DOCUMENT RESUME

ED 332 367 EA 023 029

AUTHOR Hough, David L.
TITLE A Review of Middle Level Organization.
PUB DATE Apr 91
NOTE 37p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 3-7, 1991).
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Effective Schools Research; *Instructional Program Divisions; *Intermediate Grades; Junior High Schools; *Middle Schools; School Effectiveness; *School Organization; School Restructuring

ABSTRACT

Research on middle-level education and the relationship between grade-span configuration and educational outcomes is reviewed in this paper. Discussions include the evolution and growth of middle schools in the United States, differences between middle and junior high schools, and outcomes of middle-grade organization. Two national trends are identified--a reorganization of middle-level schools that favors a 6, 7, 8 grade-span configuration and a replacement of reforms for administrative purposes by those that meet student needs. Findings on different programs' effectiveness in meeting student needs and the relationship between grade organization and educational outcomes are inconclusive. Significant differences are identified in the implementation of various programs across different grade spans. Four tables and one figure are included. (81 references) (LMI)

A REVIEW OF MIDDLE LEVEL ORGANIZATION

by

David L. Hough
Research Fellow
California Educational Research Cooperative
University of California, Riverside

Paper Presented to the
American Educational Research Association
Annual Meeting

Chicago, Illinois
April 5, 1991

A Review of Middle Level Organization

Interest in middle grades education is high on the national reform agenda of organizational units in need of serious study (*Education That Works*, 1990; "Turning Points," 1982). Rapidly replacing the traditional junior high school in both grade span organization and philosophical commitment to so-called "exemplary" programs, middle schools have become popular topics for study. Program reforms that have all too often lagged behind organizational change are now beginning to be implemented in many middle level schools, providing much needed data for analysis.

Research on middle level education has progressed from subjective assumptions espoused by proponents and opponents well into the 1970s, to more objective attempts to provide useful data on school programs and practices found to be effective. This review analyzes these studies and posits the following generalizations:

1. While the names "junior high," "middle," or "intermediate" do not define a school's program, different grade span configurations can be linked to three separate organizational orientations -- "elemiddle," "middle," and "middle high."

2. Although primarily an administrative concern originally driven by attendance boundaries, grade span organization has been linked to a number of programmatic characteristics, but not to student outcome measures.

3. The needs of preadolescent youth have driven program reform, as middle level educators have adopted a philosophical commitment aimed at meeting the needs of their students. This was not necessarily the case prior to the inception of the middle school movement.

4. The national trend toward reorganization of middle level schools favors a 6,7,8 grade span configuration in lieu of a K-8; 7,8; 7,8,9; or other organizational pattern. An ideal grade span has not been empirically identified, but various middle grades structures are significantly different in several important ways.

> 5. Effective schools research, whether or not accurately cast, has drawn attention to "exemplary" middle level programs and practices, now being implemented and studied.

Evolution of the Middle School

Although several definitions peculiar to the middle level lexicon exist, junior high school, middle school, and middle level education deserve special interpretation. The term junior high school used historically from circa 1880 to the present is most commonly employed to denote grade configurations of 7,8 or 7,8,9 in which a **program** is designed to approximate the type of education commonly found in high schools, a "not-quite-yet-but-trying-to-be" high school. The term middle school was invoked in the early 1960s during the **movement** away from a "junior" high school. Although any combination of grades 5 through 9 may be included in a middle school, the most common is a 6,7,8 configuration. Middle level education has come to be the most commonly accepted term used to identify those school organizations based on a **philosophy** of education, incorporating unique curricula and instructional practices specifically designed to meet the needs of a unique pre-adolescent learner.

Toepfer, et al., (1986) offer the following definition:

> "Middle level education" [is] used to describe all educational efforts, programs, and grade organizations between elementary and high school. This term is gaining wide use as a single descriptor for all programs that deal with all combinations of grades 5 through 9 for youngsters between 10 and 14 years of age. (p. 7)

Since emergence of the middle school concept in the early 1960s, the unique needs of preadolescents have been studied, researched, and analyzed with a greater degree of exuberance and sophistication than ever before. George and Oldaker (1985)

call the middle school movement, "one of the largest and most comprehensive efforts at educational reorganization in the history of American public schooling (p. 1)."

Scholars of middle school organizational development commonly reference a few dominant, influential national reports that greatly impacted administrative decision-making with regard to middle level grade span organizations (Alexander, 1964, 1968, 1984; Gruhn & Douglass, 1947, 1956, 1971; Lounsbury, 1984; Melton, 1984). Lounsbury (1984) cites the period from 1890 to 1920 as a struggle between academics and vocations. Nineteenth century school administrators wanted an 8-4 plan (i.e., 8 years of elementary and 4 years of high school) to accommodate the many students who dropped out after the 8th grade; and early 20th century policy makers viewed the 6-6 plan (6 years of elementary and 6 years of high school) as more efficacious, believing this would better facilitate the movement of students into the labor force at a younger age.

As early as 1888, Harvard President Charles W. Eliot led a National Education Association committee that produced an agenda for middle level education. Eliot's statements to the Superintendents' Association in 1888 had a profound effect on subsequent school policy regarding the education of children in middle grades. As chairman of the 1892 Committee of Ten, Eliot's committee recommended that several courses, (e.g., algebra, geometry, foreign languages) begin during the last years of elementary education which, in turn, were to be reduced from eight to six years (National Education Association, 1894). The Committee on Economy of Time (Baker, 1913) concluded that secondary schools should be divided into a 7,8 junior high and a 9,10,11,12 high school. These recommendations were soon followed by the so-called

"reorganization" movement, and the series of national committee reports urged educators to develop separate middle level schools to meet specific preadolescent needs.

William Alexander (1988) groups the committees' recommendations into four categories that sought to:

> (1) Bridge the gap between the more student-centered elementary school and the more subject-centered high school. (2) Serve the unique needs of the age group (from about 10 to 15 years of age). . . . (3) Provide a broader program, with some options for students. . . . (4) Solve various enrollment, facilities, and other administrative problems. . . (p. 107).

The turn of the 20th century marked the beginning of school grade span reorganization, and the series of national committee recommendations laid the groundwork for the advent of junior high schools which emerged circa. 1910-1920. Melton (1984) cites three early instances of the junior high school movement:

> (1) In 1896, the public schools of Richmond, Indiana, introduced a two-year intermediate school for grades 7 and 8. (2) In 1909, a three-year intermediate school was established in Columbus, Ohio. (3) In 1910, two "introductory high schools" were opened in Berkeley, California. (p. 6.)

