ENHANCING BUSINESS STUDENT INFORMATION COMPETENCE

Final Grant Report

Dr. Carol Blaszczynski and Catherine Marley Haras

California State University, Los Angeles

Abstract from Grant Proposal

This proposed project is designed to increase the level of information competence among business students. While many business students are less likely to experience some of the digital divide issues experienced by students of other majors, they are still lacking in fundamental information competence skills and suffer from the proficiency divide. This project employs a two-pronged approach to measuring information competence: a pre-test and post-test administration of the ETS ICT Literacy Assessment instrument and an electronic portfolio of a culminating course project in business communication, the upper-division writing requirement for business and economics majors.

Results of the project will serve two purposes: (a) to provide evidence for the accreditation process for the Association to Advance Collegiate Schools of Business (AACSB) and the Western Association of Schools and Colleges (WASC), and (b) to provide evidence for designing an intervention, such as an additional course to promote information competence among business students.

Project Activities

Students enrolled in nine sections of business communications, the upper division writing requirement for the College of Business and Economics, completed both a pretest and posttest administration of the advanced level iSkills exam.

Pretests were taken during the first few weeks of Fall 2006, Winter 2007, and Spring 2007 quarters before any interventions took place. During each quarter two course sections served as the experimental group sections (composed of one day section and one evening section), while the control section was a day section. The same two instructors taught the course sections that participated in the study each of the three quarters.

While all course sections received a one- to one-and-a-half hour session of training about using the campus library databases to conduct research, only the experimental groups received workshops focusing on website evaluation using Google/Google Scholar and using American Psychological Association (APA) style to prepare research papers.

The collaboration with the library was instrumental to the success of this grant. Catherine Haras, Information Literacy Coordinator, provided valuable guidance on
matters too numerous to mention and led workshops. Her colleagues, Dr. Alan Stein, the Business Librarian, and Deborah Schaeffer, the Interim Associate University Librarian, led workshops that served as interventions for the experimental groups. Furthermore, the collaboration with the chair and associate chair of the Communication Studies Department in recommending graduate students to grade the annotated bibliographies was critical to the grant.

Posttest administrations of the iSkills examination were given during the last two weeks of the quarter. Students were encouraged to improve their pretest scores by bonus point incentives; pretest scores were emailed directly to students who provided ETS with current email addresses. In the few cases where students could not access iSkills scores, the librarian who was part of the grant provided the score.

Testing Conditions. In Fall 2006 quarter the iSkills test was administered in the Library requiring students to meet in an open setting rather than in the regular classroom. In Winter 2007 and Spring 2007 quarters the testing venue was the classroom. Since all business communications course sections meet in the same classroom, the testing environment was the same for 2007.

To allay any test and/or computer anxiety, students were advised that they could not study for the iSkills exam and that their pretest performance would not be graded.

After signing in on the day of the exam, students were directed to a workstation. Each workstation was supplied with a scratch sheet of paper and pencil for taking notes during the test. Scratch papers were collected before students left the classroom.

In addition to the Library Information Technology Consultant and the instructor, one or two Rovers from the library attended the testing sessions to troubleshoot any problems students might experience with the online testing. The Rovers also provided supervision necessary for test administration.

Following the testing procedures promulgated by ETS, tests takers were instructed to turn off and store all electronic devices. No talking or consulting with neighboring students or their screens was allowed. Once they started the exam students could not leave the room without ending their testing session.

Portfolio project assignment. The portfolio project, annotated bibliographies that were part of the analytical report assignment, was graded by graduate communication studies students each quarter. A rubric adapted created by Trudi E. Jacobson and Lijuan Xi (adapted from Susan E. Beck at New Mexico State University) was adapted by Dr. Blaszczynski for use in the project. Please note that the part of the form that captures “Student ID” was not the authentic student ID number, but rather a random number assigned by the instructor to maintain the confidentiality of the student and to avoid influencing the grade assigned to the project.

A training session was held during Fall 2006 to acquaint graders with the annotated bibliography rubric. A practice grading session familiarized graders with the process.
iSkills Literacy Analysis

Test score changes from the pretest administration to the posttest administration are shown in Table 1. One Fall 2006 evening experimental section experienced a decrease in test scores. The evening section test scores increased from quarter to quarter. Part of the test score gain can be attributed to administering the exam in the classroom in Winter and Spring 2007 quarters rather than in the library, a setting which was familiar and more comfortable for the students. The Fall 2006 evening section was not as motivated to take the examination. Since this was not perceived by the students as a high-stakes testing situation, efforts were made to provide better motivation in subsequent quarters.

