Successful Integration of Technology? A Case Study of a First Year Japanese Language Course

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Abstract: This case study aims to investigate how students in a first year Japanese language course at California State University, Sacramento perceived the overall impact of technology to be on their learning. The main focus was on how a technology-enhanced course helped students be receptive to independent learning; attain Japanese language proficiency and cultural knowledge; promote collaborative learning and motivation; and improve academic performance. The technology included use of a course management system (WebCT), an interactive multimedia language learning system (Diva©e Duo), and a high tech classroom ("Smart Classroom"). The collected data has been analyzed quantitatively and qualitatively. This study is significant because it will help foreign language instructors become aware of ways to incorporate technology into daily teaching.

Introduction

Over the last decade, the integration of technology into teaching has been increasingly recognized as a powerful way to enhance learning among students. However, one must raise a question: “How have these attempts benefited or hindered students’ learning?” Parke and Ehrmann (2002) summarized studies of the educational uses of web course management systems conducted by institutions, and reported generally that successful implementation of these system resulted in a high degree of satisfaction among both instructors and students. At the same time, these research studies illustrate difficulties of performing research to measure exact impact of technology on students’ learning. Few studies have explored the overall impact of a technology-enhanced Japanese language course nor have they investigated the impact of a course management system such as WebCT on students’ learning.

This case study describes an attempt to integrate technology into a first year Japanese language course at California State University, Sacramento throughout the fall semester of 2002. We investigated how students perceived the overall impact of the technology-enhanced class to be on their learning compared to a similar Japanese language course that would have relied primarily on paper and pencil exercises.

Research Approach

This case study employed both quantitatively and qualitatively-oriented research approaches. This is an intrinsic case study because it provides an opportunity to gain a better understanding of a particular case. This case study could be viewed as a small step toward grand generalization, but generalization is not emphasized in this research. In this study, we sought to understand how the students perceived a technology-enhanced course, and how we might be able to improve their future learning.

Participants
Students. The participants of this study were thirty students who enrolled in the first year Japanese language course at California State University, Sacramento. It was a racially diverse class. Twenty-six students labeled themselves as intermediate or advanced in their computer skills.

Instructor: The Japanese language instructor has experience in teaching Japanese for more than 12 years at four universities. During the summer and fall of 2002, the instructor participated in a number of university-sponsored training workshops and acquired the necessary technology skills and literacy to conduct a technology-enhanced course.

Technology Consultant. The technology consultant has a background in both computer science and educational technology and has been working in higher education for eight years in the capacity of both faculty consultant and educational software developer. The main responsibilities of the technology consultant in this project included WebCT support and interactive Flash game development.

Setting and Environment

This class met five times a week at 8:00am – 8:50am. Since the university is on a semester system (16 weeks), the total instruction time was approximately 80 hours. Classes were held in a “Smart Classroom” three times a week, and the Foreign Language Teaching Lab twice a week.

Smart Classroom. A “Smart Classroom” is a room equipped with an overhead display projector and a network connection. The Smart Classroom enabled the instructor to display PowerPoint presentations, demonstrate WebCT features, and present Internet resources.

Foreign Language Teaching Lab. The teaching lab is equipped with thirty personal computers (PC) that allow each student to have his or her own station. It is networked with Information & Communication Manager (ICM), and DivaCe Duo. ICM allows teachers to access, monitor and customize student computer activities to each student’s individual needs, and group students together for particular tasks. DivaCe Duo is a digital recorder, with many unique features designed especially for language learning. Each PC has Japanese language fonts installed that enable students to read and write Japanese.

Web Course Tool (WebCT). WebCT is a course management system that is implemented by more than 2,500 institutions in 81 countries around the world (WebCT, 2002). In this course, WebCT was used by the students at least twice a week, both in the teaching lab and outside of class time. Since this course was created with the UTF-8 encoding feature enabled, course content could be displayed in both Japanese and English. This also gave the students the capability to type in Japanese within WebCT’s e-mail and discussion board.

Teaching strategies to meet students’ learning goals.

As discussed in the introduction, the goals of this technology-enhanced course were to help students to: (Goal 1) be receptive to independent learning; (Goal 2) attain Japanese language proficiency; (Goal 3) encourage students to gain an insightful knowledge of Japanese culture; (Goal 4) openly share knowledge, questions and issues with others; and (Goal 5) have a higher level of learner satisfaction. To achieve each of these goals, the following teaching strategies were developed.

