

DOCUMENT RESUME

ED 306 338

UD 026 753

AUTHOR Ascher, Carol; Flaxman, Erwin
TITLE The Delivery and Organization of Compensatory Education. Trends and Issues No. 9.
INSTITUTION ERIC Clearinghouse on Urban Education, New York, N.Y.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE Dec 88
CONTRACT OERI-RI88062013
NOTE 18p.
AVAILABLE FROM ERIC Clearinghouse on Urban Education, Teachers College, Box 40, Columbia University, New York, NY 10027.
PUB TYPE Information Analyses - ERIC Information Analysis Products (071) -- Reports - Evaluative/Feasibility (142)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; *Compensatory Education; *Delivery Systems; *Educationally Disadvantaged; Elementary Education; *Elementary School Students; Federal Programs; Literature Reviews; Outcomes of Education; Program Design; Program Evaluation; Remedial Instruction
IDENTIFIERS *Education Consolidation Improvement Act Chapter 1; *Elementary Secondary Education Act Title I

ABSTRACT

Recent evaluations of Federal compensatory education programs funded by the Elementary and Secondary Education Act of 1965, Title I, and maintained by the Education Consolidation and Improvement Act of 1981, Chapter 1, point to qualified effectiveness in the targeting of services, program structures, and classroom arrangements for increasing the academic achievement of educationally disadvantaged students. The poverty status of the school should be considered as the first criterion for targeting services and then students' achievement, although most districts further target resources to elementary school students. The smaller class size used in compensatory education classrooms has been strongly linked to increased achievement, but the effectiveness of the extended periods of compensatory instructional time are less certain. The homogeneous grouping employed in instructional groups is considered detrimental to low-ability students; cooperative learning techniques can be more effective. Evaluations of both Title I and Chapter 1 services demonstrate that the academic achievement of participants in Title I and Chapter 1 programs improved, but the gap between compensatory education students and regular students widened with grade level. Suggested policy changes in Chapter 1 include the following: (1) concentrate and sustain funding in fewer schools in the poorest neighborhoods; (2) permit school-based allocation of funding; and (3) incorporate services more fully into the overall instructional program and keep students in smaller regular classrooms. A list of 17 references is appended. (FMW)

ED306338

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Carol Ascher
Erwin Flaxman

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OF COMPENSATORY EDUCATION**

**Carol Ascher
Erwin Flaxman**

Trends and Issues No. 9

ERIC Clearinghouse on Urban Education/Institute for Urban and Minority Education

December 1988

ERIC Clearinghouse on Urban Education
Box 40, Teachers College
Columbia University
New York, New York 10027
212/678-3433

Director: Erwin Flaxman
Assistant Director: Robin Johnson Utsey
Managing Editor: Wendy Schwartz

This publication was produced by the ERIC Clearinghouse on Urban Education with funding from the Office of Educational Research and Improvement, United States Department of Education, under contract number R18806213, and from Teachers College, Columbia University. The opinions expressed in this publication do not necessarily reflect the position or policies of OERI or the Department of Education.

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THE DELIVERY AND ORGANIZATION OF COMPENSATORY EDUCATION

Recent evaluations of Federal compensatory education programs in the United States, both those funded by the Elementary and Secondary Education Act of 1965, Title I, and those maintained under Chapter 1 of the Education Consolidation and Improvement Act of 1981, point to the qualified effectiveness of large-scale national compensatory education efforts, particularly in the targeting of services, program structures, and classroom arrangements for increasing the academic achievement of educationally disadvantaged students.

