

Carroll County Public Schools

The Middle School Model and Grade Configurations:

Considerations for Redistricting and Facilities Utilization

February 22, 2017

Board of Education Work Session



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Essential Questions

- Should the instructional program drive facilities or should facilities drive the instructional program?
- Where does the 6th grade belong?
- How would reconfiguring grade levels in our elementary and middle schools impact student achievement, school climate, staffing, and facilities utilization?
- What are some alternative grade configurations that we could consider?



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Should the instructional program drive facilities or should facilities drive the instructional program?



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Our Instructional Program

- Middle School 6-8
 - Started in 1966 with Mt. Airy Middle and Sykesville Middle
 - Educational program for early adolescent development
 - School within a school
 - Four member interdisciplinary teams with common planning time
 - Emphasis on teaching children, rather than teaching content
 - Flexible scheduling
 - Exploratory programs
 - FLEX periods



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Characteristics and Practices Among Carroll County Middle Schools

- a shared vision to make every child successful and feel a sense of attachment and belonging to school
- a safe and orderly learning environment
- rigorous, assessed standards for student learning
- accelerated courses and G/T program
- data-driven decision making
- tiered interventions to provide targeted support
- planned transitions for students *from* elementary school and *to* high school



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Comparison of Programming

Middle School

- Interdisciplinary grade-level teams
- Housed as school within a school
- Student-centered education
- Focus on instructional strategies to meet developmental needs
- Common planning time for team teachers
- All teachers can be readily available for parent conference
- Facilities designed for grade-level teams

Junior High School

- Content departments
- Students move throughout the building
- Impersonal climate
- Focus on curriculum and meeting the demands of the Carnegie unit
- Individual planning time for teachers
- Parent conferences for all teachers serving one student difficult to schedule
- Facilities designed for subject area departments



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Where does the 6th grade belong?

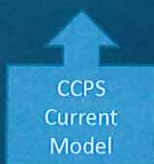


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Maryland Public Schools (September 2015)

Grade Configuration	Enrollment	% of State Enrollment	
P-5	269826	30.82%	57.56%
K-5	72742	8.31%	
6-8	161344	18.43%	



Grade Configuration	Enrollment	% of State Enrollment	
P-6	28167	3.22%	3.80%
K-6	2639	0.30%	
7-8	2465	0.28%	
P-8	38174	4.36%	5.83%
K-8	12910	1.47%	

81.05% of all Maryland 6th graders are in a 6-8 middle school



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Research

- “Most educators and researchers would agree that sixth-graders are physically and psychologically closer to seventh- and eighth-graders than they are to first- or second-graders” (Herman, 2004).
- “The bottom line is: Whether 6th graders are in elementary school or if they are in the middle school, their needs need to be met. We would suggest more of a teamed program or facility, whether that is in the elementary school or middle school” (DeJong & Craig, 2002).



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How would reconfiguring grade levels in our elementary and middle schools impact student achievement, school climate, staffing, and facilities utilization?



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Student Achievement

- 2016 PARCC, CCPS middle schools rank #1 in the State in Mathematics and #6 in English Language Arts.
- 2012-14 MSA Reading 6-8 CCPS ranked 1st, 2nd, and 3rd in Maryland each of the three years.
- 2015-16 MSA Science Grade 8 CCPS ranked 3rd in Maryland each year.



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Student Achievement

- "This study investigated if a significant relationship exists between school configuration for sixth graders and their resulting academic achievement... Results of the study, which showed no significant differences for achievement or graduation, will help districts make research-based decisions when reconfiguring schools" (Hunter, 2011).
- "We examined the relationship between the grade span configuration of all schools in Arkansas attended by sixth-grade students and the academic achievement of the combined population of students as measured by the Arkansas Benchmark Examination. We found no relationship between grade span configuration and academic achievement" (Dove, Pearson, & Hooper, 2010).



