

Evaluation of the Trial E-Learning Implementation in the Fuji University English Department's Standardized Curriculum

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1. Introduction

The Fuji University English Department currently utilizes an e-learning system as part of its strategy to assist students in improving their English grammar, reading, and oral communicative ability. In preparation for the implementation of this system, a pilot project was carried out in 2011 to accomplish two primary goals : assess the feasibility of implementing and using such a system within the current curriculum, and the efficacy of using e-learning to supplement classroom learning. This project marked the first attempt of its kind by the Fuji University English Department. The current paper describes the design and development process of the e-learning system in terms of content development, technology infrastructure design, and the motivational techniques used to encourage students to use the system. It also discusses student participation, as analyzed through selected metrics. We finish by discussing the current e-learning system content and possibilities for future research.

2. Learning Context

Fuji University students enrolled in the Faculty of Economics are required to earn passing grades in English courses offered by the university to fulfill graduation requirements. These English courses are generally completed by students during their freshman and sophomore years and consist of four 45-hour classes. The courses are comprised of two types of instruction : a grammar and reading focused component conducted by a Japanese instructor, and a communication component conducted by a native English speaker. The courses are divided into tracks consistent with students' English ability, which is assessed through a school entrance English aptitude exam. All tracks are 2 credit courses taught 3 hours a week for 15 weeks, and differ primarily in the speed at which the course's curriculum is covered. The basic curriculum studied by the students is the same across all tracks. In 2012, there were 7 tracks offered by the English program which fulfilled the Faculty of Economics English course requirements.

2.1 Initial Decisions for E-learning Design

In an organizational context, Wagner, Hassanein & Head (2008) determined that "the success of e-learning is dependent on the extent to which it satisfies the needs and addresses the concerns of its key stakeholders." The decision to try an e-learning system was the outcome of meetings which assessed the possible benefits of e-learning for students and the feasibility of implementing an e-learning system by the Fuji University English Department. These initial meetings introduced the English Department faculty to the capabilities of the learning system in terms of possible content and the ways in which the content could be used to assist students in the learning process. The decision was made to implement an online testing strategy using quizzes (see Section 3.). This was done with the objective of supporting the main English program by providing practice for students through an alternative assessment strategy to facilitate their learning (Hutchings (1993)).

Subsequent meetings narrowed the scope of possible content to end of unit quizzes from the course textbook. These quizzes would be introduced to the students in the form of online quizzes, generated by transcribing workbook practice questions and importing these into the e-learning system. These quizzes would be completed by the students in tandem with classroom instruction. All subsequent decisions made in the design and development stages of the e-learning system were based on this approach.

2.2 LMS Configuration

A Learning Management Systems (LMS) is specialized software that facilitates the delivery of education content online and records learner interaction with that content. Numerous forms of LMS exist, both commercial and open source. The LMS chosen for this project was Moodle (Dougiamas (2011)), as it supported all of the requirements needed in this project. Moodle is open source, meaning that it is free of charge to use. The software was loaded on a rented server and configured for the content type, delivery form, and timing of the material delivery according to the chosen assessment strategy.

2.3 Assessment theory

In this section, we discuss the theory upon which the general e-learning system was built. We also describe the theoretical basis underlying the assessment methods that were implemented, accompanied

by an explanation of the assessment strategy used in the Fuji University English Department's e-learning system.

Language learning and e-learning should be more learning than technology driven (Anderson (1998)). It was recognized that the participation of the stakeholders (students and teachers) was dependent on the system's ease of use. This concept was fundamental to the development framework of the testing system. The project aim was to design a series of online quizzes to be taken independently by students outside the classroom. A key concept here is the use of assessment as a teaching tool. Assessment is a fundamental component of the teaching/learning process, serving not only as a way to determine if the learning process was successful, but also as an impetus for students to study the material more thoroughly.

Two general forms of assessment are recognized: formative assessment and summative assessment (Scriven (1967)) (see Section 2.3.1 below). It will be shown later (see Section 3.) that this project used an online testing strategy to support learning (Hutchings (1993)) using the summative assessment approach of quizzing as a planned formative assessment tool (Ellis (2003)).

2.3.1 Summative Assessment and Formative Assessment

Summative Assessment (SA) focuses on progression or to report on individuals' past achievements in order to report a final grade to the student (Poehner & Lantoft (2005)). Therefore SA can be defined as a kind of assessment that focuses on the end results of the learning process. By contrast, Formative Assessment (FA) provides feedback to the learner on their strengths and weaknesses during the learning process to improve future performance (William & Black (1996)). It is believed that FA additionally informs teachers on student learning progress "so that the teacher may be able to provide continued support or FA at a later time" (Townsend (2014)). Ideally, this perspective provides the teacher with additional information on the participation of students in the online quiz course, and teachers are able to identify areas where students are encountering difficulty. In this project (see Section 3.), less emphasis was placed on grading than on providing feedback to both the learner and teacher on the progress towards achieving learning objectives.

