

Principal's Research Review

Supporting the Principal's Data-Informed Decisions

ISSN 1558-5948

VOL. 7, ISSUE 3

MAY 2012

Figuring Out Grade Configurations

By Rhonda Barton and Jennifer Klump

The benefits and downsides of various grade configurations have been debated for decades. Whether driven by potential gains in student achievement, budget considerations, better use of facilities, or enrollment and diversity issues, school districts continue to examine how to organize students in grade spans.

In the early 20th century, most students attended a K–8 school, followed by a grade 9–12 high school (Paglin & Fager, 1997). In the 1960s, the model shifted and junior high schools gained traction with four out of five high school graduates attending a K–6 school, followed by a grade 7–9 junior high and a grade 10–12 high school. In the 1970s, the grade 6–8 middle school became more predominant (Wyant & Mathis, 2007).

Although the number of preK–8 and K–8 schools has increased during the last decade, these schools remain in the minority among the nation's regular public elementary and secondary schools. Today, almost 10,000 regular public schools have a 6–8 grade span and fewer than 400 have a 7–9 grade span (US Department of Education, n.d.). Nearly 6,000 (or 1 in 15) regular public schools serve grades preK–8 or K–8—a number that has grown by 31.5% over the last decade (US Department of Education, n.d.).

Depending on the needs of their communities, some districts have multiple configurations. For example, Cincinnati (OH) Public Schools largely phased out its separate middle schools in the 1990s in favor of K–8 schools, but is shifting again in an effort to

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Just the Facts

- Recent evidence suggests that districts should address problems in middle schools (Grades 6 to 8) and junior high schools (Grades 7 and 8), particularly in the year of entry, or eliminate the use of these types of schools altogether (Jacob & Rockoff, 2011, p. 12).
- Our results suggest that changing school less frequently, changing schools at an earlier grade, a smaller size of the within-school cohort, and the stability of students' peer cohorts are the most likely explanations for these positive performance differences (Schwartz, Steifel, Rubenstein, & Zabel, 2011, p. 295).
- "Most often, the title of 'middle school' has had less to do with implementing the concept and more to do with changing the name on the front of the building" (Beane and Lipka, 2006, p. 28).
- They advised educators to be "cautious about applying our findings without qualification to all public schools" (Rockoff and Lockwood, 2010a, p. 72).
- Carolan and Chesky (2012) concluded that there was no significant relationship between reading and math achievement and attending a K–8 school (p. 35).

improve middle school student achievement (Brown, 2011). When the district completes the latest round of changes in 2013–14, 8 of its 17 high schools will teach grades 7–12, 4 will teach grades 9–12, four will teach grades K–12, and 1 will teach grade 11–12 students (Brown, 2011).

A recent report by the Brookings Institute (Jacob & Rockoff, 2011) took issue with what it called a hodgepodge of configurations:

Although there is likely no single configuration that is optimal for every school district nationwide, it is unlikely that the hodgepodge we see today is based on a careful analysis of how grade configuration impacts student achievement. In particular, recent evidence suggests that districts should address problems in middle schools (Grades 6 to 8) and junior high schools (Grades 7 and 8), particularly in the year of entry, or eliminate the use of these types of schools altogether. (Jacob & Rockoff, 2011, p. 12)

In arguing that middle and junior high schools may be inefficient, the Brookings Institute report asserted that these types of schools generally draw students from a wide area that encompasses many different elementary schools. This hub-and-spoke structure means that students enter middle or junior high school with a large number of peers with different school experiences. The authors stated that:

This type of change might not, in and of itself, be a bad thing but it occurs during a period of childhood marked by major changes in attitudes and motivation, low self-esteem, poor ability to judge risks and consequences, decreased respect for authority, and other behaviors that may make students more difficult to educate. (Jacob & Rockoff, 2011, p. 13)

Teachers and administrators of these schools must educate a population of students who have unfamiliar backgrounds and learning styles at a

time when those adolescents need special care and attention.

The report argued in favor of K–8 schools, stating that students whose only transition is from grade 8 to high school are less likely to experience a decrease in their learning trajectory than their peers who move to a middle or junior high school in grade 6 or 7 as well as making a transition to high school. The authors drew on two recent empirical studies to bolster their argument: one study examined the experience of New York City (NY) schools (Rockoff & Lockwood, 2010b), and the other analyzed student achievement in Florida (Schwerdt & West, 2011).