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School Climate

- "The sixth-graders in middle school were more than twice as likely to be disciplined as those going to elementary school. Although the study did not pinpoint the causes for these differences, the authors believe strongly that the 6-8 middle structure brought impressionable sixth-graders into routine contact with older adolescents who were a bad influence" (Society for Advancement of Education, 2007).
- 39 referrals for bullying in all of CCPS middle schools in 2015-16.
- "Focusing on middle grades students' sense of school attachment may be more effective than reorganizing school grade configuration... young adolescents simply do better in school when they feel connected, feel they belong, and believe their teachers are supportive and treat them fairly" (Carolan & Chesky, 2012).

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Characteristics and Practices Among Carroll County Middle Schools

- a shared vision to make every child successful and feel a sense of attachment and belonging to school
- a safe and orderly learning environment
- rigorous, assessed standards for student learning
- accelerated courses and G/T program
- data-driven decision making
- tiered interventions to provide targeted support
- planned transitions for students *from* elementary school and *to* high school

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Staffing

- Teacher certification
 - Only 33% of our current middle school teachers are certified elementary and/or middle; 67% are certified middle and/or secondary.
- 9 elementary schools would maintain 4-member teams in grade 6
- 11 elementary schools would have 3-member teams in grade 6
- Additional staff required for Music, Art, Physical Education, Health, Media, Technology Education, Family and Consumer Science, Special Education, School Counseling, Nurse (most would be part time floating between schools)
- Additional grade level for state assessments for School Testing Coordinator



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Facilities Utilization

- 9 schools would be at 100% capacity or above
- 6 schools would be at 95% - 99% capacity
- Core facilities (cafeteria, gymnasium, media center, computer labs)
- School schedule (lunch shifts, related arts schedule, teacher planning time, state assessments)
- Library Media Collections
- Impact on elementary regional programs (BEST, PRIDE, Autism)
- Public perception
- Transportation Impact



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Essential Questions for Discussion

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Maryland Public Schools
Pre-kindergarten through Grade 8 School Configurations
Based on September 30, 2015 Enrollment

County	P/K-5	P/K-6	P/K-8	6-8	Other Elementary/ Middle Combinations	Grand Total
Allegany	14			4		18
Anne Arundel	75	1*	1*	19	6	102
Baltimore City	50		72	5	25	152
Baltimore County	103		1*	26	8	138
Calvert	12			6		18
Caroline	5			2		7
Carroll	21			9	2	32
Cecil	16			6		22
Charles	21			8		29
Dorchester	6		1	2		9
Frederick	32	1*	2*	13	4	52
Garrett	7			2		9
Harford	33			9		42
Howard	41			20	1	62
Kent	5			1		6
Montgomery	121			38	13	172
Prince George's	60	61	17	22	13	173
Queen Anne's	2			3	7	12
Saint Mary's	18		1*	4		23
Somerset	4				3	7
Talbot	5			1	1	7
Washington	23			7	5	35
Wicomico	4			3	14	21
Worcester					9	9
Grand Total	678	63	95	210	111	1157

* indicates a charter school

Maryland Public Schools
School Grade Configuration
September 2015 Enrollment

TOTAL 2015-16 State Enrollment

Grade Configuration	Enrollment	% of State Enrollment	# of Schools	
P-5	269826	30.82%	522	85.24%
9-12	242421	27.69%	197	
6-8	161344	18.43%	210	
K-5	72742	8.31%	157	
P-8	38174	4.36%	72	9.05%
P-6	28167	3.22%	57	
K-8	12910	1.47%	26	
P-2	7757	0.89%	15	
6-12	7532	0.86%	15	5.71%
3-5	6374	0.73%	14	
K-6	2639	0.30%	6	
P-4	2638	0.30%	5	
7-8	2465	0.28%	4	
P-3	2226	0.25%	5	
1-5	2103	0.24%	7	
4-8	2064	0.24%	4	
8-12	2060	0.24%	4	
6-11	1797	0.21%	3	
2-5	1687	0.19%	4	
P-K	1276	0.15%	5	
P	1064	0.12%	5	
3-6	945	0.11%	2	
4-6	937	0.11%	2	
6-9	801	0.09%	3	
11-12	715	0.08%	3	
P-1	574	0.07%	2	
5-8	453	0.05%	1	
6-7	433	0.05%	1	
6-10	432	0.05%	1	
7-10	293	0.03%	2	
K-4	258	0.03%	1	
9	196	0.02%	2	
9-10	92	0.01%	1	
5-6	83	0.01%	1	
6	78	0.01%	1	