3. Project Testing Strategy

This section will outline the quiz testing format and design of the quiz system. The quizzes offered in the online component of this course were designed to review vocabulary and grammar that had been studied in class, with the primary goal of providing feedback to the student and teacher regarding learner progress. This approach gives the e-learning system its formative assessment characteristics (Ellis (2003)). Direct feedback was provided in the form of a pass or fail grade shown to the student upon completing the module. The grade provided to the student after attempting the quizzes was not applied to the students' final score, though it did contribute to a participation score derived from the students' attempts to complete the quizzes. Specifically, participation in the e-learning component of the course constituted 5% of the students' final score. This was instrumental in driving the relatively high participation rate outlined in this paper's conclusion.

The quizzes were attempted in tandem with the in-class content, providing students with practice that supplemented their in-class work, and providing a gauge on their level of understanding. Instructors

were periodically informed of the participation level of their students through spreadsheet printouts of the e-learning course gradebook. This provided teachers with a general idea of the work done outside of class by students, thereby enabling them to provide pertinent support as required.

3.1 Quiz and System Design

The Fuji University English Department e-learning system was designed with the fundamental objective that both students and teachers should be unhampered by the technology and allowed to focus entirely on the education process. That is, the technology should support the learning process with minimal trouble or requirements for technical assistance. This applied to both the instructors and students using the system. To this end, it was decided that information regarding student progress would be downloaded by one person and given to the teachers instead of requiring them to enter the system and retrieve the results themselves.

Content was derived from a course book used in the course's grammar component. English instructors were tasked with transcribing questions from the textbook into a Microsoft Word document. Once completed, the questions were formatted in a simple scripting language recognized by the LMS software that allowed for the questions to be bulk uploaded and automatically formatted. Questions were uploaded into the learning management system (LMS) and checked for accuracy by all teachers in the English Department.

Twelve modules were created, corresponding to material from the in-class textbook. Each module contained two quizzes comprised of five questions each. These questions were transcribed exactly or with minimal deviation from the book's practice questions. As previously discussed, the e-learning system was meant to serve as a supplement for the in-class work. Thus, a deadline for taking each quiz was made to coincide with teaching of the parallel material in class. Within each module, students were required to score 100% on the first quiz in the module to proceed to the second quiz. Scores were automatically calculated by the e-learning software immediately after quiz completion and relayed to the student on a result and review screen. Students could attempt both quizzes in each set an unlimited number of times.

3.2 System Configuration

The e-learning system was designed to be used outside of the classroom, independent of teacher guidance. This necessitated introducing students to how to use the system, in terms of login and attempting the quizzes, and interpreting the quiz results for deciding to retake quizzes or attempt the next stage. This was accomplished through an hour-long training session provided to students before the course was initiated.

To minimize the need for technical support and training, students were directed to a simple web page providing a link to their specific course upon logging into the LMS. After clicking this link, they were taken to their course, which provided instructions for the quizzes and a schedule for taking quizzes. This system configuration minimized learner problems regarding technical aspects of the learning system.

Teachers could view the quiz grades recorded for all enrolled learners, both in their own class and other instructors' classes. This was done to provide teachers information on all classes, allowing teachers to see how each class was performing. Grade retrieval is a simple procedure using the Moodle LMS

and viewing permissions can be adjusted to the requirements of the course. At the end of the course, grades were retrieved in bulk and distributed to each respective teacher to be recorded and included in the final grade calculations.

