



Research Brief

Center for Policy Studies, Education Research, and Community Development

A Consortium Serving Idaho, Montana, Utah, and Wyoming

What Is the Best Middle School Configuration?

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Much of the public debate about grade-span configuration has focused on the middle grades and which grade configuration best meets the developmental needs of young adolescents (Howley, 2002, p. 1).

Introduction

The middle school movement gained momentum in the 1960s (Jurgen Combs, 2003) and was fueled in the 1990s as a result of the work done by the Carnegie Council on Adolescent Development in their 1989 Report, *Turning Points*, and the release of the Third International Mathematics and Science Study (TIMSS) (as cited in Norton & Lewis, 2000). The report and study, respectively pointed to the poor teaching and learning that occurred during the middle school years, and identified an academic slump occurring during the middle school years as well (Bradley, 1998). The TIMSS study showed a sharp decrease in student achievement in mathematics and science in the fourth and eighth grade levels in comparison to international standards (Pardini, 2002). Subsequently, many studies were conducted to develop models of comprehensive school reform. One of the popular models was reorganization and reconfiguration of the K-12 system, and particularly the middle school. Most of America's schools as a result have been organized on a 5-3-4 model, as suggested by

the prevalent middle schools configurations (see Table 2).

Reconfiguration of the entire K-12 system focuses more on the middle school level. The whole concept behind this reconfiguration is trying to meet the developmental and psychological needs of the young adolescents. Additionally the reconfiguration is attempting to provide better alternatives, which give optimum learning gains to middle graders. According to a study by Jurgen Combs (2003), the learning environment in many middle and high schools does not meet the developmental needs and interests of the early adolescent. Additional studies by Howley (2002) and Hooper (2002) indicate that as school districts make considerations of which configuration is appropriate for them, they must also give serious consideration to issues such as cost effectiveness, impact on student achievement, and how the community reacts to the configuration.

Methodology

The Center for Policy Studies, Educational Research, and Community Development conducted a literature and web search guided by the following questions:

1. What is the most prevalent model between the middle and junior high school?

2. What are the pros and cons associated with the middle school model?
3. What is the psychological impact of moving sixth graders to middle school?
4. What are the associated operational costs of moving sixth graders to the middle school?
5. How are athletics handled within the middle school model?
6. What are the best practices associated with middle school or junior high school?

Findings

The back and forth movement related to developing comprehensive school reform in the middle schools shows the quest by educators to create the best alternatives to serve the developmental patterns of the young adolescent. Configuration formulas are some of the variables that may improve teaching and learning in the middle schools. However, configurations alone are not necessarily the solution to the provision of quality education in the middle school. There are other serious considerations such as:

- Team organization
- Scheduling plans
- Instructional grouping practices
- Quality of teachers and administrators
- Quality and size of facilities
- Operational costs
- Community involvement and feedback

While the emotional and psychological developmental states of young adolescents are critical factors in middle school education, educators should not over-emphasize and overlook the need of academic rigor that this unique group deserves (Bradley, 1998; McEwin, Dickinson, & Jenkins, 2003)

What Is the Middle School?

There seems to be no clear-cut definition of a middle school. An article by the National Center for Education Statistics (Alt, & Choy 2006), entitled *In the Middle: Characteristics of Public Schools With a Focus on Middle Schools*, defined middle schools as including grades five through eight which focused on teaching young adolescents. They put schools into four groups.

1. Elementary – schools with one grade lower than five and no grade higher than eight
2. Middle – schools with no grade lower than five and no grade higher than eight
3. Secondary – no grade lower than seven and at least one grade higher than eight
4. Combined – no grade lower than seven and at least one grade higher than eight, including schools with upgraded classes (p. 6)

In trying to come up with the best configuration formulas, school districts have to consider projected enrollments, size of the school, number of transitions to be made by students, and overall school goals (Howley, 2002).

