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ABSTRACT

Research data on ability grouping collected from the 1920s on, with particular emphasis on the last two decades, are summarized. This review of the literature was originally intended to follow meta-analysis procedures, but that type of analysis had to be abandoned because only 11 of the 20 research studies published in the 1920s used any form of control group. Things improved only slightly by the 1970s with two thirds of the major studies of ability grouping in the United States using some form of control group. Unfortunately, the control groups were often intact schools with numerous between school differences in both student and teacher populations. Other characteristics of the quantitative literature which preclude a valid meta-analysis approach are undefined or inconsistent criteria for forming ability groups, undefined, vague or single-study unique criteria for comparing grouped and non-grouped classes, and combining treatment (grouped) and not-treatment (no ability grouping) conditions for individual children. In addition, a great many of the important articles on ability grouping are qualitative and based upon subjective rather than objective data. Along with a tabular summary of the quantitative studies, an overview of qualitative studies and discussions of ability grouping are presented. (Author/RL)

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Ability Grouping: Why Do We Persist
and Should We

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Ability Grouping: Why Do We Persist and Should We?

"Grouping is not simply a matter of tradition and research. Grouping expresses philosophic commitments in education and conclusions from psychological inquiry.... Grouping policies reflect a community's idea of the purposes of education" (Gold, 1965, p. 316).

Introduction and Organization

Although the preceding quotation is sixteen years old, it is still relevant. The issues surrounding the impact of grouping students for classroom instruction are far reaching. The range from the specific concerns for the affective (emotional) and intellectual development of individual children to the sweeping legal and ethical responsibilities of a community to promote a stable or mobile social structure.

The term "grouping" is commonly used in education. Grouping, as used here, refers to the practice of establishing classes of students based upon some specified criteria. Academic achievement or intellectual ability are the criteria most commonly used for grouping. One typical method of organizing students for instruction is "homogeneous" or "ability" grouping. In this procedure students of similar school related skills are grouped together. By contrast, heterogeneous grouping involves placing students from a broad range of abilities together in a classroom. In this paper grouping will refer to across class or across grade procedures and not to the practice of identifying different groups within a particular classroom.

The intent of this paper is to summarize the mass of research data collected from the 1920s on, with particular emphasis on the last two decades. This review was originally intended to follow the meta-analysis procedures described by Glass (1978). Considering the amount of research literature available in the area of homogeneous grouping, such an analysis and summary of results would have been invaluable. That type of analysis had to be abandoned, however, once the nature of the research being reviewed became clear. Only eleven of the twenty research studies published in the decade of the 1920s used any form of control group (Miller & Otto, 1930). Things improved only slightly by the 1970s with two thirds of the major studies of ability grouping in the United States using some form of control group. Unfortunately, the control groups were often intact schools with numerous between school differences in both student and teacher populations (for example, see Butcher, Ward & Wurster, 1974; and Thomas, 1974). Other characteristics of the quantitative literature which preclude a valid meta-analysis approach are undefined or inconsistent criteria for forming ability groups, undefined, vague or single-study unique criteria for comparing grouped and non-grouped classes, and combining treatment (grouped) and non-treatment (no ability grouping) conditions for individual children. In addition, a great many of the important articles on ability grouping are qualitative and based upon subjective rather than objective data.

In place of a meta-analysis, a summary of the results of the studies reviewed is presented. First, a historical review, including studies conducted prior to 1930 is introduced (see Table 1). Next, a tabular

presentation of studies conducted between 1931 and 1980 is given (see Table 2). The tabular summary of the quantitative studies is followed by an overview of qualitative studies or discussions of ability grouping. The five major themes which recur in both the quantitative studies and qualitative articles are then presented and discussed. Finally, comments about when ability grouping may be expected to work best and alternatives to the procedure are given.

Historical Perspective

The use of student abilities as a criterion for establishing classes in public schools was one of the first systematic modifications to be imposed upon the class method of instruction developed in 1680 by Canon LaSalle (Miller & Otto, 1930). Homogeneous grouping of students by ability was prevalent in American education until the early 1930s. The practice has experienced a series of unfavorable and favorable receptions from the 1930s to the present. The favorable receptions were primarily due to the traditional belief that a reduction of the range of student abilities in a class accomplished through grouping allows better adaptation of instructional methods and materials, heightens interest level on the part of students, and fosters more consistent rates of student progress in classes. However, it is difficult to find empirical support for these beliefs. Historically, periods of departure from the ability grouping model often follow the emergence of evidence regarding negative effects of grouping upon affective and cognitive characteristics of children. The social and political concerns of the nation also influence the attitude of educators and parents toward ability grouping.