Hence, after the first decade of the 20th century, school grade organizations were revamped in an effort to institute junior high schools to replace the 1800s 8-4 and 6-6 (elementary - secondary) organization patterns with a 6-2-4 or 6-3-3 (elementary - junior high - high school) organizational structure.

Leonard Koos (1920) issued the first statement of purposes of junior high schools; he implored schools to: retain students in school, economize instruction time, recognize and provide for individual differences, provide more extensive guidance, initiate vocational education, recognize the nature of adolescence, begin subject matter

departmentalization, and increase students' education and socialization opportunities by providing physical education.

In 1940 William Gruhn and Harl Douglass developed a list of six essential functions for the junior high. These functions synthesized the context of their antecedents and established many of the principles on which middle level education in the United States was subsequently based. The "Six Functions of the Junior High School" are: (1) integration (2) exploration (3) guidance (4) differentiation (5) socialization (6) articulation (In Gruhn & Douglass, 1956, pp. 31-32).

In the early 1960s the middle school was born. Founded on many of the same principles as the traditional junior high school, the middle school was predicated on the notion that greater attention should be given to the special needs of preadolescent youth. Many educators perceived the junior high to be a "failed" promise and turned to the middle school philosophy as an affirmation of a higher level of commitment.

Alexander (1968) defined the middle school as one,

> . . . providing a program planned for a range of older children, preadolescents, and early adolescents that builds upon the elementary school's program for earlier childhood and in turn is built upon by the high school's program for adolescence. Specifically, it focuses on the educational needs of what we have termed the 'in-betweenager'. . . . (p.3)

More recently Alexander & George (1981) defined a middle school as one "of some three to five years between the elementary and high school focused on the educational needs of students in these in-between years and designed to promote continuous educational progress for all concerned" (p. 3).

In as much as middle schools were established, in theory, to provide a unique program to a unique group of youngsters, other reasons, many of which were

administrative and not curricular in nature, contributed to the reorganization of grade span configurations movement. Alexander (1984) offers two reasons for the establishment of middle schools:

> (1) . . . the earlier maturation of girls and boys during the middle school years, with related, increasing concern about the traditional program's match with the needs of that age group, and (2) local problems of buildings, enrollments, desegregation, and other such matters. (p. 14)

A survey by Brooks and Edwards (1978), a replication of William Alexander's (1968) survey identified at least three strong reasons for reorganization and adoption of middle school programs: (1) to provide a program specifically designed for children in this age group, (2) to bridge the elementary and high school better, and (3) to move grade nine into the high school.

Many believed that junior high schools had not adequately addressed program reforms (Melton, 1984), and a 1981 NASSP survey found that a significant number of "middle schools" were established by districts to alleviate overcrowding rather than to achieve program-related revisions (Valentine, et al., 1981). In addition, Lounsbury and Var: (1978) affirm that efforts to eliminate racial segregation spurred some districts to reorganize to 6,7,8 or 7,8,9 grade spans. Logistics, shifts in student populations, and poor local district economics were responsible for much reorganization (Toepfer, et al., 1986). Curricular concerns have not always been the driving force behind conversions to middle school grade spans, even though such reform is the theoretical basis cited by most proponents of the movement.

Growth of Middle Schools

Since 1964 the number of new middle schools replacing traditional junior highs has progressively increased. The bar chart in Figure 1 depicts a chronological representation of national surveys by author and year indicating the number of educational units identified by name as "middle schools." The surveys conducted by Alexander (1968), Kealy (1971), Compton (1976), and Brooks & Edwards (1978) identified a middle school as "a school which combines into one organization and facility certain school years (usually grades 5, 6, 7, & 8 or 6, 7 & 8) which have in the past usually been separated in elementary and secondary schools under such plans as the 6-3-3, 6-2-4, and 6-6" (Alexander, 1984, p. 22). The United States Department of Education, National Center for Education Statistics, Statistics of State School Systems and Common Core of Data survey defines a middle school as one beginning with grade 4, 5, or 6 and ending with grade 6, 7, or 8. Cuff's (1967) data were taken from the 1965-66 school year. Alexander's (1968) data were drawn from the 1967-68 school year; Kealy's (1971) data from 1967-70; Compton's (1976) data are from 1974; Brooks & Edwards' (1978) data from 1976-77. All United States Department of Education data represent the preceding school year prior to the publication date.

[insert Figure 1 about here]

Table 1 shows the number of schools with different middle level grade span configurations, per the 1982-83 school year. This information indicates that the grade spans of 6,7,8; 7,8; and 7,8,9 were relatively evenly distributed at that time.

[insert Table 1 about here]

Table 2 displays data from the United States Department of Education, National Center for Education Statistics, outlining a variety of kindergarten through 12th grade organizational structures. In this comparison, middle schools outnumber junior high schools by a ratio of more than 5 to 3. Schools with a kindergarten to 6th grade or 1st to 6th grade span represent 26% of the total, while K-5 and/or 1-5 schools represent just over 17%. As 6th grades are included in more middle schools, one would expect to find fewer K-6 and more K-5 schools. Although not depicted in the table, this is precisely what took place over the three-year period just prior to these 1988-89 data. During that time, K-6 schools decreased by almost two percent, while both K-5 and 6,7,8 schools increased by approximately the same margin.

[insert Table 2 about here]

Looking at Table 3, which shows three different orientations to grade span configuration -- (i.e., K-8 "elemiddle"; 4,5 or 6 to 6,7, or 8 "middle"; and 7 to 8 and 7 to 9 middle highs) -- the preference for "middle schools" is evident. These middle level grades total 18,038 schools; 30% of these are the K-8 extended elementary schools; 44% are middle schools; and 26% are junior high schools. The middle school grade spans appear to be the organizational structure of choice, unlike the more even distribution shown in Table 1, albeit the two tables' classification schemes are also different. The middle school grade orientations outnumber their extended elementary and junior high counterparts by 14% and 18%, respectively. This margin would be even greater if 7,8 schools were excluded from the junior high classification; greater yet if they were included with the middle schools.

[insert Table 3 about here]

Table 4 provides a look at the dramatic increase in 6,7,8 "middle school" grade spans over the past fifteen years. Although 7,8 organizations increased by 13%, 6,7,8 organizations increased by 129%, and the 7,8,9 organizations *decreased* by 33% between the 1970-71 school year and the 1984-85 school year.

