

# Effects of classroom testing by microcomputer assignment



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Effects of classroom testing by the microcomputer. Journal of ABCDE.

Microcomputers are being used for a variety of purposes, but research about their instructional effectiveness lags behind adoption rates for the technology. Further, there is a limited research base about the effects of microcomputers in vocational agriculture on learning in the affective, cognitive, and psychomotor domains.

The research base is even more shallow when effects of testing students by computer technology are explored. Comments: The problem statements agreed with the title and seemed to be of educational significance. The problem was not clearly visible to the average reader, and it required several readings to establish why the researchers felt this study needed to be done. It was limited to the researchers' capabilities and resources. oReview of Literature oThe author cited no clear review of literature; however, several appropriate references were used in the introduction section.

These statements contributed to the overall understanding of the subject and to the reasoning for establishing the problem statement. Suggested section titles would have been: (1) competencies vocational education teachers need to use computer technology effectively; (2) effects of microcomputers on learning; and (3) effects of testing students by microcomputer. oHypothesis This research tested hypotheses about how effectively microcomputers could be used to administer an objective classroom test to students who had studied and used computer technology.

Comments: The purpose was clearly and concisely stated and agreed with the title. It was limited to the researchers' capabilities and resources.

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oObjectives Specifically, the study sought to determine: (a) the effect taking an objective final examination by microcomputer would have upon student cognitive performance; (b) the effect this method of testing would have on student attitude about computers immediately after the examination; and (c) whether this method of testing would require more time than conventional paper and pencil testing procedure.

Comment: The author's objectives were answerable, and they chose to obtain them by testing null hypotheses. These hypotheses were testable and served to help explain the problem. oMethodology The treatment followed the post-test only control group design; consequently, the study involved two replications. Both replications were conducted during a Nostate State University course. A two stage random assignment was used in assigning groups and treatments.

The three dependent variables measured in this study were: (a) minutes to complete the test; (b) score on the test; and (c) score on the attitudes about computers. Comments: The methods used to gather the data for this article were clearly explained. The instruments and development were explained, and the reliability coefficients of all possible tests were given. The population used was adequate. No discussion of the statistical techniques was given in this particular section. oFindings Personal data by treatment and control group was provided in table form and explained with a short narrative.

Hypothesis one: A one way analysis of covariance revealed that the two groups were not significantly different in terms of their scores on the 35 item final examination. Hypothesis two: The mean attitudinal scores of the two

groups were positive in both replications, and there was no significant difference in the two groups' attitudes about computers. Hypothesis three: There was a significant difference in minutes required to complete the exam in replication one; however, there was no significant difference in replication two.

Comments: The findings were well organized, sectioned, and reported objectively. The tables were well organized but, due to the difficulty of the statistical tests employed, would not stand alone to the average reader.

- oSummary There was no summary given.
- oConclusions Conclusions and implications were formulated with the knowledge that subjects for this study used microtechnology extensively during a computer applications course. In this investigation, final examination scores were independent of the method of testing.

The method of testing was not a determinant of how students felt about computers. Since time required was not consistent over the two replications, the methods of testing as well as other factors appear to influence the time requirements of test completion. Comments: The conclusions were based on the findings and logically stated.

- oRecommendations “ Additional research is needed in other classroom settings to see if consistent findings about cognitive performances, time requirements, and attitude are achieved. ”

Comments: The recommendations were limited to a call for additional research in the area.

- oOverall Critique This was a very in-depth research project, particularly for a journal article. For the most part, it was well written and well organized. There was a definite need for a short review of literature

to develop the situation. The article did get a little complicated in the reporting of data due to the complicated statistical procedures used. Overall, it was a very interesting, significant contribution to the field of research.