In 1926, approximately forty cities having populations of 100,000 or more and 88 cities of 30,000 to 100,000 people reported the use of ability grouping in their public elementary and secondary schools (Miller & Otto, 1930). Currently more than 77 percent of the nation's public schools continue to use some form of ability grouping (Findley & Bryan, 1975). As suggested above, ability grouping has not experienced a smooth increase in popularity from 1920 to the present. Grouping fell into disfavor in the 1930s and 1940s as a result of questions regarding the academic and social outcomes of grouping. Miller & Otto (1930) presented a review of studies on the influence of grouping. Their summary of the results of twenty studies was not decisive, indicating that there was "no clear-cut evidence that homogeneous grouping is either advantageous or disadvantageous" (p. 101) and that grouping was ineffective in increasing student achievement above levels found in mixed ability classes. They did, however, raise important questions about the influence of ability grouping upon the social and psychological development of children. It was their questions, and the speculation and research to arise from them which helped to suppress the use of ability grouping until the 1950s.

The studies reviewed by Miller & Otto (1930) are summarized in Table 1. A quick inspection of that table provides a historical perspective on the criteria used for grouping, grades and subjects in which grouping was common and shows the limited use of statistical procedures in determining the outcomes of grouping.

Table 1

Analysis of Studies in Homogeneous Grouping

Date of Study	Number of the Study	Grade or Subject	Number of Pupils	Basis for Grouping	Methods of Evaluation	Control Group Used?	Results
1920	1	Junior High School	...	Mental test & marks	Number of failures	no	Fewer failures
1920	2	Reading in grade	...	Mental age & physical age	Objective tests, percent of gain	no	All groups gained in rate of reading. Low group gained most in comprehension.
1920	3	Grade 1	96	Mental test	Number of promotions	no	Not clear. Arguments favor sectioning.
1922	4	Grade 7B	...	Mental test	Standard objective tests	no	Superior groups scored 1 1/2 to 2 years above the slow groups, although some slow groups out-scored some superior groups. Great variation.
1923	5 ^b	Grade 9	...	Mental test & chronological age	Number of failures, final marks, and subsequent marks	no	No increase in failures, subsequent marks better.
1923	6	Grades 6, 7, & 8	...	Teachers' marks	Questionnaire to teachers	no	Preponderance of objections to homogeneous grouping.
1923	7 ^c	Elementary Psychology	333	Mental test	Marks at the end of the quarter	yes	First semester--no difference, second semester--bright group gained if "pushed."
1924	8 ^c	English I English III Ancient History, Geometry	...	Mental test & marks	Scores on special tests and marks	yes	In Geometry, English I and English III the low group benefited. In Ancient History the high group gained most.
1924	9	Algebra, Latin I	...	Mental test	Objective tests	yes	Superior pupils had a slight advantage in Algebra.
1924	10	Arithmetic and Reading	...	.....	Objective tests	no	Slow pupils gained two years in one in achievement.
1926	11	Grades 1--12	...	Mental age and educational age	Reduction of failures and under--overage	no	Failures reduced 41% in Grades 1--6 and 18% in Grades 7--12. In Reading 82% had normal ability for the grade.
1926	12	Elementary	186	.....	Number of failures	no	Out of 186 accelerated pupils, less than 5% failed of promotion.

Table 1 (continued)

1926	13	College Physics	67	Marks	Marks	no	Bright student had the opportunity to progress faster.
1927	14 ^c	Grades 7 & 8	188	Mental age	Objective tests	yes	No clear cut advantages for segregation.
1927	15 ^c	.....	80	Reading rate and comprehension	Objective tests	yes	Experimental group gained more in rate and comprehension.
1927	16	Latin I Mathematics	...	Marks	Number of failures and final marks	no	In Latin, 30% decrease in failures, in Mathematics, no difference in the number of failures.
1928	17 ^c	Grades 4B--7B	1466	Mental test	Standard deviation difference	yes	Advantage for the average and superior groups when segregated.
1928	18 ^c	English I	109	Mental test	Objective tests	yes	Definite advantage for slow segregated group, slight advantage for medium segregated group, and a disadvantage for bright segregated group.
1929	19 ^c	Grade 1	110	Mental test	Objective tests	yes	No clear cut gains for any segregated group.
1929	20	Grade 1	126	Mental test	Objective tests	yes	Greatest accomplishment in mixed groups.

^a This table is taken from Miller & Otto, 1930.

^b This study included 728 pupils in Algebra, 711 in English, 330 in Latin, and 304 in French.