[insert Table 4 about here]

One predominant inference to be drawn from the preceding figure and tables is that 6th grades are increasingly becoming a part of middle level grade span schools while 9th grades are continuing to be excluded. The perception that 6th graders belong in a middle school and 9th graders do not is echoed by the National Middle School Association in its official position paper titled "This We Believe" (1982).

While "emergence of the middle school in terms of grade organization and title can be readily documented" (Alexander & George, 1981, p. 12), actual program reform is more difficult to determine. To say that grade configuration or vertical organizational patterns do not drive policy regarding the school's programs that, in fact, the program drives policy regarding organization may well be a "Catch 22"; however, one can argue that in keeping with the growing trend toward middle school grade configurations of 6,7,8, these schools may more easily facilitate the implementation of those policies relating to the educational program. Although a 6,7,8 middle school grade span may not guarantee a markedly different educational program, these organizational grade structures symbolize commitment to middle school philosophy. Philosophical commitment could, in and of itself, account for differences among various grade spans, evidenced by the type of programs operational in the schools.

Preadolescent Youth

Preadolescents have been given a number of epithets including, "pre-teen," "pre-pubescent," "in-betweenager," and "tweenager." Although the cognomen is, perhaps, inconsequential, some understanding of various developmental stages associated with

such a unique group of children is essential if an educational program is to be appropriately tailored to address their needs.

Donald Eichhorn called this phase "transescence" and defined it summarily as:

> The stage of development which begins prior to the onset of puberty and extends through the early stages of adolescence. Since puberty does not occur for all precisely at the same chronological age in human development, the transescent designation is based on the many physical, social, emotional, and intellectual changes in body chemistry that appear prior to the time which the body gains a practical degree of stabilization over these complex pubescent changes. (1966, p. 3)

Tanner (1962) reported that the human biological being is maturing at an accelerated rate. For example, he notes that "age at menarche has been getting earlier by some four months per decade in Western Europe over the period of 1830-1960" (p. 43). Eichhorn (1973) believed that students should be grouped according to developmental stages rather than the traditional chronological method. Robert J. Havighurst's (1972) developmental tasks suggest that transescence encompasses a broader range of skills and abilities than those experienced at any other maturational period before or after. Havighurst separates those tasks clearly associated with (what he labels) "middle childhood" and others which he labels "adolescence"; however, the distinction is less clear for preadolescents; there is no clear distinction for the developmental tasks between middle childhood and adolescence.

Although child development studies generally confirm that sometime near age 10 through age 14 fairly well defines the transescent in chronological terms, the issue of what these children are able to achieve academically is less clear (Elkind, 1978). The physical, biological changes occurring in transescence may be even less a factor than simply a lack of sophistication to adjust to the mental changes affecting cognitive

and affective domains (Elkind, 1978).

Epstein (1980) argues that preadolescents have not yet reached a high enough level of "formal operational reasoning" to benefit from two or three years of curriculum that requires children to perform at this level. Curricula requiring formal operational reasoning would be ineffective due to the preadolescent's inability to adjust. On the other hand, it can be argued that middle schoolers are otherwise confronted with repetition and drill and become uninterested (Flanders, 1987; Muther, 1987).

Brain growth patterns indicating "plateaus" for most adolescents (albeit different between boys and girls) may need to be considered when organizing schools to meet this unique developmental stage (Epstein, 1979, 1980, 1981; Epstein & Toepfer, 1978; Hensley, 1985; Toepfer, 1979, 1980, 1986; Sylwester, et al., 1981). Sylwester (1982) believes that the range of differences is great enough between boys and girls that while the former may be ill equipped to handle formal operations, the latter may do so more easily, as girls' brains, specifically the rear right hemisphere, angular gyrus, and prefrontal cortex, are growing at a rate three times that of boys.

Hensley (1985) citing Eichhorn, Epstein, and Toepfer, outlines a need to consider brain growth research before making policies regarding grade organization. Research indicates growth "spurts" for students in grades 1,2,5,6,9, and 10; therefore, if schools were organized solely on these criteria, they would be configured into K, 1-4, 5-8, and 9-12 units (Sylwester, et al., 1981).

What do diverse developmental stages suggest about middle level schooling, and how does diverse development relate to academic performance? First, the differences

may be more a matter of *degree* than *kind*. That is, transescent youth undergo and confront the same physiological, psychological, social, emotional types of development common to all human experience; however, these encounters are greatly magnified during the transescent years. The changes are magnified instantly and so diversely that giant gaps emerge between maturation and the child's ability to cope. Second, academic success may be more directly related to the affective domain than conventional science has yet been able to establish fully. Mager (1968) and Rosenshine (1980) provide data which show that student attitude is directly related to learning, and that school climates directly impact student attitudes. While a given environment may not necessarily yield a direct correlate to either higher or lower achievement, it will yield a direct correlate to attitude. Likewise, peer acceptance has been shown to be related in a similar fashion to academic achievement (Johnston, Markle, and Stingley, 1982). Research on learning styles and classroom climates most often concentrate on within class grouping, not grade span organizational structures.

Differences Between Junior High Schools and Middle Schools

Research on middle level education has steadily escalated since inception of the movement circa 1964. Especially during the last half of the past decade, the amount of useful research data has increased, providing an abundance of information. Some data are clear and definitive; others are still inconclusive. Researchers are able to identify (what they label at least) effective programs and practices, but they have met with little success at linking causal variables, such as grade span organization, to student outcomes.

In his 1984 synthesis of middle level research, J. Howard Johnston cites a 1975 review by Wiles and Thompson: "After reviewing the substantial studies conducted between 1968 and 1974, [Wiles and Thompson] concluded that research on middle schools was 'of remarkably low quality'" (Johnston, 1984, p. 134). This "low quality" was attributed to weak design and methodology, as proponents and opponents merely studied and reported the outcomes that confirmed their subjective positions.

