Using iREAD in Understanding Online Reading Strategies Applied by Science and Technology Students

Ruhil Amal Azmuddin, Universiti Malaysia Pahang, Pekan, Malaysia
Nor Fariza Mohd Nor, Universiti Kebangsaan Malaysia, Bangi, Malaysia
Afendi Hamat, Universiti Kegangsaan Malaysia, Bangi, Malaysia

ABSTRACT

This article describes how with the growth of online learning, reading hypertext materials requires both online reading and navigational strategies. This article was conducted as part of a pilot study on qualitative data collection into reading of Science and Technology hypertexts that focuses on reading and navigational strategies of five university students enrolled in undergraduate Engineering programs. It presents the application of iREAD: Interactive Reading for Academic Disciplines that integrates various e-literacy tools to facilitate reading of academic hypertexts. Student’s participation was within iREAD through the use of annotation tool and discussion forum. The two-phased data collection was conducted qualitatively through semi-structured interviews, screen records, and retrospective interviews. The results show that the participants mainly used a global reading strategy, serial, and mixed overview navigational strategies in the online reading environment. In addition, the article concluded that iREAD assists students to understand and organize hypertexts materials better with the use of e-tools.

KEYWORDS

Education, English for Specific Purposes, Hypertext Materials, Malaysian ESL Tertiary Level Learners, Navigational Strategies, Online Reading Strategies, Science and Technology

INTRODUCTION

Reading is considered to be one of the most important skills needed in learning a language as it is regarded as a means in acquiring knowledge and gathering information. According to LaBerge and Samuels (1974), the process of reading requires understanding the written form on a page that entails several information processing stages. It is considered a complex process but is a much-needed skill especially for learners. Reading does not only increase our knowledge but extends our life skills expounded by the ability to imagine, exert emotional as well as verbal intelligence (Harrison, 2004). In a world in which electronic reading is becoming increasingly common, the reading platform today has shifted from reading traditional text to reading online materials. This shift has created a new form of information that we refer as hypertext. Hypertext is defined as information presented in a nonlinear

DOI: 10.4018/IJWLTT.2018070102

Copyright © 2018, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.
manner where the presentation order is not fixed allowing the reader to have control of the reading process. It allows readers to move from one chunk of information to another through a collection of documents that contain links (DeStefano & LeFevre, 2007). This ongoing tradition of reading from print to screen is increasing and is continuously challenged by the number of digital reading devices such as tablets, laptops and e-books.

Since electronic reading is becoming increasingly common, undeniably, the ability to comprehend and respond to information using specific reading strategies and skills is significantly important in this era of digital information (Akyel & Erçetin, 2009) in order for students to be able to synthesize, evaluate and comprehend information (Coiro & Dobler, 2007). By far, reading strategies play even a greater role in online environments for students at tertiary level compared to reading traditional texts because of the increased use of technology in teaching and learning. Tertiary level students are consistently exposed to online materials to complete tasks, assignments and communicate among each other. In order for them to be successful readers, they need to be aware of online reading strategies and to strategically navigate within an online environment. There are two major reading strategies consisting of cognitive and metacognitive reading strategies. Cognitive strategies aid understanding by creating mental processes of the target language while metacognitive strategies regulates cognitive strategies that assists readers during reading (Devine, Carrell, & Eskey, 1987). In addition, research into online reading strategies has identified metacognitive reading strategies as strategies that will assist learners in reading as learners are able to overcome their reading problems and achieve comprehension.

Moreover, online readers will eventually develop alternative reading strategies because of the non-linear structure that hypertexts are presented in (Ho, Tsai, Wang, & Tsai, 2014). The non-linear structure can refer to a particular reading subject matter such as English for Science and Technology (EST), which is a subdivision of English for Specific Purposes (ESP). The non-linear structure for such EST subject requires scientific skills in scientific literacy and therefore, it is important to explore students’ interaction with online scientific materials (Ho et al., 2014). In addition, higher order skills such as analytical and inference skills are also very important for students to understand scientific literacy especially at tertiary level. This is because students at tertiary level are often exposed to difficult, long and unfamiliar reading materials, which can be a daunting experience for students (Ruhil Amal, Nor Fariza, & Afendi, 2017). For example, a study found that Malaysian ESL learners in the university were not able to infer beyond text-level cognitive processes because they have weak analytical and inference skills based on their reading comprehension written responses (Zuhana, Wong Bee, & Shameem, 2014).

In view of this, this pilot study intended to investigate students’ reading and navigational strategies of Science Technology hypertexts in the Malaysian context. This paper describes how an integrated reading system (iREAD) assists students in reading online for academic purposes. iREAD is an online reading platform that supports learning with its various e-tools such as discussion forums and annotation tools. These e-tool features allow learners to control or monitor their reading in order to understand the hypertexts. The study addresses the following research questions:

1. What metacognitive online reading strategies do ESL tertiary level students use while experiencing difficulties in reading English for Science and Technology hypertexts?
2. What navigational strategies students’ use in reading English for Science and Technology hypertexts?
3. How does iREAD assist understanding of English for Science and Technology hypertexts?

In addition, this study highlights the significance of metacognitive online reading strategies and navigational strategies in reading academic EST online materials within iREAD. Moreover, text selection of Science and Technology hypertext in iREAD was also carefully chosen based on readability index appropriate to the student’s proficiency level.
A Novel Architecture for E-Learning Knowledge Assessment Systems
www.igi-global.com/chapter/novel-architecture-learning-knowledge-assessment/41450?camid=4v1a

EFL Learners' Perceptions of Blog Assignments and Instructors' E-Feedbacks
www.igi-global.com/article/efl-learners-perceptions-of-blog-assignments-and-instructors-e-feedbacks/157421?camid=4v1a