THE TARGETING OF COMPENSATORY EDUCATION

The targeting of compensatory education programs and services requires an agreement about who should receive them, particularly about whether poverty status or low achievement should be the determinant. The January 1986 National Assessment of Chapter 1 demonstrates a strong link between the poverty status of the school and the achievement of its students, and thus provides clear support for considering the poverty status of the school first and then its student achievement as criteria for providing funds. Although there is a weak relationship between family poverty and individual student achievement, students are increasingly likely to fall behind grade level as their families remain in poverty over longer periods of time; overall student achievement in a school (not just the achievement of poor students) declines as its proportion of poor students rises. Moreover, the low achievement scores attributed to minorities are correlated with their backgrounds of severe and long-term poverty. These findings answer the criticism of those who

fault Chapter 1 for serving a much higher proportion of minorities than exist in the general school population. The large number of black and other minority children among those experiencing long-term poverty in the home, and concentrations of poverty in their communities, suggest that minorities may be experiencing a different kind of poverty from other children, and thus should be receiving services (Kennedy, Jung, & Orland, 1986b).

Being the child of a single mother, having many siblings, and moving often are also highly associated with poverty, and thus with achievement. Whereas half of all children living in female-headed households are poor, only about an eighth living in households with males present are poor; and the poverty rates are higher when the single mother is a minority. In addition, the larger the number of children in the family, the more likely the family is to be poor. Student mobility is also related to poverty and achievement: poor children move during the year almost twice as often as non-poor children (Kennedy, et al., 1986b).

Since the passage of the Elementary and Secondary Education Act of 1965, poor children have been better served by compensatory education than low-achievers. Relative to the overall school-age population, Title I/Chapter 1 students are more likely to be poor. Nevertheless, as many as 14 percent of elementary schools with very high poverty rates do not receive Chapter 1 services. Moreover, the 1986 National Assessment data show that of these students who are both poor and in the bottom 50 percent in reading achievement, over half are not receiving any compensatory education (Birman, Orland, Jung, Anson, & Garcia, 1987). The proportion of low-achieving students receiving compensatory education varies according to their number in the school; and to local decisions to serve many rather than a few children. Schools with fewer lower-achieving students available are more likely to provide Chapter 1 program services to higher-achieving students; similarly, schools with large Chapter 1 programs, unless they have substantial concentrations of poor students, are also more likely to serve higher-achieving students (Kennedy, et al. 1986a).

Although Chapter 1 schools generally have higher concentrations of both poor students and students with lower reading levels, not all poor schools or schools

with low achieving students are well-served. There are several reasons for these inequities:

- Low-poverty Chapter 1 schools are often in low-poverty districts, but they are eligible for Chapter 1 because they are poorer than the district's low average.
- High-poverty non-Chapter 1 schools are often in high-poverty districts which serve only their neediest schools.
- Low-achieving students may not participate in Chapter 1 because they receive other special services, such as special education, a bilingual/English-as-a-Second-Language program, a migrant program, or a state compensatory education program; or, scoring just below the district's cutoff, are judged less in need than others who participate.
- Higher-achieving students may participate because schools, determining that their achievement scores are invalid, believe these students deserve to participate; or because these districts have more openings for Chapter 1 students than they have educationally disadvantaged students in their Chapter 1 schools. (Wood, Gabriel, Marder, Gamel, & Davis, 1986).

Given limited funding, even if poverty and achievement were the sole criteria, most districts could serve only a small percentage of those students who might need Chapter 1 programs. Therefore, most school districts further target scarce Chapter 1 resources to elementary school students, out of a belief in the value of countering academic deficit with early enrichment. Thus 90 percent of all Chapter 1 students are in the elementary grades, substantially exceeding the overall percentage of public school students in elementary school (Carter, 1984).

COMPENSATORY EDUCATION PROGRAM STRUCTURES

Chapter 1 compensatory education is delivered in several classroom arrangements: *pull-out instructional programs* that provide instruction in locations outside the regular classroom; *add-on instructional programs* that provide instruction at times other than the regular school day or year (before or after school, before kindergarten or during summer school); *in-class instructional programs* that provide services to students within their regular classrooms; or *replacement instructional programs* that provide all the instruction Chapter 1 students receive in a given subject area, usually in a separate class containing only compensatory education students.

