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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?

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 1960's (Jurgen Combs, 2003) and was fueled in the 1990's as a result of the work done by the Carnegie Council on Adolescent Development 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 4th and 8th 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 II).

Reconfigurations 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 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 and Educational Research 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
- The quality of teachers and administrators
- Quality and size of facilities
- Operational costs
- Community involvement and feedback

While the emotional and psychological developmental state of young adolescents are critical factors in middle school education, educators should not overemphasize 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. An article by the National Center for Education Statistics, entitled *In the Middle: Characteristics of Public Schools With a Focus on Middle Schools* (2000, p. 6*)*, defined middle schools as including grades 5 through 8 which focused on teaching young adolescents. They put schools into four groups.

1. Elementary – schools with one grade lower than 5 and no grade higher than 8
2. Middle – schools with no grade lower than 5 and no grade higher than 8
3. Secondary – no grade lower than seven and at least one grade higher than 8
4. Combined – no grade lower than 7 and at least one grade higher than 8. That includes schools with upgraded classes

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 elementary K-5, K-6, middle

school or junior high 6-8, 7-9, and high school 9-12 or 10-12. *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 *National Middle School Association, Research summary # 1, 2003, McEwin, Dickinson & Jenkins, 2003*) indicated *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 State
(The 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
http://www.wmsc.nysed.gov/deputy/Documents/mniddleleveleducation.htm

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 II
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
1971-100 % Change	+79 %	+404%	-2%	-85%	+50%	+35%

Source National Middle Schools Association. http://www.nmsa.org/research/ressum1.htm

The percentage for the 6-7-8 configuration has increased drastically 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 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 configurations are more appropriate than any combination 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). 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. These are:

- 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.

Team Organization in the Middle School

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 and Lipsitz; and Flowers, Mertens and Mulhall (as cited in McEwin, Dickinson & Jenkins, 2003). *As of 2001, 77% of middle schools use team organization* (McEwin, Dickinson & Jenkins, 2003). Davis (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 (2004) 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, 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 more 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. Opportunities for 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 removing them from a stable environment (one teacher classroom) to one where they have to transition from class to class, dealing with several adults, and yet not mature enough to deal with numerous and varied interpersonal relationships* (Pardini, 2002).
2. Currently there is a very little research based on 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, something that is less prevalent in the K-8 model.

Psychological Impact

Bradley (1998) criticized the whole middle school movement as having this 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 the key for success and survival in an individual according to studies by Elias, Goleman, Jensen (as cited in Richardson, 2002), and for academic success (Richardson, 2002). *Emotional intelligence can be nurtured and developed in a person* (Richardson, 2002). *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 of 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, p. 6).

Handling of Athletics

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

Sports participation in the 6-7-8 configuration:

Table III
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 IV
Percent of Middle Schools Offering Selected Interschool Sports

	Percent of Boys Sports Programs			
	Fifth		Sixth	
Sport	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

	Seventh		Eighth	
Sport	1993	2001	1993	2001
Baseball	22	26	24	28
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 V
Percent of Middle Schools Offering Selected Interschool Sports

	Percent of Girls Sports Programs			
	Fifth		Sixth	
Sport	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

	Seventh		Eighth	
Sport	1993	2001	1993	2001
Baseball	3	4	3	7
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

As of 2001, the following are the participation rates for girls and boys.

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; and 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 in Research Summary #10 (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.

References

Alliance for Education Excellence. (2003). *The building blocks of success for America's middle and high school students*. Retrieved February 5 at http://www.all4ed.org /publications/IssueBriefs.html

Bradley, A. (1998). Muddle in the middle. *Education Week*. Retrieved February 4, 2004 at http://www. Edweek.org/ew/vol-17/31middle.h17

Davis, E.E. (2004) Personal communication. Intermountain Center for Education Effectiveness, College of Education Idaho State University.

Hooper, D. W. (2002). *Configurations alone don't breed success. School grade-level configuration and effects on academic achievement*. Retrieved February 4, 2004 at http://www. Findarticles.com/cf_0/m0JSD/59_3/ 83698558/p1/article.jhtml

Howley, C. B. (2002). Grade-span configurations: Where 6th and 7th are assigned may influence student achievement, research suggests. *School Administrator*. Retrieved February 2, 2004 at http://www. Findarticles.com/cf_dls/m0JSD/59_3 /83698553/pl/article.jhtml

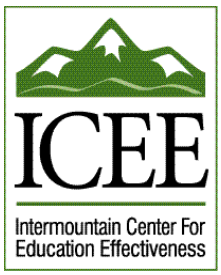
Jurgen Combs, H. (2003). *Middle school configuration*. Retrieved February 4, 2004 at http://www.edulink.org/

National Middle School Association (2004). *Research summary # 1: Grade configuration*. Retrieved February 4, 2004 at http://www. Nmsa.org/research/ressum1.htm

Norton, J., & Lewis, A. C. (2000). *Middle grades reform*. Retrieved February 5 at http://www.pdkintl. org/kappan/klew0006.htm

McEwin, C. K., Dickinson, T. S., & Jenkins, D. M. (2003). *America's middle schools: Status and progress*.

Westerville, Ohio: National Middle School Association.
Pardini, P. (2002). Revival of the K-8 school: Criticism of middle schools fuels renewed interest in a school configuration of yesteryear. *School Administrator*. Retrieved February 4, 2004 at http://www.findarticles.com/Cf_0/m0JSD/59_3/83698550/p1/article.jhtml
Richardson, T. L. (2002). *The importance of emotional intelligence during transition into middle school.* Middle School Journal Research. Retrieved February 4, 2004 at http://www.nmsa.org/research/res_srticles_jan2002a.htm
The New York State Education Department. (2001). *Status report on middle-level education in New York state*. Retrieved February 5, at http://www.emsc.nysed.gov/deputy/Documents/middleleveleducation.htm



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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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