Grade 6 2015-16 State Enrollment

Grade Configuration	Enrollment	% of State Enrollment	# of Schools
6-8	52208	81.05%	210
P-8	4116	6.39%	72
P-6	3114	4.83%	57
K-8	1451	2.25%	26
6-12	890	1.38%	15
4-8	454	0.70%	4
4-6	409	0.63%	2
6-11	409	0.63%	3
K-6	354	0.55%	6
3-6	222	0.34%	2
6-7	214	0.33%	1
6-9	214	0.33%	3
5-8	115	0.18%	1
6-10	111	0.17%	1
6	78	0.12%	1
5-6	58	0.09%	1

Research on Middle Schools and Grade Configurations

I. The Revival of K-8 Schools

Author: Herman, Barry E

Year: 2004

Publisher: Phi Delta Kappa

Document URL: <http://search.proquest.com.ezproxy.rit.edu/docview/203710741?accountid=108>

Grade Configurations

The ideal grade configuration varies from community to community and school to school. Rural districts may prefer to keep middle-level students in the K-8 elementary school in order to bolster community identity. An urban school district may want to minimize the influence of older students by having middle school groupings of sixth to eighth grades, seventh through ninth grades, or some other combination.

Many factors must be taken into consideration when deciding which grade configuration best suits the needs of any community. Among the considerations are:

- * Number of students
- * Transportation costs
- * Socioeconomic status of the student population
- * School system goals for student achievement
- * Effects on other schools
- * Number of transitions for affected students
- * School building layout and design
- * Effects on parent involvement
- * Budget considerations

Where Does Sixth Grade Belong?

A growing problem among school districts is determining where the sixth grade belongs. While many communities have moved sixth grade out of elementary schools and into middle schools, not every community endorses that move. In 2002 in Cupertino, California, more than 200 parents signed a petition opposing a plan to convert junior high schools into middle schools to include sixth-, seventh-, and eighth-grade students. The parents wanted the sixth grade to stay in the elementary school. Plans to put all sixth-graders in middle school also raised alarm in Austin, Texas, in 2002. Some parents fear that sixth-graders will get the worst of it in fights with older children who are more physically mature (Cromwell 2002b, p. 1). Most educators and researchers would agree that sixth-graders are physically and psychologically closer to seventh- and eighth-graders than they are to first- or second-graders. Yet many parents still are debating whether sixth-grade children are ready to attend school with seventh- and eighth-graders. In the debate over where sixth grade belongs, it is parents who often prefer that their children remain within the protective walls of an elementary school.

Preparing Students for Middle Grades

How the transition from elementary school to middle school is handled will influence how well students make the transition, whether those students are fifth-graders going into sixth grade or sixth-graders going into seventh grade. But for fifth-graders entering sixth grade, a smooth,

helpful transition is especially critical. The following changes make the transition to middle school difficult:

1. Academic demands tend to be tougher than in elementary school.
2. Middle schools tend to be larger than elementary schools.
3. Students are accountable to different teachers for each subject in middle school.
4. Many students are experiencing the onset of puberty and awareness of the opposite sex.
5. Often students leave behind one group of friends to mix with a new group.
6. Students move from being the oldest students in their elementary environment to being the youngest in middle school.
7. Behavioral standards are different than among elementary students.

II. **The relationship among grade configuration, school attachment, and achievement**

Author: Carolan, Brian V; Chesky, Nataly Z

Year: 2012

Publisher: Association for Middle Level Education

Document URL:

<http://search.proquest.com.ezproxy.rit.edu/docview/1282264485?accountid=108>

Focusing on middle grades students' sense of school attachment may be more effective than reorganizing school grade configuration.

Ever since middle schools began replacing junior high schools 50 years ago, the same issues and concerns that motivated this change remain unresolved (Cuban, 1992). There still is no consensus as to which grade configuration best serves young adolescents.