^c This study gives some statistical treatment of the results to establish the reliability of the differences.

Current Quantitative Research

The practice of ability grouping was again viewed with favor following the launching of Sputnik in 1957. Homogeneously grouped classes were thought to be an efficient way to provide an education for all children while still recognizing the need to concentrate educational efforts on intellectually gifted children. It was not until the mid 1960s that ability grouping again came under fire. Renewed criticism of the practice was based not only upon the previously considered issues of cognitive and affective outcomes. New issues raised by the ethically conscious citizens of the 1960s included two concerns: the validity of criteria used to place students in ability groups, and the de facto segregation which resulted from ability grouping (Havighurst & Neugarten, 1975). Educators and parents are still considering these issues, and much current research is directed toward these concerns.

Studies of homogeneously grouped students prior to 1930 focused exclusively upon cognitive and achievement outcomes. At that time criteria to determine the effects of grouping often included the number of failures or promotions to higher grades, grades awarded by teachers, and teacher made objective tests in cognitive skill areas (see Table 1). Following Alice Keliher's critical study of homogeneous grouping in 1931, attention began to turn toward the self-concept and affective development of children in ability grouped classrooms (Mann, 1960). The affectively oriented studies shafed the center stage with investigations of the academic outcomes of grouping until concerns of segregation and civil rights arose. By 1965 the third major criterion for comparing heterogeneously and homogeneously grouped schools had emerged: the racial and socioeconomic segregation or integration which resulted following ability grouping of classes.

A sampling of the results of quantitative research studies conducted within the last 20 years on the effects of grouping is presented in Table 2. A comparison of the data in Tables 1 and 2 is revealing. The nature of studying ability grouping has changed considerably. Recent studies show greater interest in affective outcomes and more widespread use of control or comparison groups. In addition, standardized tests with objective, replicable scoring criteria were used more frequently after 1960, thus allowing for statistical analyses and systematic interpretations of results. The samples of students studied in the more recent research are generally larger than the decade of the twenties.

Of all the quantitative studies reviewed the Marascuilo (1970) and Marascuilo & McSweeney (1972) studies are by far the most comprehensive and best designed. They provide the best treatment of the data collected and offer a longitudinal assessment of the outcomes of grouping. The cognitive outcomes reported fit well with the expectations one would develop based upon the results of other studies (see Tables 1 and 2). Marascuilo's summary regarding heterogeneous as compared to homogeneous grouping is worthy of quotation:

(this study) "limited itself to determining whether the maintenance of ability grouping was necessary for effective instruction...The answer to that research question was an unqualified no. Heterogeneous grouping in a single course had at least a neutral effect, and at best a positive effect, on the cognitive performance of volunteer students..." (1972, p.318).

Table 2

Analysis of Quantitative Studies in Homogeneous Grouping, 1979

Author(s) and Date of Study	Grade or Subject	Number of Pupils	Basis for Grouping	Method of Evaluation	Control or Comparison Group Used?	Results
<u>Cognitive Variables Only</u>						
Cartwright & McIntosh, 1972	1, 2, 3	260	Age only; Ability only; Ability in different subjects	Standardized test scores	yes	Not clear. Where differences did exist they favored flexible or heterogeneous grouping.
Thompson 1974	11 American history	240 students, 120 matched pairs	Previous school achievement	Achievement gain on objective test	yes	Of 120 matched pairs, 16 showed no difference, 32 favored homogeneous grouping and 72 favored heterogeneous grouping.
<u>Affective Variables Only</u>						
Mann 1960	5	102	Intelligence test scores, reading readiness test scores	Self report on questionnaire	no	Concludes homogeneous grouping damages self-concept, severe limits related to study.
Dyson 1967	7	567	IQ scores, Achievement tests, Teacher evaluations in reading and math	Word Rating List, Index of Adjustment Values	yes	No self-concept differences due to grouping alone, academic self-concept related to achievement.
Lesyk, et. al 1971	6, 7, 8, 9	479	Subjective ratings by administrators	Questionnaire	no	Generally favorable attitudes toward grouping expressed by students.
Butner, et al. 1974	3	60	Reading Achievement	Self-Appraisal Inventory, School Sentiment Index	yes	No self-concept differences, more positive school attitudes expressed by homogeneous grouped students.
Starkey & Klusendorf 1977	9	200	IQ Scores and Standardized test scores	Questionnaire	no	Students generally satisfied with class placement within one homogeneously grouped school.
Kelly 1974	11, 12	478	-----	Questionnaire	no	Depressed attitudes about self and abilities found in students in lower groups.
Ahlbrand & Doyle, 1976	4, 5, 6	60	Age and Achievement	Sociometric ratings	yes	Homogeneous grouping by ability across age levels fostered a more positive sociometric structure.
Schuncke, 1978	5, 6	18 classes	Academic ability	Sociometric ratings	yes	Homogeneous ability grouping affects the relationship between academic, leadership, and popularity ratings given by students.
Alpert 1974	2 Reading	*	Reading ability	Behavioral observation of teachers	no	Teachers were found to exhibit essentially the same behaviors in low as compared to high ability reading classes.

