1987) summarize the drawbacks of the graded school structure, stating that:

The simple fact is that a literally graded approach to instruction does not work, and teachers and administrators must constantly subvert it in order to deal with the realities of individual

differences. Compromise, invention, adaptation, and thoughtful disregard for gradelevel standards are invariably practiced in graded schools, even though many teachers probably do not realize fully how unfaithful to gradedness they find it necessary to be in their daily work with children

(p. xxvi).

THE RESEARCH LITERATURE

NATURE OF THE RESEARCH

The rationale for implementing nongraded primary education comes largely from two research bases: (1) the research on child development and learning, which we have been discussing; and (2) the empirical research on the effects on children of graded and nongraded structures, which is detailed in this section.

This report is the result of an analysis of forty-six documents, many of which address more than one topic. Nine of them discuss the research on child development and learning, and eleven focus on related matters, such as critiques of graded programs, descriptions of nongraded programs, guidelines for program planning and operation, and resistance/obstacles to implementing nongraded programs. Twenty-six of the documents report the results of empirical research on the effects of nongraded grouping.

The general observation has been made that empirical research supports the use of non-graded programs. The specific nature and weight of the research evidence is detailed in the following paragraphs.

Of the twenty-six reports of research on the effects of nongraded grouping, fifteen are studies, nine are reviews, one presents the results of both a review and a series of case studies, and one is described as a "best evidence synthesis." Twenty-one of the reports focus on the effects of nongraded grouping, while five are concerned with mixed grade structures.

The subjects of the research include children of preschool/kindergarten ages (two reports), primary school ages (five), primary and older elementary ages (sixteen), and the entire elementary-secondary range (three). The subjects represent a wide range of racial/ethnic and socioeconomic groups in the U.S. and Canada.

Nearly all of the reports are concerned with the comparative effects of graded and non-graded structures on children's achievement and/or attitudes and/or social behavior.

Eighteen of the reports focus on children's academic achievement in the two kinds of settings, as measured by standardized tests, local tests, or school grades.

Effects on student attitudes were examined in eleven of the research documents; specifically, these reports focused on attitudes toward school, self as a learner, and classmates. Other attitudinal areas of concern in the research are general self-esteem, future aspirations, and level of anxiety.

Behavioral outcomes were investigated in nine of the research reports; these variables include social and leadership skill development, interaction with otherage peers, prosocial behavior, attendance, and dropout rate.

Other outcome areas examined are retention, teacherstudent relations, and parent attitudes.

RESEARCH FINDINGS

Achievement. Some investigations-and particularly recent ones (e.g., Gutierrez and Slavin 1992; Anderson and Pavan 1992)-favor nongraded grouping, and a few favor graded arrangements. Most of the research reviewed in preparation for this report, however, reveal no significant achievement differences. This finding was obtained regardless of the kind of achievement measures used and in various content areasreading, vocabulary development and other language arts, mathematics, and science. (Brown and Martin 1989; Eames 1989; Johnson, et al. 1985; Katz, Evangelou, and Hartman 1990; KEA/AEL 1991; Milburn 1981; Miller 1990; Mobley 1976; Pratt 1986; Rule 1983; Schrankler 1976; and Way 1981)

Way writes:

Multiage grouping skeptics have generally expressed concern that achievement would suffer if children of different ages were to be grouped in a multiage classroom. The results from both this study and previous studies indicate that such concern may be unwarranted. Achievement in multiage classrooms appears to be no different from achievement in single-age classrooms (1981, p. 74).

Attitudes. Research overwhelmingly favors nongraded grouping because of its positive effects on:

- Attitude toward school (Anderson and Pavan 1992; Ford 1977; KEA/AEL 1991; Milburn 1981; Miller 1990; Pavan 1977, 1992; Pratt 1986; Schrankler 1976)
- Self-concept as a learner (Anderson and Pavan 1992; Ford 1977; Johnson, et al. 1985; KEA/AEL 1991; Miller 1990; Mobley 1976; Pavan 1977, 1992; Pratt 1986; Schrankler 1976; Way 1981)
- Classmates (KEA/AEL 1991; Miller 1990; Pavan 1977)
- Self-esteem (Anderson and Pavan 1992; Johnson, et al. 1985; KEA/AEL 1991; Pavan 1992)
- Anxiety (Papay, et al. 1975; Katz, Evangelou, and Hartman 1990)
- Future aspirations (Ford 1977).