Learning From New York

Rockoff and Lockwood (2010b) measured the impact of different grade configurations using data on enrollment, academic achievement, and demographics of New York City students, following the same cohort from grade 3 through grade 8. They sought to analyze whether differences in grade configuration, rather than differences across student groups, led to different educational outcomes. Earlier studies (Alspaugh, 1998a, 1998b; Byrnes & Ruby, 2007; Weiss & Kipnes, 2006) suggested that the transition to middle school was associated with a drop in academic achievement, increases in suspension rates, and lower self-esteem. Those studies, however, used cross-sectional data rather than longitudinal data. Thus, the effect of school organization was unclear.

Most public school students in New York City attend a middle school in grade 6 or 7, with a smaller number remaining in elementary school through grade 8. Rockoff and Lockwood found that “moving students from elementary to middle school in 6th or 7th grade causes significant drops in academic achievement” (Rockoff & Lockwood, 2010b, p. 1051). The data showed that these students had a substantial decline in both math and English achievement compared with their peers who did not transition to middle school. Further, the researchers found that the loss for students who transition to middle school in grade 6 was greater than for students who entered in grade 7 and that the middle

school disadvantage continued through grade 8, which was the last year for which the researchers had test scores. The study also suggested that students who initially had low achievement experienced more-significant declines than students who initially had average achievement.

Given the limitations of their data, Rockoff and Lockwood (2010b) conceded that they couldn't draw conclusions about the impact of changing schools at levels other than for grades 6 or 7. They stated that:

Despite causing a significant and persistent loss in student achievement in math and English, the use of middle schools could still be optimal. However, the evidence we present here rules out several likely sources of compensating benefits, such as cost reduction, wider course offering, or greater parental or student satisfaction with school quality. (Rockoff & Lockwood, 2010b, p. 1059)

Another recent study of New York City schools (Schwartz, Stiefel, Rubenstein, & Zabel, 2011) focused on how students moved from grade 4 to grade 8. The research team considered a concept they called "grade span path," which looked at the number of times a student changed schools, the grade levels of such changes, the grade spans of schools that students transitioned in and out of, and the size and stability of the cohorts making those changes. This approach, the researchers claimed, offered a more holistic view of student movement through elementary and middle grades.

Schwartz, Stiefel, Rubenstein, and Zabel's (2011) study found that grades K-4 to 5-8 span path and grades K-8 schools led to more positive student achievement than other paths:

Our results suggest that changing school less frequently, changing schools at an earlier

grade, a smaller size of the within-school cohort, and the stability of students' peer cohorts are the most likely explanations for these positive performance differences. (p. 295)

The Middle School Experience in Florida

In a statistical analysis similar to Rockoff and Lockwood's, Schwerdt and West (2011) tracked Florida students over a period of several years. However, Schwerdt and West were able to follow students into high school to determine whether the negative effects found in the New York City study persisted beyond grade 8.

Schwerdt and West (2011) began their study by pointing out that grade configurations vary widely from country to country. For example, students in Germany attend one school through fourth grade before moving to a second school for the remainder of their secondary education. Students in Finland, who consistently score well on international assessments, attend one school from grades 2 to 10. However, studies of student achievement across different countries have largely ignored the impact of grade configuration.

Using statewide administrative data for all students in Florida public schools from grades 3 to 10 for the school years 2000-01 through 2008-09, Schwerdt and West (2011) found that:

- Students who moved to middle school in grade 6 or 7 had larger achievement gains before they entered middle school (i.e., from grade 3 to 5) than their peers who never transitioned to middle school
- Moving to middle school caused students' math and reading performance to drop substantially and continue to decline in later middle school grades
- The negative effects of middle school were

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largest in urban districts, but were also “substantial” in small towns and rural areas

- There is little evidence that students who attended middle school made larger gains in achievement in grades 9 and 10 than did students who did not attend middle schools
- Students who attended middle schools were 18% more likely to not enroll in a Florida public school in grade 10 after attending grade 9, which is “a proxy for having dropped out of school by this grade”
- Transitions to high school in grade 9 caused a small, one-time drop in achievement but students’ achievement trajectories became positive again after this drop.

Reflecting on those findings, the authors stated that:

The achievement drops we observe as students move to both middle and high schools suggest that structural school transitions (or being in the youngest cohort in a school) adversely impact student performance. The magnitude and persistence of the effect of entering a middle school, however, suggests that such transitions are particularly costly for younger students or that middle schools provide lower quality education than K–8 schools for students in grades 6 to 8. (Schwerdt & West, 2011, p. 2)

After conducting additional analyses, Schwerdt and West (2011) asserted that the decline in student achievement could not be attributed to lower per-pupil spending, larger student-to-teacher ratios, and larger cohort sizes in Florida middle schools, as compared to K–8 schools in the state. They concluded, “The absence of compelling alternative explanations for the negative effects of middle school attendance suggests that adolescents may be more difficult to educate in settings that do not contain younger stu-

dents” (Schwerdt & West, 2011, p. 3). Although transitions to both middle school and high school cause drops in student achievement, the declines are larger and persistent for students entering middle schools.