Table 2 (continued)

Cognitive and Affective Variables

Lovell 1960	10	500	Academic ability, ranked by grades awarded	Standardized achieve- ment test, Sociometric ratings, Attitude questionnaire	yes	High ability students scored best on cogni- tive measures in homogeneously grouped classes.
Marascullo, 1970	9	600	Standardized tests	Standardized tests, Attitude questionnaire	yes	Cognitive gains favoring average and low ability students in heterogeneous class placement.
Marascullo & McSweeney 1972	9, 10	600	Standardized tests	Standardized tests, Attitude Questionnaire	yes	Cognitive gains favoring average and low ability students in heterogeneous class placement.
Douglas 1972	Junior High	120	Standardized tests of academic ability	Standardized tests, Attitude questionnaire, Observation	yes	Greater cognitive gains and improved class- room behavior found in heterogeneously grouped classes.

*Teachers were identified as the subjects in this study, there were 15 teachers in the sample.

Qualitative Studies

A range of qualitative discussions on ability grouping and its effects are presented in the April, 1960 issue of Childhood Education. That issue provides a series of articles which have received particular attention over the past twenty years. Included is Mann's (1960) often cited quantitative study of the self image of homogeneously grouped primary grade pupils. Clausen introduces the topic of homogeneous grouping and the series of articles by pointedly questioning the educational principles upon which grouping is built. He provides thought provoking comments on the unintentional effects of the labels which inevitably accompany ability grouping. His article concludes with a set of summary questions aimed at administrators. The two most provocative questions are these:

1. Do the grouping procedures used in a school and classroom promote the social goals essential to the current world scene; and
2. Are decisions about grouping students based upon administrative convenience or on our knowledge of people and their needs?

These two questions are responded to immediately by John Bahner (1960), a public school principal. Bahner agrees with Clausen's suggestion that most grouping practices used in schools are the result of administrative expediency rather than resulting from knowledge of what benefits the most students. Bahner recommends some administrative alternatives to homogeneous grouping. These recommendations are reviewed at the end of this paper (see Alternatives).

In their 1930 review of the literature Miller & Otto were unable to resolve the question of which method of grouping students is most advantageous. Those reviewers did, however, make a significant contribution to the literature in the questions they raised and the observations they made. In their concluding remarks the authors note that though there appear to be no significant differences in the achievement of students grouped in different manners, there may be differences in the affective characteristics of the students. They pondered whether "the social and psychological advantages coming out of homogeneous classification will justify the practice of homogeneous grouping" (p. 101).

Reviews published over the past two decades have paid attention to these concerns. Two authors who made a major contribution to educators' knowledge of cognitive, social, moral and political effects of homogeneous grouping are Warren Findley and Miriam Bryan. Their 1975 review of the relevant research focuses on academic achievement, affective development and socioeconomic and ethnic segregation as a result of grouping practices. In that report they conclude that grouping students by ability leads to a restriction in the quality of instruction children receive when academic and social outcomes are identified as criteria of effective education. In addition, ability grouping tends to restrict ethnic and socioeconomic integration in schools, thus limiting the range of incidental experiences students may encounter in their own classrooms.

Bryan (1971) provides a shorter version of the report by Findley & Bryan (1975). In Bryan's article she concentrated most heavily upon achievement and self concept characteristics of students in homogeneously grouped arrangements. She provides a discussion of the misuse of standardized tests for grouping students. The material Bryan presents raises additional reason to question not only the actual procedure of ability grouping, but also the validity of the system by which student groups are identified. Bryan includes a discussion of six alternatives to ability grouping. Her suggestions are referenced in the Alternatives section of this report.

In a review of the findings reported in the research on ability grouping between 1930 and 1972 Esposito (1973) addresses the concern about whether "ability grouping tends to enhance or reduce (the) school learning experience" (p. 163). Esposito presents a good synthesis and interpretation of the major findings reported. He maintains that a periodic reinterpretation of the accumulated research is necessary for three reasons. First, homogeneous grouping is again the predominant means of classroom organization in public schools in America, hence its impact should be continually assessed. Second, studies to determine the social and ethnic composition of the various ability groups within schools often indicate that there may be a relationship between homogeneous grouping and de facto segregation. If that is so, then homogeneous grouping may interfere with equal educational opportunity. Finally, Esposito proposes that periodic reevaluations of ability grouping are necessary because the administrative procedure is one of the few which can be systematically redesigned and reexamined to promote the most productive educational environment.