Pavan's analyses of longitudinal data also revealed that the longer students are in nongraded programs, the more positive their school-related attitudes become.

Behavior. Compared with children in graded settings, those in nongraded programs exhibited more positive outcomes in the following areas:

- Social skill development, particularly improvements in social skills on the parts of socially withdrawn older children in nongraded settings (Furman, Rahe, and Hatrup 1979; Katz, Evangelou, and Hartman 1990; Pratt 1986; Winsler and Espinosa 1990)

Furman, Rahe, and Hatrup (1979) found that:

Improvement among the isolate children who were exposed to younger children was so marked that posttreatment interaction was almost twice as frequent as pretreatment interactionessentially at the same level as the social
interaction of the nonisolate children (p. 920).

- Leadership skill development of older children (Katz, Evangelou, and Hartman 1990; Furman, Rahe, and Hatrup 1979)
- Frequency of interaction with other-age peers (Day and Hunt 1975; Ellis, Rogoff, and Cromer 1981; Way 1979; Winsler and Espinosa 1990)

Researchers note, however, that teachers sometimes interfere with cross-age interactions, either by conducting too many teacher-directed activities or by putting children in age-similar groups too much of the time.

- Prosocial behaviors/reduced aggression among students, such as giving, sharing, taking turns, giving praise and reassurance, etc. (Katz, Evangelou, and Hartman 1990; Katz and McClellan 1991; KEA/AEL 1991; Pratt 1986; Roopnarine and Johnson 1984; Winsler and Espinosa 1990)

Pratt writes:

Children's friendships, both in classrooms and in naturalistic settings, have been one theme of the multiage research. The general picture that emerges from these studies is one of increased competition and aggression within same-age groups and increased harmony and nurturance within multiage groups (1986, p. 112).

- Attendance (Pavan 1977; Schrankler 1976).

Other Outcomes. Nongraded programs lead to more positive outcomes regarding:

- Retention-Children educated in non-graded settings move through the curriculum more expediently (KEA/AEL 1991; Pavan 1977, 1992)
- Teacher-student interactions (KEA/AEL 1991; Winsler and Espinosa 1990)
- Parent attitudes toward school and their children's learning (KEA/AEL 1991; Katz, Evangelou, and Hartman 1990; Schrankler 1976).

OBSTACLES TO THE TRANSITION

TO NONGRADED PRIMARY PROGRAMS

"In view of the advantages to ungraded instruction cited in the literature, the reader may wonder why more school districts have not moved to ungraded organization sooner." This observation, made in a 1991 collaborative report by the Kentucky Education Association and the Appalachia Educational Laboratory, concerns many researchers and educators. These investigators (e.g., Gaustad 1992; Cuban 1989; writers of the KEA/AEL report, etc.) have identified the following barriers to the implementation of nongraded programs:

- From a strictly organizational and logistical point of view, graded structures are relatively efficient and inexpensive.
- Because they work well for some students, many people believe that graded programs are effective in general.
- Parents and community members frequently lack understanding of the nongraded education concept and its advantages.
- Teachers are normally trained only in methods for teaching single-grade classes and are resistant to change.

- Teachers often fear that teaching nongraded classes will require more preparation time and a larger repertoire of instructional methods and materials than teaching single-grade classes.
- Lack of administrative support has frequently thwarted attempts to move to nongraded structures.
- The textbook industry structures its wares for use in traditional, single-grade classes. In addition, textbook content is typically aimed at the lowest common denominator, and as such, it encourages conformity and is unresponsive to the ranges of abilities found in groups of children.
- Standardized testing methods are also designed for use with students educated in single-grade arrangements.
- The "back-to-basics" movement of the 1970s and 1980s led to greater rigidity in education.

Some researchers (e.g., Gaustad 1992a) point out that some of the resistance to nongraded programs must be laid at the door of previous, poorly handled attempts to implement them. Many of the "open education" programs of the 1960s and early 1970s were said to be non-graded, but were not true nongraded structures. In addition, these approaches were not clearly explained to parents and community members, who often perceived them negatively. Attempts to implement nongraded programs without providing either theoretical understanding or practical training for teachers have also led to program failure in the past.

