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ABSTRACT

This issue reviews grade span, or grade configuration. Catherine Paglin and Jennifer Fager's "Grade Configuration: Who Goes Where?" provides an overview of issues and concerns related to grade spans and supplies profiles of eight Northwest schools with varying grade spans. David F. Wihry, Theodore Coladarci, and Curtis Meadow's "Grade Span and Eighth-Grade Academic Achievement: Evidence from a Predominantly Rural State" reports on the influence of grade span on the academic achievement of eight-grade students in Maine. David L. Hough's "The Elemiddle School: A Model for Middle Grades Reform" surveys the history of grade configuration and cites research indicating that "elemiddle" schools (schools with both elementary and middle-school grades) may be most appropriate for meeting educational and social needs. Charlene G. Tucker and Gilbert N. Andrada's "Accountability Works: Analysis of Performance by Grade Span of School" presents results from a study measuring sixth-grade students' academic performance on the "Connecticut Mastery Test" in relation to student enrollment in schools having K-5 or K-6 configurations. John W. Alspaugh's "The Interaction Effect of Transition Grade to High School with Gender and Grade Level upon Dropout Rates" looks at the influence of grade span and related factors on dropout rates in high school. (DFR)

Research roundup

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Grade Span

Ron Renchler

Despite the likelihood that grade span, or grade configuration, has a significant influence on the success of school systems and the students they serve, empirical research on the topic in the last decade has been very sparse.

A few studies have attempted to gauge the influence of various grade configurations on academic achievement of students at the state and local levels, but most reports are anecdotal or qualitative in nature and describe the perceived benefits and drawbacks of various grade configurations.

Studies on the relationship of grade span to other measures of school success, such as students' socialization skills or teaching effectiveness, are also scarce.

Perhaps the dearth of empirical research stems from the fact that grade configuration is to some degree out of the hands of administrators who run the schools. The exigencies of geographic location, student populations, limited financial resources, and community preferences, among other factors, may often dictate the grade spans within a school system, hence the wide range of different grade configurations across the nation.

Statistics from the National Center for Education Statistics reflect the current predominance of traditional elementary and middle-school configurations in U.S. public schools. Of the 45,601 public primary/elementary schools, 25,480 schools (56%) are configured to transition students into either middle schools or junior high schools by the end of fifth grade. Another 15,578 schools (34%) make the transition after the sixth grade. Only about 4,500 schools (10%) carry students from the earliest grades through the eighth grade. At the intermediate level, NCES statistics show that in the 1996-97 school year 10,499 schools were configured as traditional middle schools (grades 4, 5, or 6 to grades 7 or 8). Another 3,707 schools followed the junior-high model with grades 7-8 or 7-9.

Catherine Paglin and Jennifer Fager provide an overview of issues and concerns related to grade spans at all levels and provide profiles of eight Northwest schools with varying grade spans.

David F. Wihry and colleagues report on their empirical study of the influence of grade span on the academic achievement of eighth-grade students in Maine.

David L. Hough briefly surveys the history of grade configuration in public schools and cites research indicating that "elemiddle" schools—that is, schools containing both elementary and middle-school grades—may be most appropriate for meeting the educational and social needs of young adolescents.

Charlene Tucker and Gilbert Andrada present research results from a study measuring sixth-grade students' academic performance on the Connecticut Mastery Test (CMT) in relation to student enrollment in schools having K-5 or K-6 configurations.

John Alspaugh looks at the influence of grade span and related factors on dropout rates in high school.

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Paglin, Catherine, and Fager, Jennifer. **Grade Configuration: Who Goes Where?** Portland, Ore.: Northwest Regional Educational Laboratory, 1997. 43 pages. *Available from:* Northwest Regional Educational Laboratory, Document Reproduction Service, 101 SW Main, Suite 500, Portland, OR 97204-3297. 503-275-9519. Free.

Every grade configuration has its own strengths and weaknesses relative to the context in which the grade span occurs, the authors note in this publication that includes profiles of eight Northwest schools with seven different grade spans. School size and, by extension, grade configuration, are often dictated by geographic location of the student population. By building on the strengths and minimizing the weaknesses found within every grade configuration, school administrators can provide effective educational services regardless of the particular grade span being used.