Implementing the Middle School Concept

Before rushing to embrace the grades K–8 configuration as a panacea to poor performance in middle schools, Beane and Lipka (2006) cautioned educators to consider how well their schools have integrated the principles and practices that comprise the middle school concept. They argued that these attributes and characteristics—as set forth by the Association for Middle Level Education—have not been well implemented in their entirety: “Most often, the title

of ‘middle school’ has had less to do with implementing the concept and more to do with changing the name on the front of the building” (Beane and Lipka, 2006, p. 28).

According to the Association for Middle Level Education’s (2009) manifesto *This We Believe*, the “essential attributes” of educating young adolescents (i.e., students 10- to 15-years old) include educational programs that are:

Developmentally responsive:

using the distinctive nature of young adolescents as the foundation upon which all decisions about school organization, policies, curriculum, instruction, and assessment are made.

Challenging: ensuring that every student learns and every member of the learning community is held to high expectations.

Empowering: providing all students with the knowledge and skills they need to take responsibility for their lives, to address life’s challenges, to function successfully at all levels of society, and to be creators of knowledge.

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A Small District's Approach to Reconfiguration

Things will look different in Moscow, ID, next fall when the 2,400-student school district closes its one junior high, creates a middle school, and sends its ninth-graders to the district's only high school. The reconfiguration was prompted by both academic considerations and space challenges. Elementary schools short on space will gain extra classrooms when sixth-graders move to another facility. Also, district officials believe the change will make it easier to implement new state high school graduation requirements that affect grade 9–12 students.

Judging from questions posted on the district's website, parents have raised concerns about whether sixth-graders are socially and emotionally ready to transition out of elementary school. District leaders are addressing that issue by creating what they call a "protected transitional year" with sixth-grade classes in a separate wing of the middle school and dedicated grade 6 teachers.

Superintendent Dale Kleinert acknowledged that almost all schools nationwide see a dip in scores when students move from elementary to middle school, but he said that decline occurs no matter when the transition takes place. The district's research showed that students who transition earlier have more time to come out of the dip before taking the state's high-stakes achievement tests in grade 10. Kleinert added that giving sixth-graders their own space and additional instructional supports should help make the transition smoother.

To pave the way for reconfiguration, the district engaged parents, teachers, administrators, and community stakeholders in the planning process with teams studying personnel, physical, curriculum, and student transition issues. A media campaign, including a special website and blog postings, helped to keep the community informed about the process, as well as providing an avenue for public input. For more information, go to <http://msdweb.msd281.org/wordpress/about-msd/configuration/>

Equitable: advocating for and ensuring every student's right to learn and providing appropriately challenging and relevant learning opportunities for every student. (p. 2)

Within those attributes, the association described 16 characteristics, including "organizational structures [that] foster purposeful learning and meaningful relationships" (Association for Middle Level Education, 2009, p. 2). Carolan and Chesky (2012) used that characteristic as the starting point for a study that focused on the relationships among grade configuration; student achievement; and school attachment, which encompasses a student's sense of belonging and engagement, and whether he or she likes school, participation in extracurricular activities, and friendships in school. Attachment also is measured by whether students believe that teachers support and care for them and that discipline

policies treat them fairly.

Analyzing data from a nationally representative sample of students, Carolan and Chesky (2012) concluded that there was no significant relationship between reading and math achievement and attending a K–8 school. Further, Carolan and Chesky stated that "school attachment, even more so than students' prior achievement, predicts a large and significant amount of change in students' eighth grade achievement" (p. 35).

Carolan and Chesky (2012) stated that the findings of Byrnes and Ruby (2007); Rockoff and Lockwood (2010b); and Weiss and Kipnes (2006) may present ammunition for reverting to grades K–8 configurations in large urban districts. However, those findings may not necessarily apply to students in other contexts. "Policymakers must proceed cautiously as they jump on new trends in reforms, carefully evaluating the evidence that best matches their students' demographics and not just those of

Questions to Ask When Considering New Grade Configurations

- Will the grade configuration increase or decrease parent involvement?
- How many students will be enrolled at each grade level and what implications does this have on course offerings and instructional grouping?
- How many transition points will occur? How will these be addressed?
- How will the presence or absence of older students affect younger students?
- Is the design of the school building suited to this grade configuration?
- What is the cost and length of student travel?
- What are the opportunities for interaction between age groups?
- What are the effects of the grade configuration on curriculum? Is there better continuity and articulation in curriculum with fewer gaps and overlaps?
- Are there stronger ties among schools, students, and parents? (Mertens & Anfara, 2008, p. 2)

the general population” (Carolan & Chesky, 2012, p. 37). Ultimately, the authors believe that investing in ways to improve school attachment among middle-grade students may be a better strategy than simply changing the types of schools those students attend.