Discussion of Findings

The Prevalent Model

While school districts continue reconfiguration, configurations alone do not breed success (Hooper, 2002). The common configurations in the K-12 system are grades K-5 or K6 in elementary, grades 6-8 or 7-9 in middle school or junior high, and grades 9-12 or 10-12 in high school. The popularity of each configuration depends on the locale (Howley, 2002). Several studies, by Alexander and McEwin; Valentine; Clark; Irvin; Keefe and Metlon; McEwin, Dickinson, and Jenkins and many others (as

cited in McEwin, Dickinson, & Jenkins, 2003), indicated that a general trend by many schools is the adoption of the 6-7-8 configuration for middle schools. The key for any district would be the minimization of per-pupil expenditures with regard to student achievement levels. These configurations also depend on the locality. Urban schools tend to use the 6-8 configurations while rural configurations use K-8. Rural areas tend to face serious funding challenges, and as such, favor consolidation of smaller schools into larger; but more remote schools, where younger students have to endure longer bus rides, face reduced parental involvement and the decline of extra curricular activities (Howley, 2002). Below are the configurations of some states:

Table 1
Grade-Level Organization in New York
Number of School Buildings With
Specific Grade Configurations

| Grade Span | 1981-1982 | 1991-1992 | 1998-1999 | 1999-2000 | 2000-2001 |
|------------|-----------|-----------|-----------|-----------|-----------|
| K/1-5 | 452 | 789 | 1,041 | 1,040 | 1,124 |
| K/1-6 | 1,468 | 981 | 659 | 659 | 599 |
| K/1-8 | 71 | 60 | 96 | 97 | 108 |
| 5-8 | 50 | 87 | 101 | 101 | 102 |
| 6-8 | 162 | 292 | 398 | 397 | 436 |
| 6-9 | 34 | 30 | 15 | 15 | 14 |
| 6-12 | 16 | 30 | 42 | 43 | 48 |
| 7-8 | 120 | 93 | 71 | 71 | 76 |
| 7-9 | 211 | 78 | 39 | 39 | 29 |
| 7-12 | 227 | 224 | 166 | 171 | 168 |
| 9-12 | 398 | 470 | 565 | 556 | 575 |
| 10-12 | 109 | 36 | 23 | 24 | 23 |

Source: *The State Education Department; The University of the State of New York, Albany*

The 6-7-8 configuration has the largest number of buildings per year for the New

York school district compared to the 5-6-7-8, or the 6-7-8-9.

Table 2
National Level Grade Configurations
1971-2000

| Grade Configuration | 5-8 | 6-8 | 7-8 | 7-9 | Other | Total |
|---------------------|-------|--------|-------|--------|-------|--------|
| 1971 | 772 | 1,662 | 2,450 | 4,711 | 850 | 10,445 |
| % 1971 Total | 7% | 16% | 24% | 45% | 8% | 100% |
| 1981 | 1,024 | 3,070 | 2,628 | 4,004 | 1,500 | 12,226 |
| % 1981 Total | 8% | 25% | 22% | 33% | 12% | 100% |
| 1991 | 1,330 | 4,838 | 2,902 | 2,298 | 727 | 12,095 |
| % 1991 Total | 11 | 40 | 24 | 19 | 6 | 100 |
| 2000 | 1,379 | 8,371 | 2,390 | 689 | 1,278 | 14,107 |
| % 2000 Total | 10% | 59% | 17% | 5% | 9% | 100% |
| 1971-2000 Change | +609 | +6,709 | -60 | -4,022 | +428 | +3,662 |
| 1971-2000 % Change | +79% | +404% | -2% | -85% | +50% | +35% |

Source: *National Middle Schools Association*

The percentage for the 6-7-8 configuration has increased dramatically compared to any grade level; that is 24% in 1971 to 404% in 2000. This, undisputedly, makes the 6-7-8 configuration the most prevalent. The 6-7-8 configuration was also identified as the main school district organizational plan according to a national survey of middle and junior school principals (McEwin, Dickinson, & Jenkins, 2003). The survey showed that 68% of the schools in the survey uses this configuration.