The research on which these initiatives are based is inconsistent. Recent rigorous studies by Rockoff and Lockwood (2010) and Byrnes and Ruby (2007) have indicated that there are benefits associated with reverting back to K-8 schools; however, others have shown that the grade configuration alone makes little difference (Eccles, Lord, & Midgely, 1991). While there is certainly enough evidence to support the limited scale-up of K-8 schools (e.g., Cook, MacCoun, Muschkin, & Vigdor, 2008; Way, Ready, & Rhodes, 2007), this research base is neither substantial nor conclusive enough to move beyond these small-scale efforts. Moreover, there is still much to be learned about why certain grade configurations may work better than others.

Several studies have confirmed what these urban districts may have intuitively known—that the transition to middle school may do more harm than good, especially because it occurs during a critical point in children's development. In one of the first studies to employ a comparative framework, Blyth, Simmons, and Bush (1978) compared the effects of making a transition at different age ranges and within different school forms. They found that sixth grade students in K-8 schools were more influenced by their peers than their counterparts in K-6 settings, who were more independent and academically motivated. Anderman's (2002) study found that students who attended K-8 or K-12 schools had an increased level of psychological stability and performed at higher cognitive levels. Rockoff and Lockwood (2010) concluded in their study of New York City school children that students who moved to a middle school had a considerably

greater decrease in academic performance than their counterparts who stayed in their original elementary school. Alspaugh (1998) also confirmed that making a move during early adolescence has negative consequences.

Others, however, have reached different conclusions, attributing the declines associated with school transitions and grade configuration to particular school and classroom environment characteristics, such as the quality of students' relations with others and teacher quality (e.g., Williams, Kirst, & Haertel, 2010; Eccles et al., 1991). These studies suggest that transitions themselves are neither inherently good nor bad for young adolescents.

One conclusion that is apparent from the research literature is that a tension exists between the perceived benefits of creating a distinct educational institution to meet the specific needs of emerging adolescents and the supposed deleterious consequences of school transitions. What is less apparent is how and to what degree school attachment influences this tension.

While school attachment may be a complex concept, young adolescents simply do better in school when they feel connected, feel they belong, and believe their teachers are supportive and treat them fairly. While few would argue that school environment is not important, it remains unclear as to how this characteristic is related to student achievement and whether a school's grade configuration has anything to do with it.

Results

Two broad conclusions can be derived from this work. First, there is no significant relationship between attendance in K-8 school and achievement in either reading or mathematics. Second, school attachment, even more so than students' prior achievement, predicts a large and significant amount of change in students' eighth grade achievement. Both of these conclusions have implications for current reform efforts.

Three points should give pause to reformers and educators as they continue to rethink the configuration of middle schools. First, investing in increasing students' attachment with school may be a more cost effective way to increase achievement than whole-scale reconfigurations of schools' grade spans. Moreover, given the consensus in the research literature that school attachment is associated with a number of beneficial outcomes, including achievement, it makes more sense to focus reform efforts in this direction.

A second point to be taken from the results reported here is that the emphasis on grade span configuration may be over-stated. While there is a good deal of research literature suggesting that transitions from one school level to another are problematic for many young adolescents (see, e.g., Juvonen, Le, Kaganoff, Augustine, & Constant, 2004; Blyth et al., 1978), there is no such consensus as to which grade configuration, on average, best serves them. This speaks to the idea that most young adolescents experience a move to a more negative school environment, which is most likely to be a grades 6-8 school because it is the most prevalent configuration. Therefore, focusing on either the transition itself or the grade span may direct attention away from the most critical component-the school's environment. This makes focusing on school attachment all the more important.

Finally, policymakers would be well served to recognize the limits of school-level reforms. The results reported here did not document any advantage of the K-8 configuration; in fact, they contradict the findings reported by Byrnes and Ruby (2007).

These results call into question the preference for reverting back to K-8 schools. Getting young adolescents to enjoy school, develop positive adult and peer relationships, and feel safe-increasing their school attachment-appear to be the better options. Therefore, with the exception of large urban districts, which presumably have a variety of facility options within a geographical area, the conversion to K-8 schools, likely, is not on the table. However, all school districts that serve the middle grades can and should invest in ways to foster school attachment. The results reported here strongly suggest that this would be a good investment.

III. School configuration for sixth grade and resulting academic achievement: Analysis of rural Pennsylvania school districts

Author: Hunter, Shirley F.