Rockoff and Lockwood (2010a) offered a similar caveat. They advised educators to be “cautious about applying our findings without qualification to all public schools” (Rockoff and Lockwood, 2010a, p. 72). Rather, they suggested that districts should support research to uncover the impact of attending middle school within their own locales. [PRR](#)

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References

- Alspaugh, J. W. (1998a). Achievement loss associated with the transition to middle school and high school. *Journal of Educational Research* 92(1), 20–25.
- Alspaugh, J. W. (1998b). The relationship of school-to-school transitions and school size to high school dropout rates. *High School Journal* 81(3), 154–160.
- Association for Middle Level Education. (2009). *This we believe: Keys to educating young adolescents. Position paper of the Association for Middle Level Education* [Executive summary]. Retrieved from www.amle.org/portals/0/pdf/about/twb/This_We_Believe_Exec_Summary.pdf
- Beane, J., & Lipka, R. (2006). Guess again: Will changing the grades save middle-level education? *Educational Leadership*, 63(7), 26–30.
- Brown, J. (2011, December 26). Middle school model re-thought: Cincinnati among districts moving away from isolating grades 7–8. *Cincinnati Enquirer*. Retrieved from <http://news.cincinnati.com/article/20111225/NEWS0102/312250017/>
- Byrnes, V., & Ruby, A. (2007). Comparing achievement between K–8 and middle schools: A large-scale empirical study. *American Journal of Education*, 114(1), 101–135.
- Carolan, B. V., & Chesky, N. Z. (2012). The relationship among grade configuration, school attachment, and achievement. *Middle School Journal*, 43(4), 32–39.
- Jacob, B. A., & Rockoff, J. E. (2011). *Organizing schools to improve student achievement: Start times, grade configurations, and teacher assignments* (Discussion Paper No. 2011-08). Retrieved from Brookings Institute website: www.brookings.edu/papers/2011/09_organization_jacob_rockoff.aspx
- Mertens, S., & Anfar, V. (2008, February). Grade configurations in middle grade schools. *Middle Level Leader*. Retrieved from NASSP website: www.nassp.org/Content.aspx?topic=57004
- Paglin, C., & Fager, J. (1997). *Grade configuration: Who goes where?* Retrieved from Education Northwest website: http://educationnorthwest.org/webfm_send/464
- Rockoff, J. E., & Lockwood, B. B. (2010a). Stuck in the middle: How and why middle schools harm student achievement. *Education Next*, 10(4), 68–75.
- Rockoff, J. E., & Lockwood, B. B. (2010b). Stuck in the middle: Impacts of grade configuration in public schools. *Journal of Public Economics*, 94(11/12), 1051–1061.
- Schwartz, A. E., Stiefel, L., Rubenstein, R., & Zabel, J. (2011). The path not taken: How does school organization affect eighth-grade achievement? *Educational Evaluation and Policy Analysis*, 33(3), 293–317.
- Schwerdt, G., & West, M. R. (2011). *The impact of alternative grade configurations on student outcomes through middle and high school* [Working paper]. Retrieved from <http://eric.ed.gov>
- US Department of Education. (n.d.). *Common core of data: Public elementary/secondary school universe, school years 1999–2000 (version 1b) and 2009–2010 (version 1a)*. Retrieved from <http://nces.ed.gov/ccd/bat>
- Weiss, C. C., & Kipnes, L. (2006). Reexamining middle school effects: A comparison of middle grades students in middle schools and K–8 schools. *American Journal of Education*, 112(2), 239–272.
- Wyant, C., & Mathis, K. (2007). *Middle grade configuration and student growth: North Carolina LEA case study, project 1.4*. Retrieved from Public Schools of North Carolina website: www.ncpublicschools.org/docs/intern-research/reports/transition10-23.pdf

About the Authors

Rhonda Barton (rhonda.barton@educationnorthwest.org) is director of the communications services program at Education Northwest, a Portland, OR-based nonprofit that works to create strong schools and strong communities.

Jennifer Klump (Jennifer.Klump@educationnorthwest.org) is a reference librarian at Education Northwest and author of numerous briefs describing research evidence on a variety of education topics.

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Principal's Research Review is a publication of NASSP, 1904 Association Dr., Reston, VA 20191-1537. Telephone 703-860-0200. Fax 703-476-5432. Website www.nassp.org.

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