Reviews by Gatewood (1972) and Calhoun (1983) produced a significant amount of "quality" research dealing with grade configurations--specifically between junior highs and middle schools. Following are the conclusions reached from examination of these studies:

> (1) Little if any difference can be ascertained in the area of academic achievement between middle and junior high schools.
>
> (2) Middle and junior highs are more alike than different and differ in name only.
>
> (3) The single most important variable impacting learning is the quality of school curricula--not grade level configuration.
>
> (4) Ninth graders' developmental/maturation stages are more like 10th graders'; 6th graders are more like 7th graders. (Calhoun, 1983)

Perhaps the strongest statement regarding grade span organization was issued by Johnston (1984):

> Grade organization in and of itself doesn't seem to make any difference. This simple generalization, on the basis of research, can be made with confidence. And with a decisiveness that is rare in research, I submit that we know all of any consequence that there is to know about the differences between schools that are named "middle schools" and those that are named "junior high schools." There is little point in trying to show that one plan is better than another. We know it isn't. (p. 136)

Further, several reviews by Johnston and Markle (1979, 1981, 1983) concluded that because conflicting findings are reported, such things as student learning, attitudes and behavior, adjustment, truancy, and teacher performance can not be statisticaliy related to school organization alone. There is an egregious error in Johnston and Markle's interpretation. Just because the studies linking student outcomes to grade span organization have produced conflicting findings does not mean that differences may not exist. It means that inadequate research methodologies have, to date, failed to isolate causal variables. Once the causal variables are identified and appropriate methodologies are applied, then similar findings should be produced, whether they favor one organizational type or whether they show no measureable difference.

Doda (1983, 1984) studied differences between two middle level schools and found that teacher practices and perspectives, while related to organization, curriculum, and administration accounted for most of the variance between the school types. In similar fashion, a series of quasi-ethnographic studies called "shadow studies" were carried out by Lounsbury & Johnston (1985, 1988), Lounsbury & Marani (1964), Lounsbury, Marani, & Compton (1980), Lounsbury & Clark (1990). In each study, 6th, 7th, 8th, or 9th grade students were followed (shadowed) by observers who recorded "snapshots" of behaviors and experiences encounted during the school day. Each study reached the same conclusion: teachers make the difference. Teachers exhibited such a large degree of control over individual programs and curricula that school organization variables could not account for very much variance.

Educational Programs, Practices and Grade Organization

Research on middle grades school and classroom practices has focused on either effectiveness implementation. To determine the extent to which various educational programs have been incorporated into the school organization, researchers have isolated the critical components. For example, Allee (1983) surveyed 173 junior high/middle schools from five different geographic areas in the state of Missouri to determine what programs were offered at various grade levels from 4th- through 9th-grade. Schools reporting a fourth grade in their middle level organization offered no electives for that group; when fifth grades were included, the schools offered art (9%), music (4.5%), orchestra (13.6%), and band (6.4%). Adding sixth grades, schools offered, in addition, physical education, health, home economics, industrial arts, speech, drama, typing, and foreign languages (Allee, 1983, pp. 2-3). This trend of increased electives continued through the ninth grade. Not surprisingly, interscholastic athletics showed a similar trend. While none of the reporting schools included grades four or five in interscholastic athletics, four of 82 sixth grades offered boys' and girls' basketball, and 83 of 165 schools that included grade seven offered interscholastic athletics for that age group. One hundred ten of 165 eighth grades and 34 of 39 ninth grades offered similar programs (Allee, 1983, pp. 9-11). This indicates the gradual inclusion of more diverse academic and extracurricular activities as schools include or begin to add higher grades into their organizational structure.

Analysis of variance techinques used in a pilot study of California middle level school programs and organizations (Hough, 1989) produced significant differences among grade spans on two of six domains. Schools with 7,8,9 grade spans provided

more specialized personnel (i.e., counselors, foreign language teachers, physical educaiton instructors, coaches) than 6,7,8 schools and more clubs and activities than either K-8 or 6,7,8 schools. No significant differences were found in curricular practices, curricular offerings, athletic programs, or facilities.

In Hough's (1991) follow-up to the pilot study, however, data from 771 school principals, counselors, and English language arts teachers indicated that programs for students in grades 6,7 & 8 within the K-8 grade span structure were elementary oriented and programs in the 7,8,9 schools were high school oriented. The K-8 schools made significantly greater use of interdisciplinary team teaching, peer tutoring, cross-age tutoring, flexible scheduling, and exploratory programs than did 6,7,8; 7,8; or 7,8,9 schools. The K-8 schools also made greater use of core curricula, homerooms for guidance and counseling, mini classes, and parent involvement programs than did 7,8 or 7,8,9 schools. The 6,7,8 schools made greater use of exploratory programs than did any of the other three school types and more intramural sports than the 7,8,9 schools. Also, more 6,7,8 schools used the word middle in their name than any other grade span organizational type.

In another study, data from a sample of 433 schools in the Pennsylvania Educational Quality Assessment were used to examine effects of self-contained classroom instruction and departmentalization on (1) student-teacher relations and (2) degree of subject matter instruction (McPartland, 1987). McPartland concluded that self-contained classrooms were conducive to student-teacher relations but less effective on the quality of instruction than departmentalization, which benefited specialized subject matter at a cost to student-teacher relations:

> . . . educational practitioners will be able to develop an organizational design for their middle grade students that combines organizational and instructional features to balance the strengths and weaknesses of different elements to address all major educational goals.
>
> No single design would be best, because various combinations of organizational and instructional features could be made to work well. (1987, p. 1)

Becker (1987) undertook a research design aimed at determining the extent to which different elementary and middle level school grade configurations affect academic learning for students with different abilities and specifically socio-economic status (SES). From a sample group of 8,000 Pennsylvania sixth-graders, Becker determined that, "elementary school settings benefit students from low social backgrounds, as does having instruction provided by a limited number of teachers" (Becker, 1987, p. ii). He also concluded that,

> Sixth-grade students experience school under a variety of organizational structures, from highly tracked, highly departmentalized middle schools to self-contained, heterogeneous elementary school classrooms. Research about the impact of alternative organizational structures has not been clear and consistent. Partly, this may be because an organizational feature may have offsetting advantages and disadvantages for different groups of students. . . . Instructional specialization and middle school environments may assist learning by high ability students but may hinder learning by low ability students and that between-class ability grouping may help high ability students but not help low- or low-average ability students. . . . (Becker, 1987, p. 23)

McPartland, Coldiron, and Braddock (1987) analyzed Pennsylvania Educational Quality Assessment (EQA) data along with National Assessment of Educational Progress (NAEP) data to describe grouping, staffing, and scheduling practices in elementary, middle, and high schools. They found a continuum of "pupil orientation" to "subject-matter" orientation from elementary through high school. In addition, four significant relationships were discovered:

(1) Grade level is a strong correlate of all school practices.