For Goal 1, the instructor posted required information on WebCT. For Goal 2, the instructor offered students a variety of opportunities to express their ideas in Japanese. For Goal 3, the instructor assigned students Internet research essays on selected topics (e.g. Japanese geography, food, customs & manners). For Goal 4, the instructor created assignments where students could share their web. For Goal 5, the instructor created various homework and class activities that would facilitate students to utilize their multiple intelligences so that every student could demonstrate his/her strengths rather than weaknesses.

Data collection

At the end of the fall semester of 2002, two surveys were conducted to investigate the impact of technology on students’ learning. The first survey questions were developed as follows. First, we examined questions from The Flashlight Evaluation Handbook (1997). Then, considering the goal of this study, we chose relevant questions, modified them and added appropriate subject matter questions. These questions asked the students to compare this course with a similar paper and pencil based course.

To explore the relationship between the amount of time students spent on learning with computer-based tools and their levels of achievement (course grade), the second survey was conducted openly.
Data analysis

The collected data were analyzed through statistical analysis (Pearson $r$) by SPSS to grasp an overall picture of the impact of technology on students learning. The data collected from open-ended questions were examined through constant comparative methods (Strauss & Corbin, 1990). Following the application of these methods, we looked at similarities and differences within the domain of the empirical data, identified underlying uniformities in the data, and produced a coded category or concept. Tentative theories or theoretical propositions were further explored and enriched through additional instances of data. When it was appropriate, correlation analyses were performed to validate the statements.

Findings, Discussion and Conclusion

Research Question 1

Research Question 2. a

Research Question 2. b

Research Question 2. c

Research Question 2. d

Research Question 2. e

Figure 1: Survey results on the research questions.

Figure 1 indicates the summary of the survey results. The graph on the usefulness of technology
(Research Question 1) shows an overwhelming number of students (90%) perceive that a technology-enhanced Japanese language class benefited their learning.

As for the least beneficial, some comments included: “Audio recordings, because I did not use it as much,” “the on-line quizzes because you either got it wrong or right. There was no partial credit which really hurt me…”

In response to question 2 (a), the survey results indicated that a significant number of participants felt that technology has helped them to be receptive to independent learning. As for the access to WebCT, it was observed that the students who received B as a final grade had more “hits” than the “A” and “C” students; that is, the “B” students could be viewed more frequent visitors and enthusiastic users of WebCT for their learning.

For question 2 (b), 70%-80% students agreed the technology had helped them to attain Japanese language skills as well as analytical skills. Among the skills, most students strongly agreed that they gained Japanese word processing and pronunciation skills.

The response to question 2 (c) was overwhelmingly positive. A student wrote: “I thought this was a very neat part of the class – Much more interactive than a lot of classes are, and it had us looking at aspects of culture we may not have otherwise. Having the questions made by students for students is always sort of fun, too.”

Question 2 (d) focused on how technology fostered collaboration among students. While some students stated their preference of working alone due to their personalities and schedules, some students enjoyed working with classmates using outside of class time.

The level of learner satisfaction, Question 2 (e), indicated that more than 80% students enjoyed studying for this course and actively participated in learning. It is hard to say that their level of satisfaction was rooted in the use of technology since many students mentioned that they enjoyed the class because of social interactions that they experienced in face-to-face classroom activities.

**Discussion**

Is a technology-oriented Japanese language course perceived as better than a traditional course? The findings of this study suggested that the majority of students strongly viewed technology to be beneficial for their Japanese language learning. Then, why did they perceive so? The first explanation could be the consistent and effective use of technology during the class time. Since the class was held at the computer lab twice a week, the students got used to technology and experienced the actual benefits of using technology. The students perceived technology as the important component of their learning in addition to acquiring Japanese language and culture proficiency. Daily usage of the Smart Classroom and Language Lab made the students feel that technology was an integral part of the learning experience.

Secondly, technology has made it possible for the individuals to exercise their strengths, interests, and multiple intelligences. A majority of students chose this course for their personal interests rather than career opportunities. The students majored in a variety of fields and had different language learning attitudes, aptitudes, and abilities.

The third factor could be collaboration. Because CSUS is a commuter campus, it is normally difficult for students to find times and places to meet outside of class to collaborate on projects. Technology enabled students to collaborate even though they were spatially and temporally separated.

**References**