Current proponents argue that American public education is now in a much better position to move toward nongraded programming than at any time in the past. This, they say, is because:

- We have a much more extensive research base than ever before on child development/learning and on the benefits of nongraded programs.
- Research findings regarding cooperative learning, peer tutoring, ability tracking, and grade retention all point to the superiority of nongraded over graded educational settings.
- There is more widespread understanding of the conceptual model of developmentally appropriate practice.
- We understand more about the change process and have better ways to support school people as change is being implemented.
- Nongraded programs are appropriate and perhaps even essential for responding to the increasing diversity in the U. S. population.
- Educators and the public have become more open to the concept of non-gradedness. Goodlad and Anderson (1987) write:

The aggressive advocacy of the self-contained classroom that was common several decades ago is much less in evidence today (p. xxvii).

RECOMMENDATIONS

In view of the overwhelming research evidence in support of nongraded primary education, virtually every writer whose work was consulted in preparation of this report advocates widespread implementation of this practice. Specific information to assist school staffs with planning and implementation are cited below and are drawn from the work of Davis (1992); Gaustad (1992a, b); Hunter (1992); Katz, Evangelou, and Hartman (1990); KEA/AEL (1991); Bredekamp (1987); and Elkind (1989).

- Planners (at all levels). Planners should examine a variety of different nongraded programs and select from them the elements best suited to the needs of their particular school and community.
- State legislators. These lawmakers should take action to remove impediments to implementing and operating nongraded programs-impediments such as requiring the use of standardized testing and textbook series organized on a grade-level basis.
- District administrators. Central office staff should take action to reduce the pressure exerted by grade-level textbooks and standardized testing procedures, so long as these remain in force.
- Principals. Principals and other school-level administrators should provide support for the nongraded program concept by allowing time for planning, decision making, and the ongoing preparation needs of teachers under this timeintensive arrangement.
- Teachers. Teachers should be provided with training and support for understanding developmentally appropriate educational practices and in implementing nongraded programs.
- Parents and community members. Parents and community should be informed about the benefits of nongraded primary programs so as to engage their interest and support. Including parents and community representatives in program planning from the beginning will facilitate communication and build goodwill.
- Implementation. Implementation should be gradual but continuous. Gaustad (1992b, p. 5) speaks for proponents of nongradedness in general when she writes, "Adding a few new elements at a time generally works better than attempting to change the entire structure at once." On the other hand, if changes happen too slowly, momentum will be lost and full transition to nongradedness may never happen.
- Class composition. There is no one best way to mix ages. Currently used arrangements include K-2 and 1-3, K-3, and overlapping groups. Some settings deliberately mix by ability, race/ethnicity, gender, special/regular education, etc. Others mix by random assignment.
- Team teaching. Experts on nongraded primary programming strongly recommend the use of teaching teams. Research shows that children benefit greatly from experiencing the strengths of multiple teachers.
- Classroom organization/materials. "The concepts of active, hands-on learning and flexible grouping determine the physical organization of the nongraded classroom," writes Gaustad (1992a, p. 23). Basic elements include learning centers, tables of manipulatives, library corner, sand table, etc. Textbooks such as basal readers may be used, but they are not central to the program.
- Flexible grouping. "Even the greatest supporters of mixed-age and mixed-ability grouping agree some curricula are most effectively taught to children of similar experience and achievement" (Gaustad 1992a, p. 24). Basic reading and arithmetic subskills are principal examples. Cooperative projects lend themselves to heterogeneous grouping.
- Integrated curriculum. Organizing traditional learning content around themes and utilizing wholelanguage approaches are most in keeping with the developmental levels of primary children. Learning should take place in a context meaningful to children; be relevant to their lives; and allow them to take active roles, engage in many self-selected activities, and utilize multiple mind/body functions.
- Assessment/evaluation. Narrative descriptions of student progress, collections (portfolios) of children's work, conferences with parents and children, and comparing progress with general norms (not other students) are appropriate assessment methods. To a man or woman, early childhood specialists recommend against overreliance on standardized test results.

With these research findings and guidelines to support their work, legislators, educators, and the general public can undertake a meaningful transition from traditional age/grade structures to nongraded arrangements for primary children. The reasoning behind such a transition is simple and compelling. As expressed by Pratt (1986, p. 112):

The evidence on multiage grouping appears to confirm the basic principle that diversity enriches and uniformity impoverishes.

KEY REFERENCES

Anderson, R. H., and Pavan, B. N. NONGRADEDNESS: HELPING IT TO HAPPEN. Lancaster, PA: Technomic Publishing Company, Inc., 1992.