(2) Between-class grouping and within-class grouping may be alternate school practices for creating homogeneous instructional groups . . . although within-class grouping is infrequently used in secondary schools.

(3) The average socio-economic status (SES) of students in a school is not a strong correlate of staffing, scheduling or grouping practices used in a school.

(4) Size of school does not account for the observed grade level relationships. (McPartland, Coldiron, & Braddock, 1987, pp. 14-15)

Braddock, Wu, and McPartland (1988) used the 1985-86 National Assessment of Educational Progress (NAEP) principal and teacher survey data to study the impact of the shift from the 7,8,9 junior high grade configuration to the 6,7,8 middle school organizational structure in terms of staffing, scheduling and grouping practices. "These data show that school grade span arrangements are correlated with specific demographic characteristics of schools and school districts including location, school size, and school and community ethnic and socioeconomic composition" (Braddock, Wu, & McPartland, 1988, p. 8). In addition, the researchers found that:

(1) The typical 7th grade student attending a grade 6-8 middle school is located in a suburban community. In contrast, the typical 7th grade student attending a traditional grade 7-9 junior high school is located within a city area. These data also show that the average 7th grader attending K-8 or 7-12 schools is primarily located in a rural, nonmetropolitan community.

(2) Seventh grade students attending K-8 schools [are located] in extreme rural locations and those attending 7-12 schools [are located] in very small communities.

(3) The typical 7th grader in K-8 and 7-9 schools is in a setting with higher concentrations of low-income schoolmates than is a 7th grade counterpart in school with other grade-span configurations. (Braddock, Wu, & McPartland, 1988, p. 9)

Factor analysis was used in a curriculum policy study of variables found to impact the middle level writing program (Hough, 1991). Grade span was linked to administrative and curricular policy and to teacher experience characteristics which, in turn, were linked to the writing curriculum. Hence, while grade span organization was not directly linked to a specific program, it was linked indirectly. As schools were organized to include higher grade levels and to exclude lower ones, the number of diversified programs increased. At the same time, the level of implementation of "exemplary" middle school programs decreased. For instance, K-8 schools were found to implement more middle school programs and practices than 7,8,9 schools. The 6,7,8 schools were more akin to K-8s, and 7,8s were more akin to 7,8,9s.

Exemplary Middle Schools

Effective schools research conducted during the 1970s and '80s continues to impact middle level education. Using protocols similar to those employed by Brookover, (1982), Edmonds (1979), and Rutter, et al. (1979), researchers have identified so-called "exemplary" middle school characteristics. First identifying middle level schools in which students consistently score higher on standardized achievement tests than their peers in schools with similar demographic characteristics, researchers observe schools and classrooms to determine which characteristics these "effective schools" have in common. When consistent patterns emerge from the observations, the assumption is made that given programs and practices are related to positive outcomes, i.e., higher than expected student achievement. Although a cause/effect relationship is spurious under such conditions, the effective schools research does

accurately describe (not prescribe) what takes place in those schools that are producing "better" results. (See, Lipsitz, 1984, for example.)

From these "exemplary" middle school studies the following characteristics have been identified: flexible scheduling, interdisciplinary team teaching, emphasis on intramural rather than interscholastic sports, homerooms used for guidance and counseling, core curriculum, well-administered guidance programs, alternative methods of student within class grouping (*Caught in the Middle*, 1987). The National Association of Elementary School Principals (1984) identified 21 "standards of excellence" which it grouped into seven categories: organization, leadership, curriculum, instruction, training and development, school climate, and evaluation and assessment. Still, the level of success any of these characteristics and/or standards have achieved, have not been consistently and/or directly linked to grade span organization.

A survey of 160 "exemplary" middle schools from 34 states was conducted by (George & Oldaker, 1985). Responses to survey questions indicated that of the schools sampled:

* 90% incorporated interdisciplinary team organization

* 94% provided for a flexibly scheduled school day

* 93% included a home-base advisor-advisee program for each child

* 99% noted a continuing effort to focus the curriculum on student personal development as well as on academic achievement. (p. 19)

Although these percentage indicators may reflect a general consensus as reported by the central office staff and school administrators who responded to the survey, two

additional reported findings deserve close scrutiny:

> (1) The findings of this study dispute earlier opinions that academic achievement is either unaffected or only modestly improved by a move to middle school organization. Rather than the typical finding of no differences, sixty-two percent of the respondents in this study described consistent academic improvement. . . . Reorganization improved school discipline in almost every measurable manner. Tardiness and truancy moderately or greatly decreased, according to a majority of respondents, as did school vandalism and theft. Approximately 80% noted a significant reduction in office referral and suspensions, while close to 60% expelled fewer students after the transition. Almost 90% observed that teacher and staff confidence in managing disruptive students increased, diminishing administrative involvement in discipline in many schools. Reorganization to an exemplary middle school program clearly improves school and classroom discipline. (George & Oldaker, 1985, pp. 20-21)

Hard student outcome measures (e.g., achievement test scores; attendance or referral records) were not used; instead, perceptions from the schools' staffs were used. Likewise, other key causal variables such as socio-economic status, level of teacher expertise, and student mobility, were not considered. Therefore, there is no way of knowing the degree to which the random sample actually represented the population. Unless one assumes that exemplary middle schools are randomly distributed among the population, George & Oldaker's conclusions can only serve to stimulate further research in the area of student outcome measures and grade span organization.

In addition, on a somewhat self-contradictory note, George & Oldaker found in the same study that high school staffs failed to note significant differences between students who had attended exemplary middle schools and those who had not. A number of reasons might account for the discrepancy of perceptions between the two groups, i.e., middle school personnel and high school teachers, but the most obvious is simply the operational definition of innovation: those directly involved tout the

practice(s), while those not involved remain loyal to tradition. If personnel in exemplary middle schools want their program to be successful, they may perceive it so; however, the detached high school observer who is not influenced by the shibbilloth fails to see outcomes directly (ipso facto) attributable to the change.

Other studies comparing exemplary middle schools (made-up of a variety of grade spans) to schools not implementing exemplary programs have met with the same fate as the middle school v. junior high school studies -- i.e., inconsistent findings. Again, until adequate methodoloies are used, spurious results will continue to be reported.