Advantages of Moving Sixth Graders to the Middle School

Several research studies by Myers, Hillyer, Gateman and Greek, the New York Middle Grade Task Force, the Minneola Free School District and others (as cited in Jurgen Combs, 2003) support the 6-8 configuration for several reasons. These include the following:

- There is a gradual transition from contained classrooms to departmental organizations
- Young adolescent student needs are best met in the middle school than either the elementary or secondary school.
- Sixth graders resemble seventh graders more than fifth graders in areas of self-adjustment and personal freedom.
- The 6-7-8 configuration is more appropriate than any other configuration because students have common physical, social, psychological, and intellectual variables. Therefore, the bonding is critical for the young adolescents' intellectual and emotional development.
- Placing sixth grades in schools that focus directly and exclusively on the needs and interests of young adolescents ensures success in learning (McEwin, Dickinson, & Jenkins, 2003).

Best Practices Associated with Middle School Reform

Research indicates that configuration alone is not a panacea to the middle school *slump* (Bradley, 1998; National Middle School Association, 2004). They argued that the emphasis should be on teaching and exposing students to academic rigor. The over emphasis on the emotional side of the adolescent seems to be getting priority rather than the actual teaching in the middle school (Bradley, 2000). A policy brief by Alliance for Excellent Education (2003) entitled *The*

Building Blocks of Success for America's Middle and High School Students, viewed the following as the pillars of success in offering quality middle-level education.

- High quality classroom teachers and school administrators
- Rigorous academic standards, curricula, and methods of instruction
- Small classes and schools
- High quality facilities
- High quality textbooks, instructional materials, and library resources
- Access to computer technology
- High quality counseling
- Support services for struggling students

The activities in a middle school should have both elements of the elementary school and the high school so that the developmental needs of the young adolescents are met. Other aspects of best practices in the middle school are the following.

1. Research supports that at the fifth and sixth grade levels, teachers' utilization of a common planning time is effective and enhances student achievement (McEwin, Dickinson, & Jenkins, 2003). In fact research shows a high correlation between team organization and student achievement according to Felner et al; Felner, Mertens, & Lipsitz; and Flowers, Mertens, & Mulhall (as cited in McEwin, Dickinson, & Jenkins, 2003). As of 2001, 77% of middle schools use team organization (McEwin, Dickinson, & Jenkins, 2003). E. E. Davis (personal communication, 2004) a former superintendent in a large Virginia school district, observed that team organization worked especially well when the middle school sixth graders were traditionally organized into single teacher classrooms with transitions only to art, music, and physical education. The seventh grade was on block scheduling, with the eight

grade on full transition to classes based on subject areas. In addition, Davis reported that the entire sixth grade was located on a separate and distinct floor of the middle school building from the seventh and eight grades.

2. Scheduling plans vary from self contained, uniform periods, flexible block, and varying daily. Uniform periods seemed to be the most popular method from 1993 to 2001 (McEwin, Dickinson, & Jenkins, 2003). Flexible plans are ideal as they allow teachers to group and regroup students for “instruction and engage them in instructional activities that accommodate their individual learning needs” (McEwin, Dickinson, & Jenkins, 2003, p. 51).
3. Elective subjects should be offered in order to enrich the learning experiences. Popular subjects are band, choir, and foreign languages with the most popular being orchestra, chorus, and art (McEwin, Dickinson, & Jenkins, 2003).
4. Mini-course programs that offer the opportunity for students to explore their interests include technology, fine arts, academics, and personal development
5. Time should be allotted for the instruction of core subjects. Research by McEwin, Dickinson, & Jenkins, (2003), indicated that more time is allotted to the teaching of language arts with most time given to language arts, mathematics, social studies, and science in that order. However, science and social studies get less time compared to mathematics and language arts.
6. There are more opportunities for student remediation.
7. High stakes testing is now attributed to the rise of remedial programs in the middle school. These constitute before school, after school, and Saturday programs
8. Teacher based guidance programs are generally reviewed as essential. Sadly,

there is a drop in the length of sessions (less than 15 minutes) in the middle schools (McEwin, Dickinson, & Jenkins, 2003)

Disadvantages of Moving Sixth Graders to the Middle School

There are several disadvantages to moving sixth grade into the middle school as cited below.

