Matching Curriculum to Students' Cognitive Levels

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Although Piaget postulated that most adolescents possess the mental structures required for formal reasoning, Epstein (1978, 1980) reports that only 34 percent of all adolescents attain formal thought. This discrepancy raises the possibility that schools may be able to develop abstract thinking in a greater percentage of students.

To this end, the Shoreham-Wading River School District has implemented a comprehensive program of inservice education in a project called Cognitive Level Matching. To date, approximately 65 of the district's 200 teachers have participated.

Purpose of the inservice education is to sensitize teachers to the process of cognitive development and to enable them to: (1) assess the cognitive abilities of their students; (2) assess the cognitive demands of school-based inputs including curriculum, social interaction, teaching/questioning techniques; and (3) match, as closely as possible, the demands of the curriculum with student cognitive abilities. Creating this match is the cornerstone of our project.

Approximately 600 middle school students have been given Arlin's Test of Formal Reasoning (1980) in order to determine their cognitive abilities. Unlike most Piagetian tests, Arlin's is a paper-and-pencil test, requiring only one hour for completion, administered to large groups of students with minimal teacher direction. Simultaneously, participating teachers have been examining existing school-based inputs and making adaptations and modifications, as well as developing new approaches. Peer-teacher observations, teamwork, and the development of new taxonomies are components of their examination.

Although the Cognitive Level Matching project is in its first year, much has already been achieved. Curriculum units have been developed that enable teachers to match inputs to the wide range of cognitive abilities found in most heterogeneous organized classrooms. The curriculum units will become part of a teacher resource file.

At the conclusion of three years, Arlin's test will be readministered to the middle school and high school students. We expect to find a greater percentage of them reasoning on the formal level than our original testing revealed.

References


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Stone, C. A., and Day. M. C. "Comprehensive Program of Inservice Education in a Project Called Cognitive Level Matching. To date, approximately 65 of the district's 200 teachers have participated.

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