TAI (Team Assisted Individualization)

Why Is This Strategy Useful?
One of the most troublesome and enduring problems of mathematics instruction is accommodating heterogeneity in student preparation and learning rate. If students do not have the prerequisite skills to learn a lesson, or if they have already mastered it before the lesson began or do so in the first minutes of the lesson, then instructional time is largely wasted. An individualized instruction model was created to solve these problems by the use of cooperative learning teams and regular teacher-led instruction in small groups. Team Assisted Individualization (TAI), has been found to be effective in increasing mathematics achievement.

Description of Strategy
TAI uses individualized materials that students complete at their own rates and emphasizes direct instruction (in homogeneous teaching groups), student management, cooperative learning teams, and cooperative incentives. Teachers assign students to work in heterogeneous four- or five-member learning teams on individualized mathematics materials at their own levels and rates. Students in the teams help one another with problems and take responsibility for almost all checking, routing, and other management tasks inherent to the individualized program. This student management frees the teacher to work with three regularly constituted teaching groups composed of students (drawn from many teams) performing at the same level in the materials. At the end of each week, students on teams that met certain pre-set criteria received rewards. Team rewards of this type have been found to increase student motivation and achievement. The curriculum materials used in TAI consist of self-instructional units, answer sheets, and tests for objectives in addition, subtraction, multiplication, division, numeration, fractions, decimals, percentages, ratios, statistics, introduction to algebra, and word problems. These individualized materials are used for three weeks in every four. During every fourth week, teachers teach whole-class lessons on objectives not covered by the TAI materials (e.g., measurement, geometry, sets).

Research Evidence
At least three randomized controlled trials provide support for this strategy. The first study randomly assigned 504 students in grades 3, 4, and 5 from 18 classrooms to three treatment and control groups. The first group implemented TAI, the second group implemented individualized instruction (II) and the last group was the control (utilized traditional methods for teaching math). The measures included math achievement, attitudes, behavior ratings, and peer ratings. Results from this study showed significant positive effects of TAI students on achievement, liking of math, self-concept in math, class behavior and self-confidence than the control group. The second study randomly assigned 375 students in grades 4, 5, and 6 to the same treatment and control groups and measures as the first study. Results showed significant positive effects of TAI students on achievement and self-confidence than the control group. The third study randomly assigned 1317 students in grades 3, 4, and 5 to treatment and control groups. This study had two groups one that implemented TAI and the other a control. The only measures used were the Math Computations and Math Concepts and Application scales. Results showed TAI classes significantly exceeded control classes on both tests.
Sample Studies Supporting this Strategy


The Team-Assisted Individualization (TAI) mathematics program has been developed in an attempt to make individualized instruction workable in the classroom by adding components of cooperative learning. This paper presents the rationale for the development of TAI and describes the results of three field experiments conducted to assess the effects of TAI on student achievement, attitudes, and behavior. The experiments involved a total of 1,997 students in grades three through six, and demonstrated basic achievement effects of the program and a number of positive social and attitudinal effects.

Additional Resources


Promising Practices Network TAI review:
http://www.promisingpractices.net/program.asp?programid=139