Pull-Out Programs. Pull-outs can be either "limited" pull-outs, which consume less than 25 percent of the regular class time from which the Chapter 1 students are removed (as little as 15 minutes), or "extended" pull-outs, which comprise 25 percent or more of the class time (up to an hour). Often, particularly at the elementary level, pull-out arrangements are coupled with in-class arrangements; inside the classroom, Chapter 1 assistance is provided by compensatory education specialist or an aide, while in the separate room a teacher is usually in charge. At the secondary level, pull-outs often last 45 minutes a day, or the equivalent of an elective period (Knapp, Turnbull, Blakeley, Jay, Marks, & Shields, 1986).

Pull-out instruction is usually associated with smaller instructional groups, reduced staff-to-student ratios, more student on-task behavior, less teacher time in behavioral management, a more harmonious classroom environment, better organization of activities, and better cognitive and on-task monitoring (Carter, 1984). However, not all teachers take advantage of the small group situation to offer more student-teacher interaction than they do in a larger classroom. Moreover, pull-out instruction is generally more costly.

There are also unintended negative effects of pull-out programs. Chapter 1 students may actually receive less total instructional time in a particular subject than other students because of the time spent transferring to a different location and the time devoted to receiving special compensatory education services. Students may also not see the relationship between a subject taught in the regular classroom and the same subject taught in the Chapter 1 setting. There is often also a stigma attached to being pulled out of classrooms for special instruction, which may encourage regular teachers to have lower expectations for these students and to give them simpler tasks to complete. Pull-out instruction can also mean racial segregation: since minority students receive more compensatory education than white students, they are typically pulled out of less segregated classrooms and sent to more segregated classrooms to receive special instruction. In addition, there is often a lack of communication and coordination between the Chapter 1 and the regular instructor, which may create tension for socially and emotionally vulnerable Chapter 1 students. Finally, pull-out instruction takes place

in homogeneous groupings, and low-achievers tend to do better academically in heterogeneous classes (Wilkinson, 1986).

Add-On Programs. Add-on instruction can take place at any grade level as well as any time of day or year beyond the regular instructional times. By their very nature, the most obvious difficulties of add-on programs arise in scheduling and in providing transportation. Based on research suggesting the effectiveness of early achievement, add-on programs are often used at the pre-kindergarten level or to extend kindergarten to a full day.

Many educators support add-ons because other research suggests that more instructional time increases achievement; however, because student engagement does not necessarily increase with time spent in school, evidence is mixed about the effectiveness of adding to the number of hours a student spends in school each day, week, or year. The most common form of add-on instruction in Title I (the most recent data available) is in summer programs. Based on evidence that low-achieving students may have "summer losses" relative to other students, many administrators encourage summer school programs. Yet the evidence is mixed on both the loss without summer programs, and the possible gains (or decreased losses) that Chapter 1 summer programs can generate (Ascher, 1987).

In-Class Programs. In-class instruction furnishes extra enrichment to students within their regular classrooms. Although many pedagogical arguments in favor of in-class compensatory education could be extrapolated from the general research literature, Chapter 1 in-class programs are actually rare. Thus, little Chapter 1 evidence directly supports the success of this structure. What existing anecdotes and conjectures suggest is that in-class learning offers a number of advantages:

- it can lower the student/adult ratio by providing in-class aides;
- more time can be used for learning because no time is spent in transporting students to and from pull-out programs; and
- in-class arrangements are cheaper than pull-outs, particularly when aides are used.

However, when the Chapter 1 teacher is a compensatory education specialist, in-class programs may create territorial uneasiness on the part of both the regular teacher and the specialist (Ascher, 1987).

Research suggests that more must be done if in-class programs are to fulfill their potential. Methods proven successful in teaching heterogeneous groupings in other situations—cooperative learning and peer tutoring, for example—should be applied to classes with Chapter 1 students. However, since successful teaching in heterogeneous classrooms requires special training, it has been suggested that compensatory education specialists do this training. Given the mixed evidence about the current effectiveness of compensatory instruction specialists, training regular teachers to teach in heterogeneous classrooms may well be a better use of the specialists' time (Archambault, 1986).