> Defines and cites research in support of nongraded grouping, followed by a detailed discussion of curriculum, instructional practices, and assessment methods congruent with nongradedness. Details the roles of educational personnel, parents, and community members, and offers guidelines for making the transition to nongraded school organization.

Brown, K. S., and Martin, A. G. "Student Achievement in Multigrade and Single Grade Classes." EDUCATION CANADA 29/2 (1989): 10-13, 47.

> Compares the achievement of students in multi-grade and single-grade classes in eight elementary schools in New Brunswick, Canada. No significant differences were found.

Day, B., and Hunt, G. H. "Multiage Classrooms: An Analysis of Verbal Communication." THE ELEMENTARY SCHOOL JOURNAL 75/7 (1975): 458-464.

> Analyzes the patterns and frequency of interaction across age groups among four- to seven-year-olds in four early childhood education settings. Major finding: most cross-age interaction occurred when teachers were not present; teacher-directed learning activities tended to segregate children by age.

Eames, F. H. A STUDY OF THE EFFECTIVENESS OF INSTRUCTION IN MULTI-AGE GRADING VS. TRADITIONAL SINGLE-GRADE ORGANIZATION ON THE READING ACHIEVEMENT OF FOURTH GRADERS. Danbury, CT: Western Connecticut State University, 1989. (ED 309 388)

> Compares the reading achievement scores of fourth graders instructed in a traditional, single-grade setting with those in a combined fourth and fifth grade class in which grouping cut across age and grade levels. No significant differences were found.

Ellis, S.; Rogoff, B.; and Cromer, C. C. "Age Segregation in Children's Social Interactions." DEVELOPMENTAL PSYCHOLOGY 17/4 (1981): 399-407.

> Reports the results of an observational study undertaken to determine what ages of companions children one to twelve years old select for play and other spontaneous social interaction. When the children were not by themselves or with adults, they were with older or younger children during 55 percent of the observations and with

same-age peers during only 6 percent.

Ford, B. E. "Multiage Grouping in the Elem-entary School and Children's Affective Development: A Review of Recent Research." THE ELEMENTARY SCHOOL JOURNAL 78/2 (1977): 149-159.

> Reviews research on the effects of multi-age grouping on such affective variables as attitude toward school, self-concept as a learner, and self-esteem. Findings indicate that multiage grouping produces more positive affective outcomes than traditional single-age grouping.

Furman, W.; Rahe, D. F.; and Hatrup, W. W. "Rehabilitation of Socially Withdrawn Preschool Children through Mixed-Age and Same-Age Socialization." CHILD DEVELOPMENT 50/4 (1979): 915-922.

> Compares the incidence of positive social interaction on the part of socially withdrawn preschoolers as a result of play sessions with a same-age partner, with a younger partner, or no treatment. Experimental children paired with a younger partner exhibited significantly higher levels of social interaction following the sessions; others did not.

Gaustad, J. "Nongraded Education: Mixed-Age, Integrated, and Developmentally Appropriate Education for Primary Children." OSSC BULLETIN 35/7 (March 1992): entire issue.

> Provides definitional and historical information about nongraded education practices, cites drawbacks to graded structures, summarizes research on graded and nongraded programs, and provides suggestions for those wishing to implement nongraded primary programs.

Gutierrez, R., and Slavin, R. E. "Achievement Effects of the Nongraded Elementary School: A Best-Evidence Synthesis." REVIEW OF EDUCATIONAL RESEARCH 62/4 (1992): 333-376.

> Uses the "best-evidence synthesis" method to analyze 57 studies of the achievement effects produced by nongraded elementary programs. Beneficial effects were noted for single-subject and comprehensive multiage arrangements, but individualized programs showed inconsistent effects.

Johnson, D. W.; Johnson, R.; Pierson, W. T.; and Lyons, V. "Controversy Versus Concurrence Seeking in Multi-Grade and Single-Grade Learning Groups." JOURNAL OF RESEARCH IN SCIENCE TEACHING 22/9 (1985): 835-848.

> Studies the effects of kind of grouping and structure of learning activity on various outcomes for fourth, fifth, and sixth graders. Among the findings: students in multi-age settings had higher learning self-efficacy scores and motivation; no differences in achievement or interpersonal relations were noted.

Katz, L.; Evangelou, D.; and Hartman, J. THE CASE FOR MIXED-AGE GROUPING IN EARLY EDUCATION. Washington, DC: National Association for the Education of Young Children, 1990.