Posttest scores of the experimental groups did not appear to be influenced by the interventions experienced by these groups except for one section in Spring 2007.

When test scores were analyzed by gender there was very little difference found between male and female students. The posttest mean of students increased for both genders and varied slightly; the posttest mean for females was 553, while the mean for males was 555.

The test results of BUS 305 students were analyzed by differences in first languages. In all cases, posttest scores exceeded pretest scores. However, the posttest scores for English only and other only students improved significantly. The posttest scores for the English plus other students were slightly less than the test mean as shown in Table 2. Please note that the gain demonstrated by the English only group of 19 points. It is interesting that the English plus other language group experienced the most difficulty in raising the score from pretest to posttest. This finding may be related to less than average reading abilities on the part of our students, a population that consists primarily of second language and cultural minority transfer students. In fact, when students were asked to provide feedback about the exam, several mentioned the amount and difficulty of the reading more frequently than the difficulty of the tasks they were asked to perform.

Deliverables

The grant web page was designed by Dr. Jose Perez Carballo, Associate Professor of Information Systems at California State University, Los Angeles, and can be accessed at http://www.calstatela.edu/faculty/jperezc/test/.

In addition, a copy of the rubric that was used by graduate communication students to grade the annotated bibliographies is attached.

Assessment

The iSkills examination was administered to 229 students over the duration of the three quarters. Student scores on the posttest of the iSkills exam rose each subsequent quarter of the grant, and in eight sections out of nine posttest scores exceeded pretest scores. (The exception was noted in the results section). In fact, in two of the Spring 2007 BUS 305 sections the pretest iSkill exam scores exceeded the posttest iSkills scores from Fall 2006.
The grade on the annotated bibliography assignment did not correlate with the posttest iSkills examination score. Further, post-test scores did not correlate with the grade on the analytical report project but did have a moderate association with the course grade (Pearson correlation of .505) that was significant at the p < .01 level.

Based on the results of the study, we believe that information competence is a complex skill that is not easily predicted or understood. Both project investigators learned much during the grant. While both of us believed we understood information competence, we fine tuned our definition and developed an even greater appreciation for the complexity that surrounds information competence. Adding to this complexity, there is some evidence that first language spoken at home may have an influence on the gain from pretest to posttest administration of the iSkills exam. We recommend additional research (a) to investigate this relationship between first language spoken at home and posttest achievement gains and (b) that pursues interventions to address the gap in achievement.

**Campus Sustainability and Applicability within the CSU**

Because of our findings about the link between second language learners and a gap in the improvement of pretest and posttest scores as compared to the gain made by English only students, we would like to continue to explore the role of reading skills and iSkills achievement. We hypothesize that appropriate interventions would lessen the differences in posttest achievement among the groups of English only, English and other language, and other language as first language spoken at home.

BUS 305 students have traditionally received instruction in using library databases to prepare them for conducting the necessary research for their analytical report assignment. This practice will continue. Workshops in using Google and APA style will be made available to students. Information competence and its role in research will continue to constitute a larger percentage of instructional time than before the grant was awarded.

The project results are applicable to all campuses in the CSU, since each campus has a College of Business and an upper division writing course that requires research and information skills.
Table 1

*Changes in iSkills Percentile Scores from Pretest to Posttest*

<table>
<thead>
<tr>
<th>Group</th>
<th>Fall 2006</th>
<th>Winter 2007</th>
<th>Spring 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental 1</td>
<td>+5.6</td>
<td>+8.5</td>
<td>+15.4</td>
</tr>
<tr>
<td>Experimental 2</td>
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<tr>
<td>Control</td>
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<td>+8.35</td>
<td>+7.7</td>
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<tr>
<td>Group</td>
<td>Pretest</td>
<td>Posttest</td>
<td>Score change</td>
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<tr>
<td>--------------------------</td>
<td>---------</td>
<td>----------</td>
<td>--------------</td>
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<tr>
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<td>561</td>
<td>19</td>
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