Replacement Programs. Replacement programs provide Chapter 1 students with all the instruction they are to receive in a given subject, usually in a separate class containing only compensatory education students. Replacement programs place the responsibility for educating the student in the hands of one teacher with no outside interference, and there are no "special" compensatory education teachers, aides, or supervisors (Holley, 1986). A district can legally use a "replacement" if it contributes its own resources. Most replacement programs in one sample were reading or math programs that lasted the equivalent of a class period, but some districts have day-long replacement programs, particularly at the first grade level (Knapp, et al., 1986).

Class Size, Time, and Achievement. The meta-analysis conducted by Glass and Smith (1978) of 77 studies concluded that receiving instruction in a small class increases achievement. The effects on achievement increase as the class size is reduced, and over longer periods of instruction the benefits of smaller class size increase. Despite disputes over these findings, critiques of this meta-analysis arrive at a similar conclusion: learning in small classes tends to benefit lower ability students more than students of average ability, and small classes can positively affect the academic achievement of the disadvantaged students served by Chapter 1 compensatory education programs. In addition, the effects of small

group instruction are most dramatic when the group consists of one to five students. Because Chapter 1 allows for more teachers, instructional support staff, and specialists, it is actually possible for compensatory education students to be instructed in smaller groups, to their academic benefit (Cooper, 1986).

Smaller classes also result in better teacher morale and improved attitudes toward students, as well as better student attitudes toward teachers and school and improved self-concept and motivation. In smaller classes there is also more individualization and a higher quality instruction (the effects are greatest for children under 12 and decrease with older students). In smaller instructional groups there is more student time-on-task, less teacher time on discipline and control, a more harmonious class environment, a higher quality of cognitive teaching, better organization of activities, more feedback to students, and a greater awareness of individual responses. In general, students pay closer attention in smaller classes and have a greater opportunity to participate. Moreover, teachers are not spending time managing the group and, thus, do not have to depend on high ability students or volunteers to move the lesson along (Cooper, 1986).

The time a student spends in learning any content correlates positively with increased learning, and the relationship grows stronger the more time the student is actually engaged on-task in the learning activity (Cooper, 1986). In compensatory education many educators have advocated more allocated time for learning (in the form of summer school programs, year-round schooling, and extended school years) as a means to improve achievement. However, although students may modestly gain academically under these circumstances, many educators question whether the magnitude of the effect of time on achievement, relative to other potentially less costly interventions, justifies the expenditure of resources. (Ascher, 1987).

During the summer, for example, the learning rates of disadvantaged youth decrease drastically (as compared to those of advantaged youth). However, disadvantaged youth get no clear academic benefits from attending summer compensatory programs. This may be because the current level of summer instruction is low. But it may also be due to variations in students' efforts over time and irregular patterns in learning that have not been differentiated from the

outcomes of different school schedules or increased schooling. Without a valid expected growth curve against which to measure summer achievement, it is not clear whether the effectiveness of any summer compensatory program should be considered as gains or arrested losses (Heyns, 1978).

In compensatory education, reducing class size and increasing instructional time may not produce the desired outcomes under all circumstances. Other contextual factors can limit achievement gains; for example, the quality of instruction (teacher adaptability and skills in individualizing instruction), and the fit between the curriculum content and tested material and local conditions (Cooper, 1986).

ABILITY GROUPING

In general, even with young children, age, not developmental level, determines the assignment to a particular instructional group. Within a class, student ability is a common basis for academic grouping. What is more, initial groupings tend to be stable for relatively long periods of time, and mobility, when it occurs, is usually downward (Wilkinson, 1986).

Although there is scant research on the academic and nonacademic effects of instructional grouping on students receiving compensatory education programs, most researchers feel that homogeneous ability grouping is detrimental to students assigned to low ability groups. Students in these programs are commonly pulled out of the regular class situation and put together in low ability groups. Within the low ability learning environments, teachers tend to emphasize discipline and authority, to have lower expectations for students, and to use instructional methods and materials that fragment and routinize learning (Oakes, 1985).