The authors discuss three central issues related to grade span: (1) the appropriateness of grouping certain grades together; (2) the number of grades included in a school and the number of classrooms within each grade; and (3) the number of school transitions students will be required to make in their K-12 educational experience. Critical factors that typically come into play for schools with broad grade spans include the nature of the role-modeling younger students receive from older students, the school staff's training and experience, and building size. Schools with very narrow grade spans experience frequent student turnover, which can influence the school's identity and sense of community. Narrow grade spans also impose on students the stress of frequent school transitions.

In a section entitled "Historical Trends in Grade Configuration," Paglin and Fager note that since the 1970s the number of junior high schools has been in decline, signaling a conceptual change away from the junior high school as a "preparation for high school" and toward the middle school as a "child-centered institution" that affords opportunity for "team teaching, advisory programs, and flexible scheduling."

The authors conclude that "no particular sequence of grade spans is perfect or in itself guarantees student achievement and social adjustment." The key, they say, is to focus on developing the positive potential within any given grade configuration.

Wihry, David F.; Coladarci, Theodore; and Meadow, Curtis. **"Grade Span and Eighth-Grade Academic Achievement: Evidence from a Predominantly Rural State."** *Journal of Research in Rural Education* 8:2 (Summer 1992): 58-70. EJ 464 589. *Not available from publisher.*

In one of the few empirical studies on grade span in the past decade, Wihry and his colleagues used data from an annually administered standardized test, the Maine Educational Assessment (MEA), to measure the influence of grade span on the academic achievement of eighth-graders. After statistically analyzing the scores of eighth-graders in schools with different grade configurations, the researchers concluded that eighth-graders learning in elementary settings (K-8, K-9, and 3-8) outperformed eighth-graders in schools with other grade configurations. Eighth-graders attending school in junior/senior school environments (grades 6-12, 7-12, and 8-12) performed less well than eighth graders in all other grade configurations. "Full-scale" achievement and reading achievement were more related to the grade-span variable than was mathematics achievement.

The question of why Maine eighth-graders in schools with elementary grade spans outperformed other eighth-graders remains unanswered, prompting the authors to call for more research in this critical area. They suggest that "such considerations as instructional specialization (e.g., departmentalization), tracking, and within-class ability grouping, as well as staff recruitment and training practices, expectations of student performance, and sensitivity to individual differences among students" should be considered as potential explanations for this group's superior academic performance.

The complex relationship among these difficult-to-quantify variables presents an especially challenging research problem. But the authors note that study in this area is of critical importance because their findings "call into question any simplistic assertion regarding the superiority of (nominally) middle-level schools."

Hough, David L. **"The Elemiddle School: A Model for Middle Grades Reform."** *Principal* 74:3 (January 1995): 6-9. EJ 496 194. Available from NAESP. 703-684-3345. Free.

Hough proposes the label "elemiddle" for schools following "the current trend toward aligning middle schools more closely with elementary programs." He characterizes these schools as including a focus on serving students between the ages of 10 and 14, typically in grades 5 through 8. This grade sequence is predominantly contained in K-8 schools, but also appears in schools having configurations of grades 4-8, 5-8, and Pre-K-8.

Hough credits recent research on "school programs, practices, and policies" with engendering a change in the educational perspectives on this student age group. While noting that empirical research has not identified an optimal grade configuration, Hough nevertheless believes

that the philosophies of elementary-school education contained within the elemiddle school may well serve the needs of young adolescents better than the newer middle-school structure (grades 6-9) or the traditional junior-high structure (grades 7 and 8 or grades 7-9).

The impetus for establishing the primary-secondary school structure predominant in the 19th century was economic; it helped "facilitate the movement of children into the labor force," Hough explains. The development of the three-tiered elementary, junior high, high school structure has a similar history: Child labor laws in the early 20th century required that adolescents be better prepared for high school since they couldn't immediately become part of the work force. Although middle-school grade spans began to emerge during the 1960s and 1970s, it was not until the 1980s, Hough says, that true educational reform took place at the middle-school level.

Despite the changes in educational programs and philosophies in middle schools, Hough still believes that "elemiddle schools, which include both primary and middle grades, may more easily facilitate the child-oriented programs conducive to young adolescent learning." He cites several studies showing that critical differences in educational programs and practices do exist among elemiddle, middle, and junior high schools.

About ERIC

The Educational Resources Information Center (ERIC) is a national information system operated by the Office of Educational Research and Improvement (OERI). The ERIC Clearinghouse on Educational Management, one of 16 such units in the system, was established at the University of Oregon in 1966.