> Argues that both the nature of child development and the evidence from anthropological study support mixed-age grouping for early child education.

Reviews research on the achievement and particularly affective outcomes of mixed-age grouping, and discusses cross-age tutoring and cooperative learning as effective strategies for mixed-age groups.

Kentucky Education Association and Appalachia Educational Laboratory. UNGRADED PRIMARY PROGRAMS: STEPS TOWARD DEVELOPMENTALLY APPROPRIATE INSTRUCTION. Washington, DC: CEDaR, April 1991.

Presents findings from a literature review on ungraded primary instruction followed by findings emerging from case studies of 10 such programs in the state of Kentucky. Also cites obstacles to the implementation of ungraded primary programs and offers recommendations to those considering beginning these programs.

Milburn, D. "A Study of Multi-Age or Family-Grouped Classrooms." PHI DELTA KAPPAN 3/81 (1981): 513- 514.

Compares the effects of multi-age grouping and traditional grade-level grouping on the academic performance and attitudes of children 6-11 years of age. Academic outcomes were similar; children in multi-age groupings had more positive attitudes than those in traditional structures.

Miller, B. A. "A Review of the Quantitative Research on Multigrade Instruction." RESEARCH IN RURAL EDUCATION 7/1 (1990):
1-8.

Examines the quantitative research literature on the effects of multigrade classroom structures on student cognitive and affective outcomes. Compared to students in single-grade settings, those in multigrade classes had more positive attitudes toward self, school, and schoolmates. Achievement outcomes were similar.

Mobley, C. F. A COMPARISON OF THE EFFECTS OF MULTIAGE GROUPING VERSUS HOMOGENEOUS AGE GROUPING IN PRIMARY SCHOOL CLASSES OF READING AND MATHEMATICS ACHIEVEMENT. Practicum Report. Ft. Lauderdale, FL: Nova University, April 1976. (ED 328 102)

Investigates the effects of single-age and multi-age grouping on the reading and math achievement and self-concepts of children in their first, second, and third years of school. Results were mixed on the math and reading measures; self-concept scores significantly favored multi-age grouping.

Papay, J. P.; Costello, R. J.; Hedl, J. J., Jr.; and Speilberger, C. D. "Effects of Trait and State Anxiety on the Performance of Elementary School Children in Traditional and Individualized Multiage Classrooms." JOURNAL OF EDUCATIONAL PSYCHOLOGY 67/6 (1975): 840-846.

Compares the task performance and anxiety levels of first and second graders in traditional, grade-level groupings with those of age peers in multiage classes. Multiage-grouped subjects had lower anxiety than traditionally grouped students, and multiage-grouped second graders evidenced superior task performance as well.

Pavan, B. N. "The Benefits of Nongraded Schools." EDUCATIONAL LEADERSHIP 50/2

(1992): 22-25.

> Presents results of a review of 64 research documents on the effects of nongraded programs on student achievement, mental health indicators, attitudes, and particular populations. Nongraded programming compared favorably with single-grade grouping on all of the measures considered. Data are also reported in Anderson and Pavan (1992) above.

Pavan, B. N. "The Nongraded Elementary School: Research on Academic Achievement and Mental Health." TEXAS TECH JOURNAL OF EDUCATION 4/2 (1977): 91-107.

> Reviews 37 comparative research studies on nongraded elementary instruction versus traditional gradelevel groupings. Students in nongraded settings significantly outperformed controls on measures of academic achievement, attitudes, self-concept, attendance, and other outcomes.

Pratt, D. "On the Merits of Multiage Classrooms." RESEARCH IN RURAL EDUCATION 3/3 (1986): 111-115.

> Discusses sociological and anthropological findings about the ways people and animals organize themselves into age groupings and reviews research on the comparative achievement and affective outcomes of single-age and multiage learning environments.

Roopnarine, J. L., and Johnson, J. E. "Socialization in a Mixed-Age Experimental Program." DEVELOPMENTAL PSYCHOLOGY 20/5 (1984): 828-832.

> Examines the social interactions of children three to eight years old in an early childhood education program. Children of different ages made different choices regarding the age groups of classmates with whom they chose to interact. No firm conclusions were drawn.

Rule, J. G. EFFECTS OF MULTIGRADE GROUPING ON ELEMENTARY STUDENT ACHIEVEMENT IN READING AND MATHEMATICS. Mesa, AZ: Department of Research and Evaluation, May 1983.

