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ABSTRACT

Labette Community College (LCC), Parsons, Kansas, a public comprehensive community college, received a 5-year Title III grant from the U.S. Department of Education to strengthen their academic programs through the implementation of computer-assisted basic skills instruction coupled with a comprehensive retention program. To study the progress being made toward Title III goals, LCC requested that PLATO conduct a preliminary evaluation of their use of the PLATO reading and writing curricula as a support for their basic writing and reading improvement classes. This report includes an analysis of data from the fall 1999-spring 2000 academic year and fall 2000. Results of this preliminary evaluation reveal that the inclusion of computer assisted technology in the redesigned reading and writing courses is an important component of students' success. Mandatory computer lab time was positively related to the students' success in Basic Writing I classes. With the Compass test used for pretest and posttest, students posted an average gain of nearly 56 points. Fourteen of the 19 students received passing scores on the posttest (74%). In Basic Writing II, in which computer study was optional, students posted an average gain of only 10.95 points, and the range of achievement gains was much wider. In Basic Reading I, which used PLATO's Advanced Reading Strategies and Reading for Information, students demonstrated a 46 point increase in pass rates when compared with data from fall 1999, a pass rate increase of 20% to 66%. LCC plans to incorporate PLATO software into its mathematics curricula during fall 2001. (SLD)

PLATO®

Evaluation Series

Labette Community College
Parsons, KS

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Executive Summary

Labette Community College (LCC), located in Parsons, Kansas, is a public, comprehensive community college committed to meeting the diverse needs of the residents of the Southeastern Kansas rural services area. In the Fall of 1998, LCC received a five-year Title III grant from the US Department of Education. A major goal of the grant efforts is to strengthen their academic programs (particularly in reading and writing) through the implementation of computer-assisted basic skills instruction coupled with a comprehensive retention program. In an attempt to provide some data-based information regarding the progress they were making towards their Title III goals, LCC requested that PLATO conduct a preliminary evaluation of their use of the PLATO writing and reading curricula as a support for their basic writing and reading improvement classes. This report includes an analysis of data from the Fall 1999 – Spring 2000 academic year, and from the Fall of 2000.

Results of this preliminary evaluation revealed that the inclusion of computer assisted technology into the redesigned writing and reading courses is an important component of students' success. Mandatory computer lab time was positively related to the students' success in the Basic Writing I classes. Using the Compass test for pre- and post-test, students posted an average gain of nearly 56 points. Fourteen of the 19 students received passing scores on the posttest (a pass rate of 74%). In Basic Writing II, where computer study was optional, students posted an average gain of only 10.95 points and range of achievement gains was much wider. In Basic Reading I, which used PLATO's *Advanced Reading Strategies* and *Reading for Information*, students demonstrated a 46

point increase in the pass rate when compared with data from the Fall of 1999, from 20% to 66%, using the Compass test.

LCC plans to incorporate PLATO software into its Mathematics curricula during Fall 2001. A follow-up of this evaluation may be warranted as LCC continues to phase in additional PLATO curricula.

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Labette Community College

Introduction

Labette Community College (LCC), located in Parsons, Kansas, is a public, comprehensive community college committed to meeting the diverse needs of the residents of the Southeastern Kansas rural services area. The mission of LCC is to provide quality education and a variety of learning opportunities in a supportive environment. LCC provides opportunities for students to prepare for transfer to four-year institutions, as well as vocational degrees and certifications, continuing education, customized training for business and industry, and life-long learning opportunities (Labette Community College, 2001a).

In the Fall of 1998, LCC received a five-year Title III grant from the US Department of Education. A major goal of the grant is to strengthen their academic programs (particularly in reading and writing) through the implementation of computer-assisted basic skills instruction coupled with a comprehensive retention program. In an attempt to provide some data-based information regarding the progress they were making towards their Title III goals, LCC requested that PLATO conduct a preliminary evaluation of their use of the PLATO curriculum as a support for their basic writing and reading improvement classes. This report includes an analysis of data from the Fall 1999 – Spring 2000 academic year, and from the Fall of 2000.

Program Description

Prior to 1998, LCC English instructors indicated that 60% of students who successfully completed the Fundamentals of English Composition course were unable to meet the minimum skills required to begin English Composition I. Because of this, LCC faculty and curriculum staff reviewed the best practices of other community college programs and found that most community colleges have designed the curriculum for Fundamentals of English Composition to last two semesters as opposed to one (Labette Community College, 1999).

Based on these findings, LCC decided to modify the Fundamentals of English Composition course into two semester-long pilot courses. PLATO was selected as the primary technology-assisted instructional supplement for these courses. The *Basic Writing I* and *Basic Writing II* curriculum alignments were used for the classes. Students using *Basic Writing I* were required to use the PLATO software for one hour per week during the class. In *Basic Writing II*, students were provided with access to the PLATO software as a supplement but were not required to use the software for any predetermined amount of time. Students began using the software in the Fall 1999 semester.

For reading, LCC faculty once again reviewed the best practices of other community college programs. They decided to target their reading improvement classes, and selected PLATO modules from *Advanced Reading Strategies* and *Reading for Information* in order to integrate college level reading materials into reading intensive classes. Students began using the reading software in Fall 2000.