Although they are sometimes more detailed, Esposito's conclusions about the impact of ability grouping upon achievement differ little from those reached by Miller & Otto (1930) or Findley & Bryan (1975). Ability grouping, as described by Esposito, appears to have a mixed impact upon the achievement of high ability students, while showing an almost uniformly negative influence upon the achievement of middle and low ability students. Esposito proposes that where advantages are found for the high ability students, the increased cognitive gains could more accurately be attributed to changes in educational objectives, organization of the curriculum, teaching methods and instructional materials and not to grouping procedures. To summarize the impact upon achievement, Esposito concludes that, "taken as a whole, ...when the full range of ability groups in the homogeneously organized setting is compared with the full range of ability represented in the heterogeneously organized setting, the data are, at best, mixed, inconclusive and indefinite" (p. 167).

Esposito's statements regarding the impact of grouping procedures upon students' affective development are more definitive. He reports that homogeneous grouping fosters an inflated self concept in high ability groups while reducing the self esteem of children in average and low ability groups. In addition, it appears that teachers' attitudes, an important factor in school learning, are influenced by grouping practices. Teachers who place great value on academic achievement tend to ignore the personal development of average and low ability students in heterogeneously grouped classes.

Although Esposito's remarks about the influence of grouping upon students' affective development may seem conclusive, they are not. He is careful to point out that these are trends found in the data. It is notable that the majority of studies in the affective domain omit the use of control groups or descriptions of the types of social and educational settings, aside from the grouping procedures, to which children are exposed. The omission of this information makes it difficult to determine if affective outcomes are due to the grouping procedures used in a school, due to curriculum variables, or due to the broader societal environment to which students are exposed.

Esposito included both educational and social research in his review. From these sources he concluded that even in relatively integrated school systems homogeneous grouping provides a separate educational environment which isolates students according to socioeconomic and ethnic status. This conclusion is echoed by Havighurst & Neugarten (1975) who point out that the practice of ability grouping for classroom organization has been ruled illegal because it results in de facto segregation.

Another review which is highly recommended reading for administrators who are seriously considering the impact of ability grouping upon students is Persell's 1976 article. Starting from the recognition that socioeconomic status and race are related to academic success in the American school system, Persell investigates various explanations for this relationship. In particular, the author explores IQ testing, the structure of ability grouping, and the teacher expectations as contributors to the depressed achievement levels found in groups of low income and minority group students. Persell concludes that the current system of organizing classrooms in schools, that is, ability grouping, not only contributes to but creates and legitimizes inequities between children.

A touching article by Cottle (1974) describes the impact of ability grouping on an eleven year old black boy in Boston. While omitting reference to any quantitative data, the author asks the reader to consider the damage ability grouping has done to one student. This article is an opinionated comment about ability grouping, offering a dialogue with a student "victim" as food for thought.

A discussion of the potential for self fulfilling prophecies as a result of ability grouping is given by Rakow (1973). He reviews four experiments on the Pygmalion effect and ties that phenomenon to the labeling associated with grouping in the schools. Although Rakow is primarily concerned with adult learners, he does make an important statement for public school educators. He stresses that they must be aware of the labels which accompany any group of students and consider the incidental, personal and motivational impact of those labels upon learners.

Ogletree & Ujlaki (1971) introduce the idea of role development in children as it relates to classroom grouping. The authors provide an introduction to role theory, the research related to it and describe the importance of role development to the affective growth of children. They

persue the notion that the traditional, homogeneously grouped classroom found in the American school system contributes to role disparity and role confusion in children. The authors maintain that homogeneous grouping perpetuates the middle class value that academic achievement and high ability group placement are to be sought by all. Along with that value go certain role expectations within the educational setting. Ogletree & Ujlaki suggest that these expectancies are in conflict with variables associated with the class status and environmental surroundings of culturally disadvantaged children. In short, ability grouping for instruction and classroom organization may contribute roadblocks to the affective development of children, particularly disadvantaged children, rather than aiding their development as an educational experience should. The authors conclude that homogeneous grouping prepares students for an unrealistic world organized superficially by academic skill. They maintain that the strict ability grouping and isolation of different social class groups found in homogeneously organized schools is not reflected in the real world. Thus, segregation by ability levels again diminishes rather than enhances the socialization process which should be fostered by our schools.

