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ABSTRACT

The relative effectiveness of including behavioral objectives, classified according to the major levels of cognition, in independent study materials for high school juniors is analyzed in this brief summary of the author's dissertation. The three major questions under consideration are whether: (1) the use of behavioral objectives has an effect upon learning and retention of social studies knowledge and concepts, (2) the effectiveness is the same for all levels of cognition, and (3) the use of behavioral objectives at the various levels of cognition affect both learning and retention in a similar manner. Bloom's "Taxonomy of Education Objectives: Cognitive Domain" served as a guide in the formulation and classification of the objectives and test questions. Ninety-three students in four social studies classes were tested as control and experimental sample groups. The experimental group's instructions contained behavioral objectives for the six levels of cognition and the instructions of the control group did not. The results indicate that behavioral objectives by themselves are virtually useless and perhaps even deleterious unless some activity is provided to ensure that their purpose, value, and intent are made clear to the learner. The highest mean scores are at the comprehension level. Although the experimental group had higher mean scores for learning at the knowledge, comprehension, and synthesis levels, retention at the synthesis level by the control group was better. (DE)

USE OF BEHAVIORAL OBJECTIVES WITH INDEPENDENT STUDY MATERIALS

The purpose of this study was to assess the relative effectiveness of including behavioral objectives classified according to the major levels of cognition in independent study materials for the initial learning and retention of social studies content by high school juniors as opposed to independent study without stated, behavioral objectives. Several questions were under consideration:

1. Does the use of behavioral objectives have an effect on the learning and retention of social studies knowledge and concepts by eleventh-grade students?
2. Is the effectiveness of the use of behavioral objectives the same for all levels of cognition?
3. Does the use of behavioral objectives at the various levels of cognition affect both learning and retention in a similar manner?

Bloom's Taxonomy of Educational Objectives: Cognitive Domain served as a guide in the formulation and classification of the objectives and test questions. The ninety-three subjects were members of four, intact, eleventh-grade, social studies classes. The relative effectiveness for learning and retention was measured by two administrations of a test that produced scores for the total test and for each of the six levels of cognition. No feedback was provided on the results of the first test until after the retention test was administered. True retention and gain scores were obtained by counting as retained only those items answered correctly on both tests and as gained those items answered correctly only on the retention test.

The treatment was the same for both groups except that the instructions for the experimental group contained behavioral objectives for the six levels of cognition and the instructions of the control group did not. It was hypothesized that the mean variate scores of the experimental group would be higher than those of the control group for the total test and at each level of cognition.

Grade-point averages, DAT Verbal scores, and the learning test scores were used as the covariates in thirty-seven analyses of covariance. Significant (.05) F values were obtained in three of the analyses. At the synthesis level the control group's mean retention adjusted for grade-point average, mean retention adjusted for learning, and mean true retention were significantly higher than the experimental group's. The thirty-seven analyses of covariance were all based on seven learning and seven retention scores for each group. Significance was found in only one of the fourteen cases - retention of synthesis-level learning. This suggests that the findings were probably due to chance.

It was concluded that behavioral objectives by themselves are virtually useless and perhaps even deleterious unless some activity is provided to ensure that their purpose, value, and intent are made clear to the learner.

The conflicting evidence in the literature may indicate that the value of objectives is very situation particular, depending upon such factors as the subject matter, the student population, method of instruction, time allotted for study, and the method of employment of the objectives. The results support the idea that merely stating objectives may just confuse the learner, which is in line with the negative implications that the concept of set has for specific or numerous objectives.

The highest mean scores were at the comprehension level and the expected trend for lower scores at higher cognitive levels was interrupted by relatively high scores at the synthesis level for learning, retention, and true retention. The experimental group had the higher mean scores for learning at the knowledge, comprehension, and synthesis levels, but these switched to the control group on the retention test.

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The only significant differences in the study were found for retention and true retention at the synthesis level. Since there were no significant differences in gain scores, the control group's significantly higher score for retention at the synthesis level was due to retention of initial learning. In other words, the experimental group forgot more at the synthesis level than the control group did. Since this did not happen at the knowledge and comprehension levels, the experimental group apparently treated synthesis-level learning the same as learning at the knowledge and comprehension levels while the control group did not. If the lack of objectives forced the control group to operate closer to a true synthesis, they should be expected to retain such learning better. This is the type of advantage that is cited for discovery-style, intuitive learning.