> Compares the reading and mathematics achievement of third through sixth graders in multigrade classes with the achievement of those instructed in singlegrade classes. No significant differences were found on eleven of twelve comparisons.

Schrankler, W. J. "Family Groupings and the Affective Domain." THE ELEMENTARY SCHOOL JOURNAL 76/7 (1976): 432-439.

> Compares the self-concepts, attitudes toward school, and academic achievement levels of three groupings of elementary children: complete multiage, restricted multiage, and unit-age. Results showed affective differences favoring the multiage structures and no achievement differences.

Way, J. W. "Achievement and Self-Concept in Multiage Classrooms." EDUCATIONAL RESEARCH QUARTERLY 6/2 (1981): 69-75.

> Compares the achievement and self-concept scores of children six to ten years old

in multiage learning environments with those in single-grade environments. No achievement differences were found; self-concept scores favored the multiage structure, especially on the factor of "happiness and satisfaction."

Way, J. W. "Verbal Interactions in Multiage Classrooms." THE ELEMENTARY SCHOOL JOURNAL 79/3 (1979): 178-186.

Examines children's interactions in elementary multiage classes in two schools to identify patterns. Among the findings: in three-year agespan classes, interaction across age groups is infrequent, and older children do not give assistance and advice any more often than younger ones.

Winsler, A., and Espinosa, L. THE BENEFITS OF MIXEDAGE GROUPING IN EARLY CHILDHOOD EDUCATION: A REPORT TO THE REDWOOD CITY SCHOOL BOARD ON THE PRIMARY EDUCATION CENTER'S MIXED-AGE SUMMER SCHOOL PILOT PROGRAM. Redwood City, CA: Redwood City School District, November 1990.

Reports results of a study comparing the effects on kindergarten-age children in a mixed-age summer program with those in a conventional kindergarten program. Children in the mixed age group exhibited more positive outcomes on all measures.

GENERAL REFERENCES

Bredekamp, S. (ed.) DEVELOPMENTALLY APPROPRIATE PRACTICE IN EARLY CHILDHOOD PROGRAMS SERVING CHILDREN FROM BIRTH THROUGH AGE 8- EXPANDED EDITION. Washington, DC: National Association for the Education of Young Children, 1987.

Cites research findings about the importance of matching early childhood program content to the age and developmental levels of children in those programs. Provides considerable detail about the range of developmentally appropriate practices for children of different age groups.

Calkins, T. "The Track: Children Thrive in Ungraded Primary Schools." THE SCHOOL ADMINISTRATOR 49/5 (1992): 9-13.

Discusses the congruence between multiage classroom grouping and what is known about the developmental process and needs of young children. Gives overviews of school restructuring in two schools in British Columbia.

Connell, D. R. "The First 30 Years Were the Fairest: Notes from the Kindergarten and Ungraded Primary (K-1-2)." YOUNG CHILDREN 42/5 (1987): 30-39.

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Discusses the phenomenon of split-grade classrooms, especially as these are utilized in Canada. Distinguishes between split-grade and other multiage arrangements, presents the results of a teacher survey about split-grade structures, and offers recommendations to educators who are or will be using split-grade arrangements.

Cuban, L. "The 'At-Risk' Label and the Problem of Urban School Reform." PHI DELTA KAPPAN 70/10 (June 1989): 780-784, 799-801.

Argues that graded school structures help to create and perpetuate problems for so-called "at-risk" students. Cites obstacles to redesigning schools, but offers steps that schools and individual teachers can take to improve the quality of education, especially for those labeled as "at risk."

Davis, R. THE NONGRADED PRIMARY: MAKING SCHOOLS FIT CHILDREN. Arlington, VA: American Association of School Administrators, 1992.

Discusses the nature of nongraded primary grouping, the rationale for implementing it, role changes that take place when schools make the transition to nongraded primary, appropriate teaching strategies, and suggestions for those wishing to change to a nongraded arrangement. Contains excerpts from many resources on nongraded grouping.

Elkind, D. "Developmentally Appropriate Practice: Philosophical and Practical Implications." PHI DELTA KAPPAN 71/2 (1989): 113-117.

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Gaustad, J. "Making the Transition from Graded to Nongraded Primary Education." OSSC BULLETIN 35/8 (April 1992): entire issue.