As a group, the qualitative discussions of ability grouping, its logic and documented effects are surprisingly severe. Discussions or reviews advocating its use with the majority of students are rare. Such literature is virtually nonexistent in the general educational journals published in the past ten years. Given this comment by omission, it is surprising that ability grouping continues to be practiced on such a broad scale in the United States.

One group of qualitatively oriented articles stands apart in both tone and conclusions regarding the use of homogeneous grouping. Recently, the literature on grouping students within vocational education programs has revealed some surprising successes. The 1979 Site Report 2 on the status of the Coordinated Vocational Academic Education (CVAE) Program illustrates how teachers, when confronted with a group of potential dropouts who are academically and/or economically disadvantaged, can take advantage of a homogeneous grouping situation which cannot be avoided. By definition, the CVAE Program offers a curriculum for underachieving, alienated youth. Providing instruction for students in grades nine through twelve, the program focuses upon the problems which have forced the homogeneous grouping of these students. Special remedial instruction is given in the academic areas considered necessary for survival in today's world. Attention is given to competencies required for entry into selected occupations. Success experiences are provided for all students, something not often encountered in low ability groups. Individual counseling to meet the developmental needs of students is insured. In short, the vocational educators in the CVAE Program make use of the homogeneous grouping of their students. They actively change instruction to fit the groups of students. Data regarding reduced absentee rates and improved academic performance of students in the program indicate that by adjusting the methods and materials used to fit specific student needs in the homogeneous classes found in the CVAE Program ability grouping can be turned into a productive means of classroom organization.

The second unique aspect of the use of grouping in vocational education pertains to the de facto segregation which frequently results from ability

grouping. Court decisions in the 1960s on school desegregation had a severe impact on vocational education programs. In large metropolitan cities, schools could be integrated but the various curricular offerings or ability groups within the schools often remained segregated. This was often the case in the vocational education programs. Similarly, if schools enrolled students from particular restricted districts within a city, entire schools could be segregated as a result of racial or ethnic concentrations in neighborhoods. Unless the alternative of mandated busing was used, school integration was difficult.

Although the preceding discussion of segregation may seem peripheral to ability grouping, it is not. It was similar concerns and court orders to desegregate schools in Detroit and Dallas which encouraged educators to make creative use of homogeneous grouping within vocational education. In both cities vocational centers, or magnet schools, were established throughout the metropolitan area to attract students of similar educational or occupational interests and pursuits, yet not necessarily homogeneous in their racial or ethnic backgrounds.

Porter (1979) reports that in response to a 1975 court decision in Detroit to desegregate the schools, five area vocational schools were constructed. The five schools are identified as specializing in specific skill instruction, such as graphic arts, construction, auto mechanics, computer programming, etc. After a half day in attendance at a regular comprehensive high school receiving instruction in academic subjects, students could elect to go to the various vocational centers. In this way Detroit desegregated its school system without court enforced busing. By using homogeneous grouping by vocational interests rather than by neighborhood district or scholastic achievement, effective and useful instruction was provided for more students and integration was encouraged.

The city of Dallas created a system similar to that in Detroit (Moffett & Cogswell, 1979). Prior to 1976 the school system in Dallas was composed of high schools drawing students from specific school districts. The use of districts to identify each school's population led to obvious segregation. In order to integrate the schools without enforced busing, the concept of "districtless" schools was explored. These schools evolved into what is now known as magnet schools.

Currently 3500 students participate in the magnet school program in Dallas. Academic subjects are taught in regular high schools, intensified and specialized career training is provided in the magnet schools. Moffett & Cogswell report that the magnet system is a successful means of achieving desegregation. Students' interests in careers appear to cut across racial, ethnic and academic ability restrictions which had heretofore been associated with restrictive homogeneous grouping patterns.

Themes in the Literature

It is clear that the homogeneous grouping of students by ability for the purposes of instruction has been the predominant method of classroom and school organization from the turn of the century to the present. While falling into disfavor during the late 1930s, the practice enjoyed a heyday

in the 1950s and early 1960s. Civil rights issues and concern for individual freedom during the second half of the 1960s restricted grouping somewhat, but by the 1970s more than three quarters of the nation's public schools were again using ability grouping. Such widespread use of grouping procedures is difficult to understand given the consistency of the empirical evidence and subjective reports on the practice. It seems clear that grouping procedures, when used without other administrative directives for instructional organization, may result in more damage to students than benefits accrued. The following themes emerged from the literature reviewed:

1. Only high ability groups show academic benefits in ability grouped classes. These benefits are difficult to interpret, however, because of the nature of the high ability student. It may be that the student who enters a teaching situation with above average skill will blossom regardless of the classroom organization. This natural blossoming is clearly not the case with average or below average ability students in homogeneously grouped classes. Average and low-ability groups show no cognitive gains over mixed ability arrangements, and in some cases, show less achievement in homogeneously grouped classes.

