Individualized instruction

Effect of Individualized Instruction on Handicapped and Nonhandicapped Students in Elementary Physical Education Classes

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In 1975, Congress passed the Education for All Handicapped Children Act (PL 94-142), mandating that students be placed in the least restrictive environment for learning. To mainstream successfully, an environment must be developed in which handicapped individuals can be programmed for their educational needs while not jeopardizing the progress of other students. Several researchers (Brophy & Good, 1974; Crowe, 1979; Martinek, 1979) examined teacher-student interactions and reported that teachers, whether consciously or unconsciously, behaved differentially toward certain students in their classes. Concern for providing appropriate learning environments is a question of education equity. Do all students have adequate amounts of instruction and feedback from teachers? Do handicapped students learn at the expense of other students in class? Do different teacher styles contribute to educational equity? Questions such as these have not been researched in physical education settings.

An individualized instructional model may provide the teacher with a set of procedures to improve educational equity for handicapped and nonhandicapped students in a mainstreamed setting. The major conclusion that can be drawn from the research on individualized instruction is that, in the classroom, it results in increased performance or in performance that is equal to that achieved through traditional teaching methods (Hall & Loucks, 1977; Jernstedt, 1976; Miller, 1976; Taylor, 1975; Yarber, 1975). However, individualizing instruction in physical education has not been studied with regard to its effect on the way that teachers provide opportunities for students to practice and learn motor skills.

In recent studies of teacher effectiveness in classroom contexts process-product analyses were used in which teacher and student behavior were observed directly and then correlated with measures of student achievement. From these studies, student opportunity to respond, which included a measure of the time students spent engaged academically, appeared to be a major variable that discriminated between more and less effective teachers (Berliner, 1979; Medley, 1979; Rosenshine, 1979). The concept of how students use time in class has been refined (Berliner, 1979; Siedentop, Birdwell & Metzler, Note 1) to distinguish among allocated time (time allotted by a teacher for specific content), engaged time (time spent by a student working on class content), and Academic Learning Time (time spent by a student engaged in content-related activities at an easy level of difficulty). The importance of Academic Learning Time (ALT) has been demonstrated in reading and mathematics by researchers.
using both correlational (Berliner, 1979) and experimental techniques (Delquadri, Greenwood, & Hall, Note 2). Although the relationship between ALT and achievement in physical education has not been demonstrated empirically, the concept is theoretically sound. In the absence of reliable and valid measures of student achievement in physical education, (Siedentop, et al, Note 1) suggested that ALT can be used as a measure of teacher effectiveness in this subject matter area as well.

Because of the current interest in the effect of mainstreaming on educational equity and student achievement this study was designed to (1) examine how handicapped and nonhandicapped students spend their time in mainstreamed elementary school physical education classes, and (2) determine whether these students spend their time differently in two treatment conditions (individualized or non-individualized instruction).

Method

Subjects

The subjects were 60 mainstreamed handicapped and 60 regular elementary school students. The handicapped students were those requiring special education services, and all were mildly mentally handicapped. Fourteen of the handicapped students were mildly mentally retarded, 35 were learning disabled and one was mildly emotionally disturbed. The grade level of the mainstreamed handicapped students reflected that of their regular peers. The regular students were those who were at the 50th percentile of a class list ranked by the teacher according to motor skill level. All students were selected from the classes of 14 physical education specialists from schools in Central Texas. All of the programs were structured so that students received physical education instruction every day for 30-45 minutes.

Procedure

Level of Use. The procedure used to identify teachers by treatment condition (users or nonusers of individualized instruction) was the Level of Use (LoU) interview (Loucks, Newlove, & Hall, 1975). Level of Use describes how performance changes as the teacher becomes more familiar with a new procedure or program. Eight distinct Levels of Use have been identified (Hall, Loucks, Rutherford & Newlove, 1975). In general, individuals who are nonusers first "orient" themselves to the innovation. Usually, they begin to use the new program at a "mechanical" level. As experience increases, use becomes routine, and eventually it may be refined. The LoU interview is based on a prescribed set of questions designed to elicit rigorous (psychometrically valid and reliable) data. These quantitative data permit the rating of an individual at overall LoU and in seven categories of use: knowledge, acquiring information, sharing, assessing, planning, status reporting and performing. Such data, obtained by carefully trained and certified interviewers, provide specific information on the state of implementation of a specified educational program.

In the present study, teachers were interviewed by a certified interviewer to ascertain their Level of Use. The following criteria were used to classify teachers as users or nonusers of individualized instruction:

1) The teacher defined long-term goals and short-term objectives in physical education for one year.

2) The teacher assessed behaviorally defined skills and recorded individual student status.

3) The teacher's instructional activities were based on assessment data.

Seven users and seven nonusers of individualized instruction were randomly selected from a pool of over 50 teachers who had been involved in previous training pro-