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SELECTED BIBLIOGRAPHY

- Alexander, Frank Edwin. "An Educational Innovation: Independent Study in Eighth Grade Social Studies." East Texas State University, 1968.
- Baker, Eva Lee. "The Differential Effect of Behavioral and Nonbehavioral Objectives Given to Teachers on the Achievement of Their Students." University of California, Los Angeles, 1967.
- Bassett, Ronald Edward. "Effect of Training in the Use of Behavioral Objectives and Knowledge of Results on Student Performance in a Mastery Learning Course in Speech Communication." Florida State University, 1973.
- Bishop, Douglas D. "Effectiveness of Prior Exposure to Performance Objectives as a Technique for Improvement of Student Recall and Retention." Ohio State University, 1969.
- Conlon, Betsy Ann. "A Comparison of the Performance of Seventh Grade Students With and Without Prior Knowledge of the Objectives of an Individualized Science Program." Florida State University, 1970.
- Cook, J. Marvin. "Learning and Retention by Informing Students of Behavioral Objectives and Their Place in the Hierarchical Learning Sequence. Final Report." University of Maryland, USOE project number Br-9-C-018, ERIC ED 036 869, 1970.
- Cooper, James Michael. "Two Types of Social Studies Examinations and Their Effect on Student Learning." Stanford University, 1967.
- Cox, Richard C. and Nancy Jordan Unks. A Selected and Annotated Bibliography of Studies Concerning the "Taxonomy of Educational Objectives: Cognitive Domain." Working Paper 13. Pittsburgh: Learning Research and Development Center, University of Pittsburgh, 1967.

- Dalis, Gus Thomas. "The Effect of Precise Objectives upon Student Achievement in Health Education." University of California, Los Angeles, 1969.
- Doty, Charles Ransom. "The Effect of Practice and Prior Knowledge of Educational Objectives on Performance." Ohio State University, 1968.
- Engel, Roberta S. "An Experimental Study on the Effect of Stated Behavioral Objectives on Achievement in a Unit on Instruction on Negative and Rational Base Systems of Numerator." Unpublished Master's thesis, University of Maryland, 1968.
- Fisher, Guy Lee. "A Construct Validation Study of the Taxonomy of Educational Objectives Utilizing the Content Area of Mathematics." Washington State University, 1973.
- French, Robert Leslie. "The Attainment of Non-Cognitive Educational Objectives in Secondary Science." University of Southern California, Los Angeles, 1969.
- Holmes, Joseph Edward. "An Experimental Study of the Achievement Gain of Secondary School Pupils Whose Student Teachers Use Behavioral Objectives." University of Virginia, 1973.
- Kalish, Daniel Miles. "The Effects on Achievement of Using Behavioral Objectives with Fifth Grade Students." Ohio State University, 1972.
- Kurtz, Paul David. "The Effect of Practice and Knowledge of Instructional Objectives on Learning from Prose." University of Michigan, 1972.
- Lawrence, Murray Edwin. "The Effects of Student Familiarity with Behavioral Objectives on Attainment of Goals for a Unit in United States History." Northwestern State University of Louisiana, 1972.
- Loh, Elwood Lockert. "The Effect of Behavioral Objectives on Measures of Learning and Forgetting on High School Algebra." University of Maryland, 1972.
- Moody, David Barron. "Learning and Retention and the Cognitive Level of Behavioral Objectives with Social Studies Independent Study Material." University of Missouri-Columbia, 1972. 1179-A. Sept. Oct. 1973
- Patton, Thomas Charles. "The Effect of Student Knowledge of Behavioral Objectives on Achievement and Attitudes in Educational Psychology." University of Northern Colorado, 1972.
- Prothero, Jon Charles. "An Analysis of the Effects of Instructional Objectives on the Facilitation of Immediate and Delayed Retention of Structured and Unstructured Instructional Material." Florida State University, 1972.
- Shields, Theodore R. "An Evaluation of Achievement by the Use of Behavioral Objectives in Audio-Tutorial Biological Science Class." Western Michigan University, 1973.
- Sulzen, Robert Harvey. "The Effects of Empirical Revision and the Presentation of Specific Objectives to Learners Prior to Programmed Instruction Upon the Criterion Behavior of Military Students." University of California, Los Angeles, 1972.
- Tieman, Phillip Ward. "Outcomes of Televised College Economics Course with Variable Student Knowledge of Objectives." University of Illinois, 1967.
- Torrance, E. Paul, and Judson A. Harmon. "Effects of Memory, Evaluative, and Creative Reading Sets on Test Performance," Journal of Educational Psychology, 52: 207-14, August, 1961.
- True, Robert Joseph. "Advance Knowledge of Performance Objectives and Achievement." Colorado State University, 1973.