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Web site: http://eric.uoregon.edu

Tucker, Charlene G., and Andrada, Gilbert N. **"Accountability Works: Analysis of Performance by Grade Span of School."** Paper presented at the annual meeting of the American Educational Research Association, Chicago, March 24-28, 1997. 23 pages. ED 411 278. *Available from:* ERIC Document Reproduction Service, 7420 Fullerton Rd., Suite 110, Springfield, VA 22153-2852. 800-443-3742. $4.46 plus shipping and handling. Web site: **www.edrs.com/default.cfm**

Since 1985, Connecticut has used the Connecticut Mastery Test (CMT) to measure student achievement in reading, writing, and mathematics at the fourth-, sixth-, and eighth-grade levels. The CMT has also been used as a de facto accountability measure for schools whose students are taking the test. Three basic grade configurations are used at this level in Connecticut: K-5 and 6-8 (Type I), K-6 and 7-8 (Type II), and K-8. Until 1994, the K-5 schools were not accountable for the achievement levels of students who had attended Type I schools but had moved on to the sixth grade at a new school, while the K-6 schools were accountable for the achievement levels of their sixth-grade students.

In 1994, a change in testing and reporting procedures required sixth-grade students from Type I schools to identify the K-5 school they had attended. This allowed the researchers to compare CMT data from this group of sixth-graders with data from sixth-graders who were still at their original K-6 school. The researchers hoped to learn whether students attending schools with a K-5 grade span performed as well as their K-6 cohorts.

The results indicated that in all subject areas the performance of sixth-grade students at the Type II schools was better than the performance of sixth-grade students from Type I schools. Tucker and Andrada pose three possible explanations for this outcome:

1. There was less incentive and little opportunity for the school administering the sixth-grade portion of the test to prepare Type I students (who had just arrived at the school after completing fifth-grade elsewhere) for the CMT because the administering school would not receive credit for Type I students' performance.

2. Type I schools had no incentive to prepare their fifth-grade students for the sixth-grade portion of the CMT because those Type I schools were not being held accountable for their graduates' performance at the administering school.

3. Information about the nature and importance of the sixth-grade portion of the CMT was not being made available to students and teachers in Type I schools; therefore, the teachers were not familiar with the best methods for preparing their fifth-grade students adequately for the sixth-grade portion of the CMT.

This study demonstrates the subtle ways in which grade span can work for or against students learning within a particular school system. The authors conclude that, as shown in the Connecticut example, school-level policies and practices can vary dramatically depending on the grade span used within a school.

Alspaugh, John W. **"The Interaction Effect of Transition Grade to High School with Gender and Grade Level upon Dropout Rates."** Paper prepared for the American Educational Research Association, 1999. 17 pages. ED 431 066. *Available from:* ERIC Document Reproduction Service, 7420 Fullerton Rd., Suite 110, Springfield, VA 22153-2852. 800-443-3742. $4.46 plus shipping and handling. Web site: **www.edrs.com/default.cfi**

Alspaugh has conducted several previous research studies investigating the effects of grade span on student achievement and other educational outcomes. In general, he has found that students suffer achievement loss during each transition year they experience (from elementary school to middle or junior high school, and from middle or junior high school to high school). Alspaugh also found that students typically gain back the achievement loss in the year following the transition year.

In this most recent study, Alspaugh looked at the effect of transition year, student gender, and grade span on high school dropout rates. Using a sample of 45 high schools—15 with students in grades 10-12, 15 with students in grades 9-12, and 15 with students in grades 7-12— he analyzed the relationship of the transitional year and other factors to the dropout rate within the groups of schools.

Alspaugh's analysis revealed that students who made the transition to high school at grade 7 (that is, those who attended high schools with the 7-12 grade configuration) dropped out significantly less often than did students making the transition at either the ninth- or tenth-grade level. Dropout rates were highest for students who made the transition at the tenth-grade level. Overall, boys dropped out more frequently than girls, but the transition grade was still a significant factor among female students; girls who transitioned at grade 7 dropped out less frequently than girls who transitioned at either grade 9 or 10. Students in this study dropped out most frequently at eleventh grade, regardless of the year in which they transitioned to high school.

Alspaugh suggests that the high dropout rate attributed to students transitioning to high school at grade 10 may occur because of the achievement loss experienced by many students during a transitional year. □

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