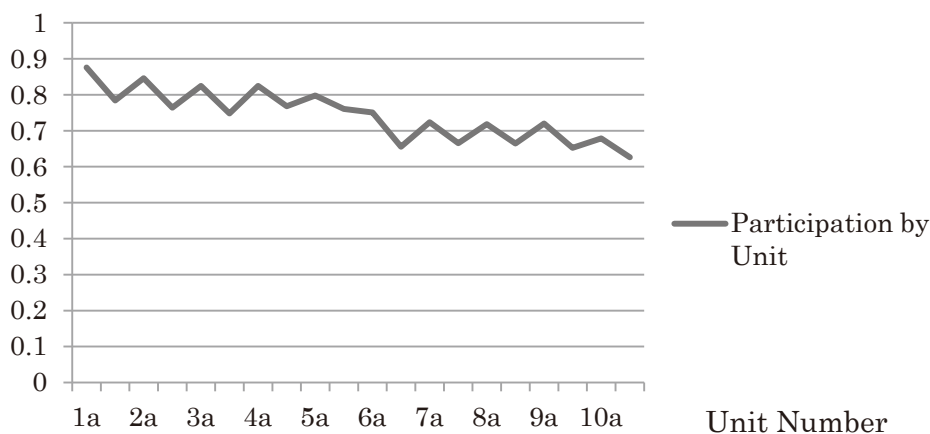
4. Observations and Results

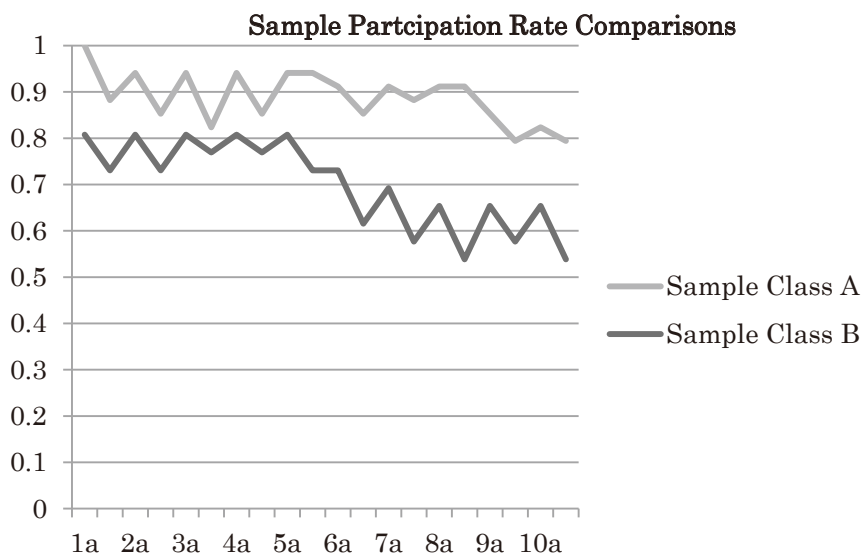
The project's aim was to assess the feasibility of implementing an e-learning system and students' use of such a system in supporting their classroom learning, as measured through participation. The project required the faculty to create the system's content, as well as develop a system to deliver that content, assess and record student participation, and deliver those results to the instructors. Furthermore, it required training the students to use the system, establishing a reward system to encourage students to use the system, and technical support for using the system.

General observations on the use of the system are as follows. The e-learning system provided students extra practice and flexibility in the time and place practice was undertaken. The LMS was accessible via the internet 24 hours a day, and could be accessed through PC or smartphone either on or off campus. Service was seldom interrupted, and provided the students with a stable environment to complete their learning tasks. Student and instructor requests for technical support were rare. Grades were calculated automatically by the e-learning system, freeing instructors' time to work on other tasks.

Informally, the authors thought that if approximately one-third of the students utilized the system, it could be considered successful. The graph in Figure 1 illustrates the participation by students in using the e-learning system across the first 10 units of the course. Average completion rates by the first-year students on the first quiz were approximately 87%, and gradually decreased as the course progressed, with the lowest participation on the final component at 63%. Participation in the e-learning program was likely influenced by the incorporation of the e-learning participation into the course's overall grade as well as course instructors reminding students of the requirement to use the e-learning system. Another possibility is that students realized the benefits provided through the extra practice offered by the e-learning

General Completion by Unit





system.

Comparison of quiz completion rates between the different classes provides insights into the overall motivation of students in their study of English. Completion of the first quiz, 1A, by members of one sample class, referred to as Sample Class A, was 100%, compared with an 81% completion rate of another sample class, referred to as Sample Class B. The completion rate for the last quiz in the series, 10B, was 79% by Sample Class A and 54% by Sample Class B. This difference in the completion rates likely reflects the overall motivation of the students in their attempt to master English as a subject. The willingness of students to attempt the assessments multiple times may indicate the value of the e-learning system as a component of the students' English learning experience. We will research this further in the future.

5. Conclusion

The e-learning system developed by the Fuji University English Department was based on a formative assessment model meant to assist students with learning content being studied in class. The content was created from the class's course book. It was in quiz format that provided students with the opportunity to use the textbook in their efforts to complete the tasks multiple times, with the goal of achieving a 100% correct score for each module attempted. Scores from the e-learning component comprised 5% of the students' final course score.

Participation in the e-learning in terms of quiz completion was higher than the authors expected prior to project initiation. An average completion rate of 87% across all course tracks on the first quiz of the series and 63% on the last quiz of the series suggests that as the semester progresses, motivation tends to wane. Likewise, 100% completion of quiz 1A by Sample Class A, compared to 81% completion by Sample Class B, and 79% completion of quiz 10B, the last in the series, by Sample Class A compared to 54% completion by Sample Class B on the same quiz, highlights different motivation levels of students in the area

of English learning. One possible use of this data is an investigation of how to raise motivation levels among students of lower level classes. The relatively high participation rate across all classes, as concluded by the authors, suggests an e-learning component is a valuable contribution to the English curriculum. The support of the English Department faculty given to the e-learning program in terms of motivating students to complete the e-learning modules likely played a part in the high participation rate. The system was successful in terms of scaling to the needs of the university, and the training provided to the students on how to use the system was effective judging from the lack of requests for technical assistance. Finally, instructors were able to use the participation results for calculating final grades in a relatively trouble free manner.

The current e-learning implementation used by the Fuji University English Department has retained many of the characteristics of this pilot test. It continues to make up 5% of students' total course score, and the format of the material is based on quizzes. The content of the quizzes has been altered to include a video component with the aim of assisting students with listening as well as grammar. Future analysis will be conducted with the aim of understanding the effects of e-learning on both students' English ability and their motivation to study English.

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