Publication year: 2011

Source: DAI-A 72/07, Dissertation Abstracts International

Document URL: <http://search.proquest.com.ezproxy.rit.edu/docview/869507932?accountid=108>

This study investigated if a significant relationship exists between school configuration for sixth graders and their resulting academic achievement. The study was conducted in rural areas in Pennsylvania.

Specifically, the study investigated if school districts that are configured with sixth graders in an elementary school setting demonstrate significantly higher Adequate Yearly Progress (AYP) / Pennsylvania System of School Assessment (PSSA) results than school districts with sixth graders in a middle school setting. Data was examined in two cohorts in grades five through eight. Also, because this research was designed to investigate long-term achievement, graduation rates of the sampled districts were also compared in the two configurations.

A causal-comparative design was utilized with a matched sample of school districts from rural Pennsylvania. The instrument employed was the PSSA. Data was collected from the Pennsylvania Department of Education. The results of these tests were analyzed with Analysis of Covariance, with fifth grade PSSA scores as the covariate. The graduation results were analyzed with Analysis of Variance. In addition, a small sample of school administrators was interviewed to gather opinions on school configuration for sixth grade. Results of the study, which showed no significant differences for achievement or graduation, will help districts make research based decisions when reconfiguring schools.

IV. **The Middle School Mess**

Author: Meyer, Peter

Year: 2011

Publisher: Education Next

Document URL:

<http://search.proquest.com.ezproxy.rit.edu/docview/1237831650?accountid=108>

The latest evidence of middle-school potential is a study from EdSource released in February 2010. "Gaining Ground in the Middle Grades: Why Some Schools Do Better" is, says Trish Williams, "the largest study of middle grades education ever conducted."

Under the guidance of Williams and Michael Kirst, professor emeritus of education and business administration at Stanford University, a group of researchers from EdSource and Stanford looked into the "black box" of middle-school performance to analyze how district and school policies and practices are linked to higher student performance. Controlling for student background, they studied 303 middle schools and compared 200,000 student scores on California's standardized tests in mathematics and English to responses to school practices surveys provided by 303 principals, 3,752 English and math teachers, and 157 superintendents.

"Our findings were surprising in their consistency," the report concludes. The 44 higher-performing schools (those with average school-wide math and English test scores a full standard deviation above the mean) "create a shared, school-wide intense focus on the improvement of student outcomes," it says. Those high-performing schools did things like "set measurable goals on standards based tests and benchmark tests across all proficiency levels, grades, and subjects"; create school missions that were "future oriented," with curricula and instruction designed to prepare students to succeed in a rigorous high-school curriculum; include improvement of student outcomes "as part of the evaluation of the superintendent, the principal, and the teachers"; and communicate to parents and students "their responsibility as well for student learning, including parent contracts, turning in homework, attending class, and asking for help when needed."

V. **Relationship Between Grade Span Configuration and Academic Achievement**

Author: Dove, Mary Jane; Pearson, L Carolyn; Hooper, Herbert

Year: 2010

Publication title: Journal of Advanced Academics

Document URL: <http://search.proquest.com.ezproxy.rit.edu/docview/222724975?accountid=108>

Abstract:

In an effort to address the NCLB-mandated testing process, one of the issues to be considered is how best to configure student populations to maximize all aspects of the educational setting while simultaneously maximizing student achievement; one aspect is grade span configuration.

We examined the relationship between the grade span configuration of all schools in Arkansas attended by sixth-grade students and the academic achievement of the combined population of students as measured by the Arkansas Benchmark Examination. We found no relationship between grade span configuration and academic achievement as measured by the Arkansas Benchmark Examination for sixth-grade students. However, the nonsignificant findings do not negate the importance of the study. The results imply that there are other factors that are affecting scores in the middle grades. The results of the study also revealed that over the time span examined, mathematics Benchmark achievement rose but the results for literacy were stagnant. These results suggest that newly implemented practices or other factors may have improved mathematics achievement, but not achievement in literacy. Grade span configuration alone does not account for sixth-grade students' academic achievement as measured by the Arkansas Benchmark Examination. Decisions about campus configurations include other factors such as projected enrollments, transportation costs, size of schools, school goals, fiscal constraints, political tensions, geographic realities, and financial accountability. As student populations shift, educational leaders can look for grade span configurations that best fit their community culture and current facilities, focusing financial resources on other means of improving academic achievement. [PUBLICATION ABSTRACT]