There are, however, alternatives to homogeneous ability grouping. Low ability students can derive achievement benefits from being placed in student-led small heterogeneous ability groups, especially if they are taught how to interact with other students while performing an academic task and how to provide explanations to other students. Their achievement can be enhanced if efforts are made to stimulate student interaction and promote positive feedback, and if the material is highly organized. Under these conditions, disadvantaged students also need help in

sequencing learning, more explanations, greater task involvement, and more answer checking activity (Wilkinson, 1986).

Cooperative learning techniques (where students work in small groups and receive rewards based on their group performance) have also had a positive effect on academic achievement, depending on the setting, design of the program, and the specific population of students. Cooperative learning also has a positive effect on race relations because there is a greater opportunity for students to choose friends of another race (Slavin, 1979). For low-ability and compensatory education students, cooperative learning may create a better environment for teaching basic skills than either traditional individual or whole-class instruction as long as there is a highly structured and focused schedule of instruction, individual accountability among student teams, and a well-defined group reward structure. Young low-ability students especially may have a better chance to succeed academically in this ideal cooperative learning situation than in others (Wilkinson, 1986).

COMPENSATORY EDUCATION AND STUDENT ACHIEVEMENT

An evaluation of the sustaining effects of Title I compensatory education suggests that receiving Title I services generally improved achievement, although the gap between Title I and regular students still widened with grade level. The evaluation also points out that, depending on district policy, some students remained in Title I programs as little as one year while others remained as long as three years (Carter, 1983).

According to the later assessment of the effectiveness of Chapter 1 services, since 1965 disadvantaged students have improved in achievement relative to the general population, although there is still a significant gap (Kennedy, et al., 1986a). (In considering these findings, it must also be remembered that both poor and low-achieving students, as well as those who are not either, receive Chapter 1 services, and that much compensatory education instruction is directly linked to achievement tests.) Further, the one-year effects of Chapter 1 program were found to be:

- students receiving Chapter 1 services experience larger increases in their standardized achievement test scores than comparable students;

- students participating in Chapter 1 mathematics programs gain more than those participating in Chapter 1 reading programs;
- students in early elementary Chapter 1 programs gain more than students participating in later-grade programs; and
- evidence regarding program effects on student attitudes toward school is inconclusive.

Beyond a single school year, the longer-term effects of Chapter 1 were: (a) students who discontinue compensatory education appear gradually to lose the gains they made when receiving services; and (b) chapter 1 students with very low achievement scores appear to maintain their relatively low academic positions and not to move ahead. However, the evidence suggests they would have lost ground relative to their peers if they had not received compensatory education services. No nationally representative studies have examined the long-term effect of Chapter 1 programs on graduation rates, future education, or adult literacy (Kennedy, et al., 1986a).

POLICY CHANGES IN CHAPTER 1 PROGRAMS

Despite the current legal framework of Chapter 1 and the political feasibility of implementing alterations in Chapter 1 programs, several changes are being proposed for targeting compensatory services and organizing the programs. First, it is recommended that funds be concentrated in schools in neighborhoods with high proportions of poor children, and that these funds not be cut off when the school begins to increase its achievement rates. Chapter 1 funds should also be aimed at fewer schools, ensuring that the funding continues. In school districts with poverty concentrations, allocation of funds should be school-based, and used to benefit all students within a given school. Although this option might increase the number of high achievers participating in the program, the average achievement level of Chapter 1 students in these schools would still remain low enough to justify the continuing allocation of funds (Williams, Richmond, & Mason, 1986).

Chapter 1 has been criticized because the time given for compensatory education denies the child regular classroom instruction, and because the time spent in grouping and regrouping students decreases the time spent learning. At

best, the resulting beneficial small group instruction occurs only for a fraction of the day. It has also been argued that students might achieve more if they were kept in smaller regular classrooms (rather than removed in small groups for special instruction), if the Chapter 1 teachers were more fully incorporated in the school's overall instructional program, and if students were not taught skills divorced from other learning or too fragmented to be generally useful (Kennedy, et al., 1986a). Finally, research on more effective schooling suggests that compensatory education programs like Chapter 1 may restrict the ability of the school to establish an ethos of shared academic goals, high expectations, and a strong culture of achievement, which have been shown to raise and maintain student achievement in many low-income, minority schools.

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