Summary

Middle level schools consisting of grades 6,7,8 have steadily increased in number over the past three decades, and the more traditional junior high schools consisting of grades 7,8,9 have steadily decreased. While this evolution continues to occur, in theory, to meet better the needs of preadolescent youth, until recently, more reorganization had taken place to facilitate administrative needs than to implement program reform. As a result of more focused research on the unique needs of preadolescents, significant program changes are now being implemented to accompany the organizational changes that customarily occur prior to program changes. Exemplary middle schools have been identified as those adopting programs and practices believed to be effective in meeting the unique needs of preadolescent youth. The extent to which these needs are actually being met by different programs has yet to be fully researched. In addition, studies show that significant differences in the

level of implementation of various programs can be identified across different grade spans. More methodologically sound research is needed, however, to understand the relationship between grade span organization (alone or in conjunction with other factors) and school programs and educational outcomes. While grade organization may well be indirectly related to curriculum and directly related to staffing and policy, the optimal configuration cannot be determined until consensus is reached on what type of educaitonal program is most beneficial. Until then, the organizational issue will most probably rest in the conventional wisdom of decision makers and remain a function of personal preference, community needs, and economic necessity.

Figure 1
Growth of Middle Schools

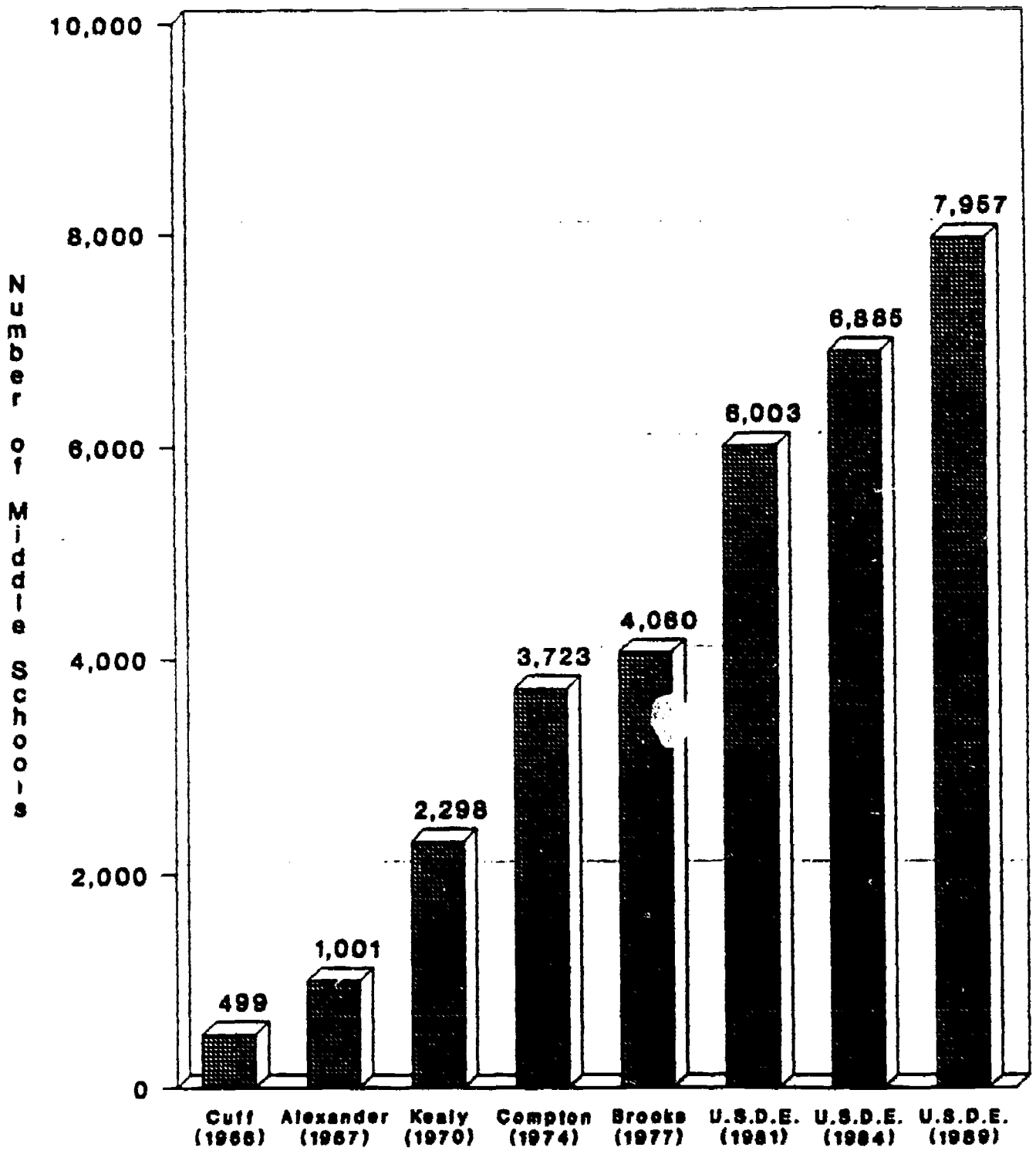

Table 1. Middle Level Grade Span Organization (1982-83 School Year)
Note. Source: Alexander (1984, p. 23)

Grade Level	Number of Schools	Percent of Total
7,8,9	3,340	29%
7,8	2,550	22%
6,7,8	3,144	28%
5,6,7,8	944	8%
other	1,428	13%
Total	11,406	100%

Table 2. Schools by Grade Span (1988-89 School Year)
Note. Source: United States Department of Education, Center for Education Statistics, "Common Core of Data" survey. (January, 1990).

Grade Spans	Number of Schools	% of Total
K-3 and K-4*	5,043	6.3
K-5*	13,842	17.3
K-6*	20,774	26.0
K-8*	5,394	6.8
4,5or6 to 6,7or8**	7,957	10.0
other unclassified elementary spans	6,286	7.9
7-8 and 7-9***	4,687	5.9
7-12	3,513	4.4
8-12	481	.6
9-12	10,015	12.5
10-12	1,335	1.7
other spans ending with grade 12	112	.1
other unclassified secondary spans	407	.5

*may include pre-kindergarten, kindergarten, or 1st grade;
**labled "middle school";
***labled "junior high school"

Table 3. Middle Level Grade Spans (1988-89 School Year)
Note. Source: United States Department of Education, Center for Education Statistics, "Common Core of Data" survey. (January, 1990).