Data Analysis

Fall 1999 – Spring 2000 Data. Pre- and posttest data were collected for 27 students (19 in the Basic Writing I class and eight in the Basic Writing II class). As stated above, students in the Basic Writing I class were required to spend at least one hour per week using the PLATO curriculum. Students in the Basic Writing II class were not required to use the PLATO curriculum, but were encouraged to use the software as needed. Table 1 provides a summary of the Compass test data for Basic Writing I:

Table 1. Data summary for Basic Writing I classes.

<u>Data Source</u>	<u>N</u>	<u>Mean Score</u>	<u>SD</u>
Pretest	19	26.39	11.52
Posttest	19	82.27	14.98
Modules Completed	19	18.83	6.94

Analysis of data from students in the Basic Writing I class demonstrated marked gains in student scores from pretest to posttest. Students posted an average gain of nearly 56 points from pretest to posttest. In addition, students completed an average of nearly 19 of the 24 modules available in the Basic Writing I course (a 78% completion rate). Fourteen of the 19 students received passing scores on the posttest (a pass rate of 74%).

Table 2 provides a summary of Compass data for the Basic Writing II class:

Table 2. Data summary for Basic Writing II class.

<u>Data Source</u>	<u>N</u>	<u>Mean Score</u>	<u>SD</u>
Pretest	8	56.62	3.11
Posttest	8	67.57	26.22
Modules Completed	8	3.83	2.71

Analysis of these data demonstrated only moderate pretest/posttest gains for Basic Writing II students. Based on the data available, students posted an average gain of only 10.95 points, with a mean posttest of only 67.57. Also, the large standard deviation for posttest data indicates a wide discrepancy among the scores. In fact, posttest scores ranged from a minimum of 35 to a maximum of 96.

In addition, the number of modules completed by Basic Writing II students was not impressive. Students only completed an average of four of the 19 modules available (20%). Based on the raw data available, only four of the eight students received passing scores on the posttest.

Overall, results from 1999-2000 represent an improvement over data obtained from the previous year. According to the annual report compiled by LCC (Labette Community College, 2000), these students demonstrated a 17% increase in success rate over students from the Fall of 1998. Success rate was based on students' ability to score at least one placement level higher on the Compass assessment as outlined in Basic Writing I and Basic Writing II.

Fall 2000 Data. Forty-one students were enrolled in the Basic Writing I and Basic Writing II classes (20 in Basic Writing I and 21 in Basic Writing II) in the Fall 2000 semester. Although raw data for these students were not available, LCC (Labette Community College, 2000) reported that 11 of the students successfully completed the Basic Writing I curriculum (55%) and 16 of the students successfully completed the Basic Writing II curriculum (76%). No other data were available regarding these students.

In addition to the Basic Writing curriculum, the Basic Reading I curriculum was implemented in reading improvement classes. Although only summarizing information was available, LCC indicated that 66% of students enrolled in Basic Reading I remained in the course and passed, and average Compass assessment scores increased from 39 to 66.5. When compared with data from the fall of 1999, students demonstrated a 46 point increase in the pass rate, from 20% to 66%. However, no information was available regarding the number of students enrolled in the reading improvement classes, or the individual Compass scores of these students (Labette Community College, 2001b).

Conclusions & Discussion

- Analysis of evaluation data indicates that the inclusion of PLATO computer assisted technology into the redesigned writing and reading courses is an important component of student success. Particularly with the Basic Writing I classes, students demonstrated marked pretest – posttest gain scores as well as a high percentage of successful passing scores.
- Mandatory computer lab time appeared to be positively related to student success. Posttest gain scores were much higher for students in the Basic Writing I class as compared to scores for students in the Basic Writing II class. One difference between the implementation of the two classes was that students in the Basic Writing I class were required to use the PLATO curriculum at least one hour per week, while students in the Basic Writing II class used the PLATO software as a supplement only. LCC has recommended that Basic Writing II incorporate mandatory lab time in order to replicate the greater success of Basic Writing I. If this suggestion is implemented, additional data should be collected to determine its effectiveness.
- LCC plans to incorporate PLATO software into its mathematics curriculum during Fall 2001 (Labette Community College, 2001). A follow-up of this evaluation may be warranted as LCC continues to phase-in additional PLATO curricula.
- This evaluation was completed with minimal quantitative data. Additional data for a more thorough evaluation should include student and faculty surveys and interviews, pre- and post- data with larger populations, as well as long-term

tracking of individual students. With additional data sources, we could better determine the effectiveness of the PLATO curricula as it is implemented over multiple semesters.

- The results of this evaluation are preliminary in nature, but given the demonstrated positive outcomes, we hope to be able to work with LCC as they continue to integrate the PLATO curricula during the remaining years of their grant.

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About the Author

Dr. Thomas Brush is Associate Professor of Educational Technology at Arizona State University. He received his Ph.D. in Curriculum and Instruction with an emphasis in Instructional Systems Technology from Indiana University in 1995.

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