

Efficiency Challenge Project

A Two-Year Grant Awarded by the Ohio Board of Regents Kent State University / Cuyahoga Community College

First-Year Report June 26, 2000

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BACKGROUND

The Efficiency Challenge Project (ECP) is a two-year grant awarded by the Ohio Board of Regents (OBOR) in May 1999 to Kent State University (KSU) and Cuyahoga Community College (CCC). This paper presents the first-year progress report for the project entitled: *Evaluating the Costs and Benefits of Remedial Instruction in the High School and College Setting*.

The primary goal of the ECP is to measure costs and benefits of alternative instruction strategies in remedial education, utilizing interactive multimedia software developed by Academic Systems Corp. The ECP's focus is on developing student-centered, rather than instructor-centered, environments for learning. The ECP addresses the segment of entering "traditional age" freshmen (27% in 1993-94 as cited in the original project proposal) not fully prepared to do the work in freshmen-level courses. Case studies are underway at KSU to compare the benefits and costs of specific mediated instruction delivery modes (with mediated

software as the basis for instruction) with the benefits and costs of the lecture delivery model. The software makes it possible to track student progress, which is being monitored throughout the two-year project to assess the most effective learning strategies. Other areas of the project include identification of the support mechanisms necessary for high school teachers and college faculty using and evaluating computer-based instructional materials.

GRANT FUNDING

The grant awarded to KSU from the Ohio Board of Regents provides funding in the total of \$250,000. A major portion of these funds is being used to: 1) purchase Academic System Corporation's mediated instruction hardware/software, including 1000 student licenses with 200 concurrent users, to be utilized over the two-year project; 2) hire a full-time project manager; and 3) purchase student lesson materials. Additional, supplemental start-up funding in the amount of \$80,000 is being provided by the Office of the Vice President of Business and Finance at Kent State University. For complete financial information, please refer to the attached financial statement ¹.

IMPLEMENTATION & PROGRESS

The Efficiency Challenge Project was implemented in August 1999 for the start of the Fall semester. Kent State University's participants² include faculty from the English and Math & Computer Science departments from six of KSU's eight campuses. In support of the primary goal of the ECP, the courses selected for this project are *English 10000 (Introduction to College English)*, and *Math 10005 (Introduction to College Mathematics)*. The number of students involved in the Fall 1999 Math study group sections totaled 117 (students utilizing mediated instruction software) and 90 students in the control group (students in traditional lecture course). The Fall 1999 English sessions totaled 40 students in the study group and 39 in the control group.

¹ Appendices #1 – Financial Statement

² Appendices #2 - Kent State University Participants

Implementation functions to date have included:

- Faculty selection, orientation, and training;
- Establishment of curriculum;
- Identification / selection of student study and control groups;
- Procurement / installation of mediated instruction hardware & software at participating campuses;
- Coordination of hardware and software requirements and installation in classroom/department and student public labs;
- Procurement and distribution of student materials;
- Design and development of research database;
- Determination of research methodologies;
- Securing additional start-up funding (one month's salary for each participating faculty member for training/orientation; lab renovations).

CASE STUDY METHOD

The focus of the ECP is concentrated upon developing student-centered, rather than instructor-centered, environments for learning. Case study research methodologies are being utilized in the ECP with emphasis being placed upon the impact of mediated instruction / distributed learning on faculty/instructors and students. Effects being investigated include:

- The role of the faculty/instructor during a typical class session and outside the normal classroom / class meeting time;
- The role of the mediated instruction software during a typical class session;
- Students' autonomy during a typical class session;
- The students' opinion of the software and teaching methodology. Methodology results will be summarized in KSU's final report at the conclusion of this project;
- Possible cost savings / benefits of utilizing mediated instruction.

SUMMARY OF FINDINGS

Statistics measuring student success using mediated software for Fall 1999 – Spring 2000 are presently being compiled for the research database. A sample of the data types / fields being collected are attached. Complete statistical information will be included in KSU's final report at the conclusion of this project. Preliminary findings from the Fall 1999 courses in *Math 10005 Introduction to College Mathematics* indicate an overall better pass-rate by students utilizing the mediated instruction software than their counterparts in the traditional lecture courses³. However, preliminary findings in the Fall 1999 courses in *English 10000 Introduction to College English* indicate an overall better pass-rate by students in the traditional lecture courses than students utilizing the mediated instruction software⁴.

COST SAVINGS FOR YEAR 1

Kent State was aware in planning the ECP that the initial investment in technology would be expensive. However, after the initial front-end investment, it was predicted that the cost of usage per student would be low. As expected, due to the nature of instituting a mediated instruction / distributed learning program, cost savings have not occurred during the first year.

SECOND YEAR PLAN

A major second-year goal will be to design and establish the ECP as a self-supporting program thus eliminating the need for additional University funding. A self-supporting program should provide cost savings to Kent State University in Year Two.

³Appendices #4 – Math 10005 Graph

⁴Appendices #5 – English 10000 Graph

Appendices 4 and 5

