Fostering college students' reading comprehension with online annotations

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Abstract: The study aims to investigate students' progress in reading comprehension in an online annotation system. This study adopted quantitative and qualitative methodologies. The results showed that students made significant progress in reading comprehension after receiving instruction with online annotation. Moreover, students who made more progress employed the strategies of questioning and annotation more frequently than those who made less progress. To sum up, instead of solely teaching multiple reading strategies, it was recommended that multiple reading strategies should incorporate online annotation for helping students overcome their reading difficulties.

Keywords: Reading comprehension, reciprocal teaching, online annotation, collaborative learning

1. Introduction

Concerning the issue of improving college students' reading comprehension, a substantial body of research has suggested that teaching reading strategies is one of the most effective means for helping students to overcome difficulties whilst reading (Dreyer & Nel, 2003). Rhoder (2002) stated that teaching students to apply reading strategies allows learners to become more active and engaged in their reading process. By making good use of reading strategies, students are able to solve certain problems so as to overcome comprehension failures. Therefore, teaching readers how to use effective reading strategies is an essential procedure in the reading classroom, and thus should be integrated into classroom instruction.

Among the studies which employ multiple strategies in reading comprehension, Reciprocal Teaching (RT) has been reported as an effective method to enhance learners' reading comprehension (Alfassi, 1998; Fevre, Moore, & Wilkinson, 2003). One possibility to solve existing problems of reading instruction is to combine RT instruction with peer-assisted learning arrangements in which students read and annotate collaboratively (Spörer, Brunstein, & Kieschke, 2009).. According to Su et al. (2010), annotation is a useful strategy as it leads the learner to engage with the content to be annotated to ensure both its relevance and significance is understood. Likewise, Robert (2009) further stated that annotation practices are particularly useful for knowledge sharing within collaborative learning frameworks. In general, annotation has been considered as an effective strategy since it helps collaborative learning by allowing learners to: (1) draw attention of group members to a specific content, (2) organize and discuss the new material, (3) review others' thoughts in the form of annotations, and (4) improve through receiving feedback and corrections from instructors or experienced learners.

Since taking notes is a common behavior that occurs in the classroom, there is a need to provide annotation systems even in online learning environments as well. Several studies have shown the positive effects of online collaborative annotation on learning performance (Marshall & Brush, 2004; Robert, 2009). To this end, this study attempts to combine RT with a collaborative annotation system to compensate the difficulty of current teaching challenges, and then report on the effectiveness of reciprocal teaching incorporating the online annotation system to support teachers and students in college reading instruction. In addition, the differences in strategies used among students who made more progress and less progress when undergoing RT procedures are investigated.

2. Design of the Reading Instruction Incorporating an Online Annotation System

2.1 Reading Instruction

The course was designed based on the instructional framework of reciprocal teaching proposed by Brown and Palincsar (1984). The key strategies of reciprocal teaching include predicting, clarifying, questioning and summarizing. During the 12-week study, students were instructed in four strategies of RT. After receiving the explicit teaching, the online annotation system was introduced to the students. Through the online annotation system, peers not only can collaboratively read and annotate the texts, but also share the ideas and reading strategies. Additionally, since students' reading behavior, reading process and their collaboration with peers in small group discussion can be recorded, scaffolding can be provided for the peers and instructors when they encounter reading difficulties.

2.2 Online Annotation System

This study takes advantage of multiple functions provided by Google Docs to incorporate in reading instruction. *The annotation tool* is the main function that the students use when undergoing RT procedures. Student can exert this tool to highlight and annotate unknown words, keywords, topic sentences, and supporting ideas. In addition, the students were asked to write down the main ideas of each paragraph, and then integrate them into a summary. In this online setting, they can independently as well as collaboratively annotate the texts based on reciprocal teaching procedures. *The document shared mechanism* allows students to share their notes, invite others for collaborative reading and provide collaborative annotation of the texts. In this online setting, students can observe peers' work, discuss with their peers and give responses to peers' annotation of the text. *The chat room* is a common online learning environment. The students can use this space to generate questions, and process a thread of discussion with their peers in more natural conditions. Besides, with this chat room, the instructor can immediately provide some prompts to scaffold students once they encounter difficulties.

3. Conclusion

The result of this study showed that students made significant progress in reading comprehension after receiving reciprocal teaching with online annotations. Moreover, the differences in strategies used among students who made more progress and less progress when undergoing RT procedures were identified. Students who made more progress employed the strategies of questioning and annotation more frequently than those who made less progress. To sum up, it was recommended that multiple reading strategies such as reciprocal teaching should be integrated into reading classrooms since students' reading performance was improved after receiving reciprocal teaching. Furthermore, when implementing the RT, it is suggested that the instructor can incorporate the online

annotation for helping students overcome their reading difficulties.

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