Orientation	Grade Span	Number of Schools	Percent of Total
"Elemiddle"	K-8	5,394	30%
"Middle"	4,5 or 6 to 6,7 or 8	7,957	44%
"Middle High"	7 to 8 or 7 to 9	4,687	26%
Middle Level	Total	18,038	100%

Table 4. Percent Increase in Middle School Grade Spans
Note. Source: Alexander (1988, p. 108)

Grade Span Organization		Number of Schools 1970-71	1984-85	Percent of Increase or Decrease
Grades	5,6,7,8	722	1,005	+39
	6,7,8	1,622	3,820	+129
	7,8	2,450	2,776	+13
	7,8,9	4,711	3,172	-33
Others	middle levels	850	940	+11
Totals	All 5 to 9	10,395	11,695	+13

References

Alexander, W. M. (1964). The junior high school: a changing view. *NASSP Bulletin*, 48, 15-24.

Alexander, W. M. (1968). *A survey of organizational patterns of reorganized middle schools (final report no. 7-D-026).* Gainsville: University of Florida. ERIC Document Reproduction Service Number ED 024 121.

Alexander, W. M.. (1984). The middle school emerges and flourishes. *In Perspectives: middle school education, 1964-1984*, pp. 14-29. Lounsbury, J. E. (Ed.). Columbus, OH: National Middle School Association.

Alexander, W. M. (1988, February). Schools in the middle: rhetoric and reality. *Social Education*, 52(2), 107-109.

Alexander, W. M. & George, P. S. (1981). *The Exemplary Middle School.* New York:Holt, Reinhart, and Winston.

Allee, D. (1983).*A studey of junior high/middle schools in Missouri.* Springfield, MO: Southwest Missouri State University. (Unpublished manuscript).

Arth, A. A., Johnston, J. H., Lounsbury, J., & Toepfer, C.F., Jr. (1985). *An agenda for excellence at the middle level.* Reston, Virginia: National Association of Secondary School Principals.

Baker, J. H. (1913). *Report of the Committee of the National Council of Education on Economy of Time in Education.* Bulletin No. 38. Washington, D. C.: Government Printing Office.

Becker, H. J. (1987). *Addressing the needs of different groups of early adolescents: effects of varying school and classroom organizational practices on students from different social background and abilities.* (Report Number 16, June). Baltimore, Maryland: VSP Industries.

Braddock, J. H. II, Wu, S. C. & McPartland, J. (1988). *School organization in the middle grades: National variations and effects. (Report No. 24).* Baltimore, Maryland: VSP Industries.

Brookover, W. (1982).*Creating effective schools.* Holmes Beach, Florida: Learning Publications, Inc.

Brooks, K. & Edwards, F. (1978). *The middle school in transition: a research report on the status of the middle school movement.* Lexington: College of Education, University of Kentucky.

Calhoun, J. D. (1983). *Organization of the middle grades: a summary of research.* Arlington, VA: Educational Research Services.

Caught in the middle: Educational reform for young adolescents in California public schools. (1987). Sacramento, CA: California State Department of Education.

Commission on the Reorganization of Secondary Education. (1918). *Cardinal principles of secondary education.* Bulletin 1918, No. 35. Washington, D.C.: Department of the Interior, Bureau of Education.

Compton, J. B. (1976). The middle school: a status report. *Middle School Journal*, 7, 35.

Conant, J. B. (1960). *Education in the junior high years.* Princeton, NJ: Educational Testing Service.

Cuff, W. A. (1967). Middle schools on the march. *Bulletin of the National Association of Secondary School Principals*, 51, 82-86.

Doda, N. (1983). *Middle school organization and teacher world view.* Paper presented at the meeting of the American Educational Research Assocaition, New York City.

Doda, N. (1984). Teacher perspectives and practices in two organizationally different middle schools. *Dissertation Abstracts International*, 45/10, 3058-A.

Edmonds, R. R. (1979). Effective school for the urban poor. *Educational Leadership*, 37(15), p. 24.

Education that works: An action plan for the education of minorities. (1990, January). Quality Education for Minorities Project, Massachusetts Institute of Technology: Cambridge, Massachusetts.

Eichhorn, D. H. (1983, May). Focus on the learner leads to a clearer middle level picture. *NASSP Bulletin*, 67, 45-48.

Eichhorn, D. H. (1973). The boyce medical study. *Educational dimensions of the emerging adolescent learner.* Springfield, MASS:Educational Leadership Institute, Inc.

Eichhorn, D. H. (1966). *The middle school.* New York: Center for Applied Research.

Eliot, Charles W. (1898). *Educational reform: essays and addresses.* New York: Century.

Elkind, D. (1978). Understanding the young adolescent. *Adolescence*, 13(49), 128-34.

Epstein, H. T. (1979). Growth spurts during brain development: Implications for educational policy. In Chall & Mirsky (Eds.). *Education and the brain, seventy-seventh yearbook of the national society of the study of education*. Chicago: University of Chicago Press.

Epstein, H. T. (1980). Brain growth and cognitive functions. In Steer, D. (Ed.). *The emerging adolescent, characteristics and educational implications*. Columbus, Ohio: National Middle School Association.

Epstein, H. T. (1981, May). Learning to learn: Matching instruction to cognitive levels. *Principal*, 6(5), 25-30.

Epstein, H. T. & Toepfer, C.F., Jr. (1978, May). A Neuroscience basis for reorganizing middle grades education. *Educational Leadership*, 35(8), 656-660.

Flanders, J. R. (1987, September). How much of the content in mathematics textbooks is new? *Arithmetic Teacher, 35*(1), 18-23.

Gatewood, T. (1972). What research says about the junior high versus the middle school. *North Central Association Quarterly*, 46, 264-265.

George, P. S. & Oldaker, L. L. (1985). *Evidence for the middle school*. Columbus, OH: National Middle school Association.

Gruhn, W. T. & Douglass, H. R. (1947, 1956, 1971). *The modern junior high school*. New York: Ronald Press.

Havighurst, R. J.(1972). *Developmental tasks and education*. New York: David McKay.

Hensley, R. B. (1985, September). Does brain-stage theory suggest a need for a major overhaul of junior high school curricula? *Clearing House*, 59, 39-41.

Hough, D. L. (1991). *Middle level education: A curriculum policy analysis*. Paper presented to the 75th Annual Convention of the National Association of Secondary School Principals, March 10, 1991, Orlando, Florida.

Hough, D. L. (1989). *Vertical articulation for the middle grades*. Riverside, CA: University of California, Educational Research Cooperative. (ERIC Document Reproduction Service Number ED 021 644).