1. The first potential drawback is that students are removed from a stable environment (one teacher classroom) and moved to one where they have to transition from class to class, dealing with several adults. Sixth graders are not yet mature enough to deal with numerous and varied interpersonal relationships (Pardini, 2002).
2. Currently there is a very little research based on the best configurations that positively impact student learning. Pardini (2002) is of the view that middle schools suffer from high staff turn over, as most of the teachers are not qualified to teach content driven curriculum, some-thing that is less prevalent in the K-8 model.
3. Sixth-graders in middle school are much more likely to be cited for discipline problems, which persist through ninth grade.
4. Exposure at this age to older peers and more relative freedom may have deleterious consequences. (Vigdor, Cook, MacCoun, & Muschkin, 2007)
5. Moving to a middle school system does not improve performance of lower achieving students. In fact, in one study, it decreased ontime high school completion by one to three percent. (Bedard, & Do, 2004)
6. There is a significant achievement loss among sixth graders who transition from elementary to middle school that is not

found when they are allowed to stay in elementary for sixth grade. (Alspaugh, 1998)

Psychological Impact

Bradley (1998) criticized the whole middle school movement as having the following major weakness “The middle school model has come under attack for supplanting academic rigor with a focus on students’ social, emotional, and physical needs” (p. 1). The sixth grade was described by Richardson (2002) as “transition trauma” (p. 1). The trauma manifests itself in role strain, lower grade point averages, negative social behavior, and undiminished concerns (Richardson, 2002). The new move may create social challenges. At the sixth grade level, students are not emotionally literate. They suffer from lack of emotional autonomy, and may be unable to cope with the challenges of transition (Richardson, 2002). Emotional intelligence—the ability to use the emotional state to solve problems—may be lacking at the sixth grade level; and yet, it is a major key for success and survival in an individual according to studies by Elias, Goleman, and Jensen (as cited in Richardson, 2002) and for academic success (Richardson, 2002). Emotional intelligence can be nurtured and developed in a person. A study of 196 students in transition from fifth to sixth grade revealed that girls have higher emotional intelligence than boys (Richardson, 2002). How sixth graders cope with the transition trauma may depend on the emotional intelligence and the characteristics and temperament of the child.

Operational Costs

This research brief did not address the reconfiguration costs. Generally, it is difficult to give a definite figure to the costs of reconfiguration. Reconfiguration does two things according to Howley (2000).

First, it closes some schools. Second, it makes the remaining narrowly configured schools much larger. Larger schools damage educational equity for everyone and they undercut educational excellence in impoverished communities (Howley, 2000).

Handling of Athletics

Intramural and interscholastic sports receive different attention in the middle school. Few schools offer intramural sports while almost 80% of middle schools offer competitive interscholastic sports programs (National Middle School Association, 2004)

The following tables (Tables 3-5) represent sports participation in the 6-7-8 configuration:

Table 3
Participation in Interscholastic Sports by Students in the 6-7-8 Configured Middle School

| Grade | 1988 | 1993 | % Increase |
|-------|------|------|------------|
| 6 | 30% | 26% | -4% |
| 7 | 72% | 77% | +5% |
| 8 | 77% | 77% | 0% |

Source: Table drawn from information gleaned from National Middle School Association

Table 4
Percent of Middle Schools Offering
Selected Interschool Sports for Boys

| Sport | Percent of Boys Sports Programs | | | |
|---------------|---------------------------------|------|--------|------|
| | Fifth | | Sixth | |
| | 1993 | 2001 | 1993 | 2001 |
| Baseball | 3 | <1 | 7 | 9 |
| Basketball | 13 | 12 | 24 | 29 |
| Cross Country | 4 | 10 | 13 | 19 |
| Football | 3 | 0 | 8 | 10 |
| Gymnastics | 0 | 0 | 2 | 1 |
| Soccer | 5 | 8 | 11 | 13 |
| Softball | 3 | 4 | 5 | 4 |
| Swimming | 4 | 1 | 4 | 4 |
| Tennis | 1 | 2 | 4 | 6 |
| Track | 8 | 7 | 23 | 27 |
| Volleyball | 2 | 3 | 7 | 8 |
| Wrestling | 6 | 4 | 11 | 16 |
| Sport | Seventh | | Eighth | |
| | 1993 | 2001 | 1993 | 2001 |
| | Baseball | 22 | 26 | 24 |
| Basketball | 82 | 88 | 86 | 90 |
| Cross Country | 30 | 45 | 32 | 45 |
| Football | 56 | 62 | 62 | 66 |
| Gymnastics | 3 | 2 | 3 | 2 |
| Soccer | 24 | 33 | 25 | 33 |
| Softball | 7 | 6 | 7 | 6 |
| Swimming | 9 | 10 | 9 | 10 |
| Tennis | 15 | 17 | 16 | 17 |
| Track | 70 | 71 | 72 | 73 |
| Volleyball | 11 | 14 | 12 | 14 |
| Wrestling | 41 | 45 | 43 | 47 |