VI. **SIXTH-GRADERS STRUGGLE IN MIDDLE SCHOOL**

Author: Anonymous

Year: 2007

Publisher: Society for Advancement of Education

Document URL: <http://search.proquest.com.ezproxy.rit.edu/docview/214602388?accountid=108>

Sixth-graders placed in middle schools have more discipline problems and lower test scores than their peers who are attending elementary schools, according to a study by researchers at the University of California, Berkeley. In addition, the negative effects of grouping sixth-graders with older students are lasting and persist at least through ninth grade.

"These findings cast serious doubt on the wisdom of historic nationwide shift to the grades 6-8 middle school format," the study indicates. In the 1970s, less than 25% of middle schools included sixth grade. Now, the figure is 75% nationwide. The shift took place, in part, due to school population pressures, but also because educators believed it was developmentally appropriate.

"What's been lacking in the debate is any real data on how the school configuration affects student behavior and performance," the study laments. "As it turns out, moving sixth grade out of elementary school appears to have had substantial costs."

The researchers contrasted sixth-graders attending grade 6-8 middle schools with those attending grade K-6 elementary schools. The sixth-graders in middle school were more than twice as likely to be disciplined as those going to elementary school. Among the middle school group, drug-related disciplinary incidents were nearly four times as high. The pattern continued as the young

pupils advanced through the grades, suggesting the problems are not tied solely to the transition to a new school environment. In addition, sixth-graders in elementary schools improved their scores on end-of-grade exams in math and reading relative to their peers in middle schools, and those gains persisted through ninth grade.

Although the study did not pinpoint the causes for these differences, the authors believe strongly that the 6-8 middle school structure brought impressionable sixth-graders into routine contact with older adolescents who were a bad influence. Older adolescents tend to be more rebellious and more involved in delinquency, sex, illicit drugs, and other activities that violate school rules, they point out.

VII. How should schools be organized?

Author: DeJong, William S; Craig, Joyce

Year: 2002

Publisher: 1105 Media, Inc.

Document URL: <http://search.proquest.com.ezproxy.rit.edu/docview/195041153?accountid=108>

Age appropriate schools discussions usually center on the issue of grade configuration. What is the ideal grade configuration? Should 6th grade be in the elementary schools or in the middle schools? What about 9th grade centers? How about K-8 or K-12 schools? Should pre-school be in the elementary school or in their own facility? What are the facility requirements of different level schools? These are among the many questions communities contemplate when planning new or renovated schools.

The research, on the other hand, is more evasive. There is no clear indication that one configuration over another is more appropriate when it comes to results on test scores. At times, the decision is driven by strong academic arguments; at other times, it is based on demographics and current inventory of facilities. Prior to 1970, the dominant grade configuration was K-6, 7-9, 10-12. It is clear that the dominant configuration today is PreK-5, 6-8, 9-12.

While many elementary schools are organized based on a self-contained classroom environment, middle schools are typically organized based on a team and exploratory arrangement. Many educators argue that 6th grade students are best served in the middle school environment. The landmark study, Turning Points, commissioned by the Carnegie Foundation, provides a clear framework for how middle schools should be organized.

The bottom line is: Whether 6th graders are in the elementary school or if they are in the middle school, their needs need to be met. We would suggest more of a teamed program or facility, whether that is in the elementary school or middle school.

If you are trying to figure out where facilities are heading, follow the middle school concepts. Elementary schools are adopting middle school facility concepts (pods) and high schools are beginning to embrace middle school concepts (houses, clusters, academies and schools-within-schools). The reason? These facilities are more flexible. You can deliver a departmental program

as well as various forms of interdisciplinary learning systems in a teamed building, but it is difficult to deliver a teamed or interdisciplinary program in a building that is organized departmentally.

In the 1960s, the paradigm was "think high schools build junior high schools." Today, the paradigm is "think middle schools, and build elementary and high schools."