

An e-Learning Tool for Blended Reciprocal Teaching on English Textbook for EFL Technology-majored Students

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Abstract: An e-learning tool (called *myERT*, “*my English Reciprocal Teacher*”) was developed to provide a blended learning environment where reciprocal teaching of an English textbook, targeted at EFL technology-majored students, was employed as the main purpose. A pilot study was conducted to test *myERT* and the result showed positive feedback. The basic functions and the observed benefits in the pilot study run are reported in this paper.

Keywords: Tablet, reciprocal teaching, English textbook, EFL

1. Introduction

Technology-majored students in Taiwan, where English is treated as a foreign language (EFL), usually have to read English textbooks about the subject matter on their own without their teachers' guidance (Dreyer & Nel, 2003, Hsu & Ou Yang, 2013). Most of the teachers of technology-related courses are able to teach the contents of the textbooks; however it is difficult for them to deal with the English part of the textbooks in class due to limited class time. Therefore, reading comprehension of the textbook sometimes becomes very challenging for those technology-majored EFL students while guiding reading by the instructors is impossible. With this in mind, the authors developed an e-learning tool named *my ERT* to help technology-related majors to conquer their fear of, and difficulties in, reading their textbooks written in English.

Since teaching English for Specific Purpose (ESP, i.e. Technology English in this case) in the course of technology related subjects has proven to be difficult, the first author, based on his own experience with students enrolled in a software engineering course in a national university in Taiwan, allocated about six additional hours on top of the regular class meeting hours to teach ESP. The results indicated that the students gained a better understanding of English and their competence also improved after the activities, based on the scores of a pre- and a post-test, as well as a questionnaire. However, some limitations accompanying this course appeared to prevent the students from making a significant amount of improvement in the past. The authors believed that the introduction of a new e-learning tool, runnable on both tablet and regular computer, designed to address the past limitations might be of importance. Therefore, this paper focuses on the design, functions, and benefits of this new e-learning tool.

1.1 Applying reciprocal teaching to teach reading comprehension of English textbook in a technology course for EFL students

Reciprocal teaching (Palincsar & Brown 1984; Doolittle et. al, 2006) has long been proven as a useful strategy to enhance reading comprehension because it can enhance the learners' capability to apply reading strategies to their reading from individual and social development perspectives. In reciprocal teaching, students are trained to use both reading strategies to solve reading comprehension from

specific aspects and the metacognitive strategies to mentally regulate their own reading process through various highly interactive instructional techniques among teacher and students.

In our practice in the past of applying the reciprocal teaching (without using an e-learning tool), the teacher first explicitly taught the four reading strategies (questioning, clarification, summarization, and predicting), and another four strategies specific to the subject matter (a total of eight strategies), then the teacher demonstrated the reading strategies with sample articles (called “*the initial RT session*” in this article). More demonstration was done by the teachers, then (1) small group discussion followed the demonstration, (2) student leaders demonstrated these strategies with the teacher’s assistance (scaffolding) and (3) less and less scaffolding was provided. These steps are called “*continuing RT session*”. The teaching of the four reciprocal teaching basic strategies and four subject-specific strategies (in the initial session) helped the students to build a good understanding of reading strategies which can be applied to their reading. The practices in the continuing RT session helped students to become skilled at, and to master these strategies from the perspectives of individual and social development.

Based on the authors’ past experiences, some problems have occurred when using reciprocal teaching, including (1) teachers of the technology course could provide the initial session for the reciprocal teaching, but then only a few continuing sessions could be provided due to time constraints; (2) the sub-group discussion and the student leaders’ practice sometimes needed teacher supervision, and the teacher could not always find time for the supervision; and finally (3) students might need continuing practice with reciprocal teaching for more chapters in the text books in order to master the reciprocal teaching reading strategies; however, class meeting time was not available to do so.

2. An e-learning tool, myERT, for blended reciprocal teaching and its basic functions

To this end, the authors argued that a more time-efficient and effective solution to solve the aforementioned problems was indispensable. Therefore, the “*myERT: my English Reciprocal Teacher*” application, runnable on both tablets and desktop computers, was developed in the context where the initial sessions were conducted as usual without myERT, and then later continued with blended use of myERT. More materials and interactions were provided by myERT in the continuing RT sessions for students and student leaders to practice reciprocal teaching where the teacher could monitor their progress by joining the interaction from time to time, as well as monitor student progress and make any correction, if needed.

Software requirement analysis was conducted based on the aforementioned pedagogical practices where mock-up screenshots and flow charts were produced, the intermediate results were verified with volunteer students, and myERT was constructed and tested. Basic functions for myERT are as follows:

Functions for students themselves:

- (1) Students could mark any portion of the text (ranging from a vocabulary word to an entire section), provide their own content, and label the content as the result of their applying “clarification”, “summary”, “prediction”, or other reading strategies. Students could also choose to publish the labeled content to teachers for review.
- (2) Students could view all their labeled content based on different reading strategies, and a small icon would be displayed on screen to indicate the existence of such content.
- (3) Students could view the answers from the teachers regarding their questions, and the portion of the text corresponding to their question could be highlighted.

Functions for the interactions from students to teachers:

- (1) Students could mark any portion of the text which they had difficulties understanding, and make it as a question for the teacher.
- (2) Students could answer questions posed by the teachers.

- (3) Students could provide responses to teachers when teachers made requests for students to apply certain reading strategies.

Functions for the interactions from teacher to students:

- (1) Teacher could mark any portion of the text, provide his/her own content, and label the content as the result of his/her applying clarification, summary, prediction, or other reading strategies. The results of this marking and writing were available to students as the demonstration of the teacher's modeling of applying such reading strategies.
- (2) Teacher could mark specific text to make it a question for students to answer.
- (3) Teacher could answer question from the students
- (4) Teacher could mark specific text to make it a request for students to apply clarification, summary, prediction, or other reading strategies. The students' responses were sent back to teacher for review.

Functions for teachers themselves:

- (1) Teacher could conduct statistical analysis to understand which parts of the text had the most of questions, clarifications, or applications of other reading strategies by students.
- (2) Teacher could conduct statistical analysis on the responses and answers returned from students to analyze the quality of the students' learning.

Functions for student leaders: The student leaders had the first, second, and fourth of the functions listed above for interactions from teacher to students in order to perform as the student leader.

3. Further works

In this paper, we present the design idea and basic functions for blending a new e-learning tool, myERT, into reciprocal teaching. Through our prototype and pilot study, teachers and volunteer students, who practiced regular reciprocal teaching together without myERT, had positive feedback about the experience. For our future research, we will continue to conduct more quantitative-based studies to examine the effectiveness and efficiency of myERT, and modification and updates of myERT will be made accordingly, based on further research findings.

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