Source: McEwin, Dickinson & Jenkins, 2003, p. 28

Table 5
Percent of Middle Schools Offering
Selected Interschool Sports for Girls

| Sport | Percent of Girls Sports Programs | | | |
|---------------|----------------------------------|------|--------|------|
| | Fifth | | Sixth | |
| | 1993 | 2001 | 1993 | 2001 |
| Baseball | 1 | 1 | 1 | 2 |
| Basketball | 12 | 12 | 24 | 29 |
| Cross Country | 4 | 9 | 13 | 19 |
| Football | 1 | 0 | 1 | 4 |
| Gymnastics | 2 | 1 | 3 | 2 |
| Soccer | 5 | 7 | 10 | 13 |
| Softball | 6 | 6 | 11 | 12 |
| Swimming | 4 | 1 | 4 | 4 |
| Tennis | 1 | 2 | 4 | 6 |
| Track | 8 | 7 | 23 | 27 |
| Volleyball | 5 | 3 | 15 | 18 |
| Wrestling | 1 | 3 | 2 | 8 |
| Sport | Seventh | | Eighth | |
| | 1993 | 2001 | 1993 | 2001 |
| | Baseball | 3 | 4 | 3 |
| Basketball | 81 | 90 | 84 | 90 |
| Cross Country | 30 | 44 | 32 | 46 |
| Football | 6 | 14 | 7 | 15 |
| Gymnastics | 7 | 5 | 17 | 5 |
| Soccer | 22 | 33 | 23 | 33 |
| Softball | 29 | 36 | 32 | 38 |
| Swimming | 9 | 10 | 10 | 10 |
| Tennis | 15 | 17 | 16 | 17 |
| Track | 70 | 71 | 72 | 73 |
| Volleyball | 57 | 63 | 59 | 73 |
| Wrestling | 2 | 16 | 5 | 17 |

Source: McEwin, Dickinson & Jenkins, 2003, p. 30

The following is the participation information for girls and boys as of 2001.

1. In the middle school, the same sport is offered to girls with the most frequently offered sport being basketball for both boys and girls. There is equal participation for both sexes.
2. Girls' participation is low in such sports as wrestling and football.
3. There is low but equal participation in tennis, swimming, and cross country,
4. Participation by girls is up by 2% in gymnastics.
5. More boys participate in football.

Negative Effects

The negative reports of interscholastic sports at the middle school have to do with the rise in injuries, psychological stress, and unqualified adult leadership, according to research by McEwin and Dickinson; Micheli, Micheli, and Jenkins; and others, as cited by Richardson (2002). The other issues that are coming to light are the psychological effects of being eliminated from the team, gender specific attitudes, and the deep engrained assumption that sports are not for girls (Richardson, 2002).

Positive Effects

Positive effects include a myriad of things such as enhancing self-esteem, increasing interest in sports, and setting goals that reflect interest and abilities for the young adolescent. The emphasis should be on improvement rather than competition. The opposite can cause high levels of stress leading to drop out rates in sports.

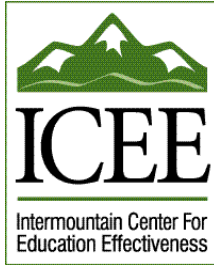
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The goal of the Center is to provide objective research-based information and data to support critical decision making in management and public policy regarding Pre-K through high education and community development at all levels within the service area.

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