Hough, D. L. (1989). *Middle level education in California: A survey of programs and organization*. Riverside, CA: University of California, Educational Research Cooperative. (ERIC Document Reproduction Service Number ED 021 645).

Johnston, H. J. (1984). A synthesis of research findings on middle level education. *In Perspectives: middle school education,* 1964-1984. John H. Lounsbury, (Ed.). Columbus, OH: National Middle School Association.

Johnston, J. H. & Markle, G. C. (1979). What research says to the practitioner about attitude development. *Middle School Journal,* 10(4), 21-23.

Johnston, J. H. & Markle, G. C. (1981). What research says to the practitioner about developing problem-solving skills. *Middle School Journal, 12*(4), 22-24.

Johnston, J. H. & Markle, G. C. (1983). What research says to the practitioner about middle grade organization. *Middle School Journal, 15*(1), 18-20.

Johnston, J. H., Markle, G. C., & Stingley. (1982). What research says to the practitioner about peer relations in the classroom. *Middle School Journal, 13*(3), 22-26.

Kealy, R. P. (1971). The middle school movement, 1960-1970. *The National Elementary Principal*, 51, 20-25.

Koos, L. V. (1920). *The junior high school.* New York: Harcourt, Brace and Howe.

Lipsitz, J. (1984). *Successful school for young adolescents.* New Brunswick, NJ: Transaction Books.

Lounsbury, J. H., (Ed.). (1984). *Perspectives: middle school education,* 1964-1984. Columbus, OH: National Middle School Association.

Lounsbury, J. H. & Johnston, J. H. (1985). *How fares the ninth grade?* Reston, VA: National Association of Secondary School Principals.

Lounsbury, J. H. & Johnston, J. H. (1988). *Life in the three 6th grades.* Reston, VA: National Association of Secondary School Principals.

Lounsbury, J. H. & Clark, D. (1990). *Inside grade six: From apathy to excitement.* Reston, VA: National Association of Secondary School Principals.

Lounsbury, J. H. & Marani, J. (1964). *The junior high schoo we saw: One day in the eighth grade.* Alexandria, VA: Association for Supervision and Curriculum Development.

Lounsbury, J. H., Marani, J., & Compton, M. (1980). *The midd'e school in profile: A day in the seventh grade.* Columbus, Ohio: National Middle School Association.

Lounsbury, J. H. & Vars, G. F. (1978). *A curriculum for the middle school years.* New York: Harper & Row.

Mager, R. F. (1968). *Developing attitude toward learning.* Belmont: Fearson.

McPartland, J. M. (1987, June). *Balancing high quality subject-matter instruction with positive teacher-student relations in the middle grades: effects of departmentalization, tracking and block scheduling on learning environments.* (Report No. 15). Baltimore, Maryland: VSP Industries.

McPartland, J. M., Coldiron, J. R. & Braddock, J. H. II. (1987, June). *School structures and classroom practices in elementary, middle, and secondary schools.* (Report No. 14). Baltimore, Maryland: VSP Industries.

Melton, G. E. (1984). The junior high school: successes and failures. In *Perspectives: middle school education,* 1964-1984. John H. Lounsbury, (Ed.), Columbus, OH: National Middle School Association.

Middle grades reform: A casebook for school leaders. (1990, May). Filby, N. N., Lee, G. V., & Lambert, V., (Eds.). San Francisco, CA: Far West Laboratory for Educational Research and Development & the California Association of County Superintendents of Schools.

Muther, C. (1987, September). What do we teach, and when do we teach it? *Educational Leadership, 45*(1), 77-80.

National Association of Elementary School Principals. (1984). *Standards for quality elementary schools, kindergarten through eighth grade.* Alexandria, VA: Author.

National Education Association. (1894). *Report of the committee of ten on secondary-school studies.* New York: American Book Company.

Quality criteria for middle grades: Planning, implementing, self-study, and program quality review. (1990). Sacramento, CA: California Department of Education.

Rosenshine, B. (1980). How time is spent in elementary classroom. In Denham, C. & Lieberman, A. *Time to learn.* Washington, D.C.: Department of Health, Education and Welfare, National Institute of Education.

Rutter, M., Maughan, B., Mortimore, P., Ouston, J., & Smith, A. (1979) *Fifteen thousand hours: Secondary school and their effects on children.* Cambridge, Mass: Harvard University Press.

Sylwester, R. (1982). A child's brain, part 1. *Instructor,* 92(2), 90-92, 94, 96.

Sylwester, R., Chall, J. S., Wittrock, M.C. & Hart, L. A. (1981, October). The educational implications of recent brain research. *Educational Leadership,* 39(1), 6-17.

Tanner, J. M. 1962. *Growth at adolescence, 2nd edition.* London: University of London Press, Ltd.

"This We Believe." (1982). Columbus, OH: The National Middle School Association.

Toepfer, C. F., Jr. (1979, August). Brain growth periodization: A new dogma for education. *Middle School Journal.*

Toepfer, C. F., Jr. (1980). Brain growth periodization data: Some suggestions for rethinking middle grade education. *High School Journal, 63,* 222-227.

Toepfer, C. F., Jr. (1982). Junior high and middle school education. In *Encyclopeida of Educational Research,* Fifth Edition, Vol. 2., pp. 989-1000. New York: The Free Press.

Toepfer, C. F., Jr. (1986). *Improving instruction in middle schools: Implications of neurological data for curriculum development.* (ERIC Document Reproduction Service Number ED 270 883).

Toepfer, C. F., Jr., Lounsbury, J. H., Arth, A. A. & Johnston, J. H. (1986, September). Editorial. *Clearing House,* 60(1), 6-10.

Turning points: Preparing American youth for the 21st century. (1989). Washington, D.C.: Carnegie Council on Adolescent Development.

United States Department of Education. (1982). *Common core of data survey.* Washington, D.C.: National Center for Education Statistics.

United States Department of Education. (1985). *Common core of data survey.* Washington, D. C.: National Center for Education Statistics.

United States Department of Education. (1990, January). *Common core of data survey.* Washington, D. C.: National Center for Education Statistics.

Valentine, J. W., Clark, D. C., Nickerson, N. C., Jr., & Keefe, J. W. (1981). The middle level principalship, vol I. In *A survey of middle level principals and programs.* Reston, Virginia: National Association of Secondary School Principals.

Wiles & Thompson, J. (1975). Middle school research 1968-1974: a review of substantial studies. *Educational Leadership,* 32, 421-423.