This theme was found in the reviews conducted by Esposito (1973) and Findley & Bryan (1975) and was reconfirmed in the additional literature reviewed here. The effects seem sturdy and are absent only in the case of vocational education programs which actively change instruction and materials to fit student needs. The adaptation of curriculum and instruction is the exception rather than the rule in homogeneous grouping arrangements (see 4 below).

2. Ability grouping appears to have a damaging effect upon social and affective development. Status rankings of students are more rigid in ability grouped classes than in mixed ability classes. Ability grouping may be related to unjustly inflated or deflated self-concepts in high and low ability students respectively.

This is a recurrent issue in the literature from 1960 on. Originally the concern was focused upon low ability or handicapped students who appeared to be the victims of labeling and negative teacher expectancies. Data collected in the Starkey & Klusendorf (1977) study of grouping indicate that many high ability grouped students report feelings of too much pressure and competition. These students express the desire to be performing relatively better (as compared to in class peers) in lower ability groups.

3. Ability grouping often results in de facto segregation by classes within otherwise integrated schools. This theme occurs not only in the educational and social science literature, but in popular media and in the results of court cases directed at investigating school compliance with desegregation orders.

4. Teachers in public schools do not appear to alter instructional techniques to fit the abilities of students in homogeneously grouped classes. This theme has eluded educators for many years, and ignorance of it might explain our continued hope that ability grouping would provide improved instruction. Ability grouping is an organizational method, most frequently decided upon at an administrative level. Teaching techniques and use of classroom materials are instructional methods, decided upon at the classroom level by teachers. The two are not synonymous and should not be treated as such.

When instructional methods are conscientiously adapted to student needs within ability grouped classes, affective and cognitive benefits may result. The CVAE Program offers an illustration of such an occurrence.

5. The clear majority of published literature is critical of the practice of ability grouping, either based upon empirical or philosophical arguments. The only articles which appear to be neutral or positive in their reviews of the results of homogeneous grouping are those from the area of vocational education. Evidence included in the 1979 Site Report 2 on the status of the CVAE program, and that reported by Porter (1979) and Moffett & Cogswell (1979) indicate that ability grouping can lead to stunning student benefits. It is clear, however, that ability grouping on its own should not be expected to produce beneficial student outcomes without other specific administrative and instructional interventions.

Alternatives

Because the majority of literature published during the past decade has served to enumerate the problems associated with homogeneous ability grouping, it seems important to point out some alternatives to the method. If grouping students by ability levels does not appear to be a beneficial procedure for most students, then what should replace it? The following are some methods of classroom organization or instruction which have been offered as suggestions.

Heterogeneous grouping in combined grades

In recognition of the problems associated with ability grouping, Bahner (1960) recommended the alternative of heterogeneous grouping by age in combination classes. Similar in structure to an ungraded approach, Bahner's idea makes use of combination grade levels. First and second grade students might be in one group, second and third in another, third and fourth in yet another, and so on. The unique characteristic of Bahner's suggestion is to keep all extremely advanced or retarded students in one of the combination classes at each grade level. For example, one first and second grade combination class might have all the low ability second graders, another second and third grade combination might have all the most advanced second graders. Thus, although two grade levels are combined, teachers do

not have to be prepared to instruct students whose abilities might span the full two years represented by the chronological ages of the students in the classes. Bahner suggests that this arrangement may be most successful in retaining both student heterogeneity and effective instruction when used in concert with team teaching.

Team teaching

The team teaching alternative is a popular one and is frequently suggested to replace ability grouping (Bahner, 1960; Findley & Bryan, 1975). Team teaching involves two or more teachers providing instruction in a class. By providing two instructors in a classroom it is possible to deal with a wide range of student abilities. One teacher may provide remedial instruction for low ability students or advanced instruction for high ability students. Individual or small group work is more easily accommodated when two teachers are in a room - one can work with a small group while the other handles the larger group of students. While research on the team teaching model and all its variations is still underway, its possibilities for dealing effectively with a heterogeneous group of students are promising.

