

Student Achievement in a Distance Learning Environment

This two-semester study conducted at Southwest Missouri State University examined the effects of distance learning on student achievement and on student attitudes concerning their learning experiences. For a detailed description of the study and data analysis, see <http://www.aln.org/alnweb/journal/jaln-vol3issue2.htm>.

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The role of technology in the delivery of instruction at universities has been truly explosive. Universities, driven by the promise of economic efficiency, increased convenience to the student population, and expanded accessibility of educational opportunities, have eagerly embraced Internet-based distance learning. This study examined the effect that an Internet-based, distance learning environment had on the achievement of students. Additionally, data were collected to analyze student perceptions of their educational experiences.

The test population was made up of graduate students in a curriculum design and evaluation course. Students were allowed to self-select into either a traditional classroom section or an experimental Internet-based section. The control group received instruction in a traditional university on-campus format over a 16-week period. The experimental group, with the exception of one meeting to conduct training on the use of Internet technologies, attended no classes on campus and had no physical contact with the instructor. Instruction was delivered totally over the Internet.

To assess student achievement, identical 100-point exams, which consisted of objective, short-answer, and essay questions, were administered to both groups. The tests were given during the 15th week of class, monitored by the instructor who also corrected and graded all exams.

The mean score for the experimental group was 91.57 while the mean score for the control group was 92.46. A study of the test score frequencies showed that the highest scores (and the only perfect score) were in the control group; test scores were more consistent in the experimental group. An item analysis of the test showed that the majority of the discrepancy in scores was traced to three short-answer questions. Exclusion of those three questions resulted in the experimental group outscoring the control group on the test though the difference was still not statistically significant.

Examination of student perceptions was conducted through analysis of student exit surveys and course evaluations. Perceptions of the classes and their learning opportunities provided interesting, though not statistically significant, data. Overall the students in the experimental group had a more positive feeling about the course than those in the control group.

Student exit surveys also yielded interesting though statistically insignificant data. In terms of negative perceptions, the control group responses centered on the condition of the room, the amount of time required (no early releases), and the amount of content required to be learned. The experimental group's negative comments related to lack of contact with the professor and the need for more course materials to be made available online. Only one student listed technology as a problem in the learning experience.

The most interesting data were found in the positive comments made by the two groups. Predictably, positive comments from the control group all centered on the level of knowledge and experience of the instructor. The positive comments of the experimental group, however, centered on learner efficacy issues and, surprisingly, the need for group problem solving, consensus building, and communication skills.

Researchers in this study concluded that Internet-based delivery of distance learning courses had no negative effect on student achievement or on the students' perception of their learning experience. Given the rush by universities to use this technology, this is somewhat reassuring but much more research in this area is still needed.

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