Cites validated elements of successful change from graded to nongraded systems; discusses the educational change process; describes transitions to nongraded structures at the single site, district, and state levels; and presents implications for school boards.

Gayfer, M. (ed.). THE MULTI-GRADE CLASSROOM: MYTH AND REALITY - A CANADIAN STUDY. Toronto, Ontario: The Canadian Education Association, 1992.

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Presents the original 1959/1963 text of this book, with newly prepared introductory

material which sets a contemporary context for the theory of, arguments for, and descriptions of the operation of nongraded elementary education.

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Raises and addresses issues that schools face when undertaking the challenge of changing to nongraded grouping-issues related to school organization, student placement, instructional design, program assessment, communication with parents, and preparation of teachers to teach mixed-age classes. Includes a case study of one school's transition to nongraded grouping.

Katz, L. G., and McClellan, D. E. THE TEACHER'S ROLE IN THE SOCIAL DEVELOPMENT OF YOUNG CHILDREN. Urbana, IL: ERIC Clearinghouse on Elementary and Early Childhood Education, 1991.

Cites research indicating that failure to achieve minimal social competence in early childhood is linked to maladaptive behavior later in life. Provides general guidelines and specific strategies teachers can use to foster healthy social development in young children.

Miller, B. A. THE MULTIGRADE CLASSROOM: A RESOURCE HANDBOOK FOR SMALL, RURAL SCHOOLS. Portland, OR: Northwest Regional Educational Laboratory, 1989.

Presents findings from research on multigrade settings (reprinted in Miller 1990 and 1991) and offers information and guidelines for use by teachers of multigrade classes in the areas of classroom organization, management, grouping, instruction, and others.

Miller, B. A. "A Review of the Qualitative Research on Multigrade Instruction." JOURNAL OF RESEARCH IN RURAL EDUCATION 7/2 (1991): 3-12.

Provides an overview of the problems and needs of rural teachers in multigrade classrooms and reviews studies detailing how instruction is conducted in multigrade classes. Draws implications for teacher preparation, classroom organization, and student learning.

National Association for the Education of Young Children, and the National Association of Early Childhood Specialists in State Departments of Education. "Position Statement: Guidelines for Appropriate Curriculum Content and Assessment in Programs Serving Children Ages 3 Through 8." YOUNG CHILDREN 46/3 (1991): 21-38.

Offers a rationale for proferring guidelines for the education young children, reviews the major concepts of developmentally appropriate practice, offers a series of 20 guidelines for developing curriculum, and provides suggested assessment procedures for regular and special needs students.

Pavan, B. N. MOVING ELEMENTARY SCHOOLS TOWARD NONGRADEDNESS: COMMITMENT, ASSESSMENT, AND TACTICS. 1991 Revision. Philadelphia, PA: Temple University, 1991.

Itemizes the principles of nongradedness in the form of a survey instrument for respondents to use to indicate their opinions about the relative importance of these principles. Topical clusters include goals, organization, curriculum, instruction, materials, and assessment.

Purdom, D. M. "Experience with Nongrading: A Personal Reflection." WINGSPAN 8/1 (1992): 28-35.

Describes the author's experience working in an innovative nongraded school in Kentucky in the 1960s and draws implications for nongraded education in the 1990s and beyond. Builds on the principles discussed in his 1972 article (see next entry).

Purdom, D. M. "The Ideal Nongraded School." ORBIT 3/4 (1972): 4-7.

Points out that there are many concepts and definitions of the nongraded school and that these have led to confusion. Offers and comments on a conceptual model of the nongraded school as a means of clarifying the meaning and purpose of this educational approach.

Shepard, L. A., and Smith, M. S. "Synthesis of Research on Grade Retention." EDUCATIONAL LEADERSHIP 47/8 (1990): 84-88.

Summarizes research on the incidence and cost of retention in grade and on the effect of retention on achievement, dropout rates, and student affect. Concludes that the effects of retention are overwhelmingly negative and encourages alternatives to its use.

Williams, L. R. "Determining the Curriculum." Chapter 1 in Seefeldt, C. (ed.). THE EARLY CHILDHOOD CURRICULUM: A REVIEW OF CURRENT RESEARCH. New York: Teachers College Press, 1987, 1-12.

Provides an overview of the evolution of Western thinking, from the early 18th century to the present, about the way that young children should be educated. Favors the view that the developmental level of young children calls for a "whole child" approach rather than a cognitively oriented, preacademic one.