Stratified heterogeneous grouping

The alternative of combining homogeneous and heterogeneous ability grouping in such a way that a partial, but not the entire, range of student abilities in any grade can be found in one class has been implemented in the Baltimore schools (Hall & Findley, 1975). In this arrangement, called stratified or planned heterogeneous grouping, children are first rank ordered according to some measure of academic ability. If four classes are to be established at a given grade level, then the entire group is broken into twelve parts or subgroups, each of approximately the same size, based upon the rank order by ability. The first teacher is then assigned the top, fifth and ninth subgroup by rank; the second teacher is assigned the second, sixth and tenth subgroup by rank. The other two classes are assigned in a similar fashion. This planned or stratified student assignment assures two things in each classroom. First, each class will have a heterogeneous group of students, thus there is no clear top or bottom class. Second, although the student abilities within a class are heterogeneous, they do not span the full range of abilities in the grade as a whole; the first teacher has the top group but none of the students in the bottom three groups. In addition, there will be student "leaders" in each class to act as foils for their peers and to stimulate student interaction. Finally, teachers will not be faced with attitude or motivational problems which may depress instruction and enthusiasm in low ability classes.

Peer tutoring

The peer tutoring model is a very simple method which may be used in heterogeneously grouped classes to capitalize on the broad range of student abilities which exists there. The only necessities of the model are two students, one better than the other in a given subject. The students may be in the same or different grades. All that is required

is that the more proficient (note, not necessarily excellent or high ability) student provide instruction for the student with less skill in the subject being addressed. Many variations on the model are possible. Advanced students in a particular subject may provide remedial instruction for same age peers. Low achievers in upper grades may tutor younger students in lower grades. One of the clear, documented benefits of the peer tutoring model is that both tutees and tutors show substantial academic gains in subjects covered in the tutoring (Cloward, 1967; Gartner, Kohler & Riessman, 1971). Peer tutoring, when used in conjunction with some of the other alternatives listed above, could promote affective development as well as cognitive achievement within a heterogeneous classroom.

Conclusions and Recommendations

The sixty year debate over the impact of ability grouping in the grades kindergarten through twelve seems to be winding down. Although there is an absence of consistent, replicated empirical study which might condemn ability grouping, it is difficult to gather much support for its continued practice. At best, the impact of homogeneous grouping is negligible. High ability groups are the only ones who show achievement benefits related to grouping. The inconsistent yet recurring findings regarding achievement and affective impediments in average and low ability students in homogeneous groups should make educators pause and reflect upon the ill effects of grouping. The general tone of the qualitative reports on ability grouping suggests that educators are beginning, again, to abandon the practice. The social concerns of our current culture may demand its abolishment because of the segregation policies which frequently accompany ability grouping.

What may administrators, teachers, and parents do now? The first recommendation would be to explore the other teaching and grouping methods introduced in the Alternatives section of this report. Following a review of the literature it may be appropriate to implement small scale pilot programs of the alternatives which appear most promising. If multiple alternatives seem acceptable, various experimental or prototype programs could be established in various systems to serve as models or training grounds for other school systems seeking similar alternatives. In short, a cautious plan of experimentation and systematic assessment should be implemented to insure that alternatives are not accepted blindly and completely as panaceas, as grouping was in the late 1950s.

And what should be done until a productive and workable alternative to homogeneous grouping can be found? When homogeneous grouping is inescapable, teachers should be encouraged to take advantage of it. Specific materials and methods should be developed to meet the needs of each unique group. Teachers should not simply go slower in low ability groups, as they often do. They should adapt techniques to fit the remedial or advanced requirements of students. Teachers cannot meet the needs of less adept learners by merely presenting the same material at a slower pace. Similarly, they cannot effectively instruct high ability groups by simply assigning more homework problems or a greater number of pages or books to be read than in average or low ability classes.

Yet developing new curricula for groups of students with differing abilities is difficult. Teachers may find the task to be a problem for a number of reasons: lack of time, lack of necessary information, lack of student, peer or administrator support within the school. There are no easy answers as to how to resolve these problems. Carefully planned and organized development of curriculum may help avoid duplication or overlap of effort in the various schools within a system or state. Monetary incentives for teachers or professional leave time to develop instructional models may prove successful in stimulating participation.

In conclusion, it is again time to move away from the traditional ability grouping model of classroom organization. The academic, social, and political demands of our times, as well as the individual needs of students, require such a shift in our educational planning and implementation. To quote the conclusion reached by Esposito (1975),

"if one of the principal objectives of the American education system is to provide each child with an equal educational opportunity to maximize and develop his potential so that he may benefit himself, and thereby contribute more effectively to the larger society, then the present status and predicted trends with respect to homogeneous grouping suggest that this cardinal objective will not be realized." (p. 177).

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