



PRIOR KNOWLEDGE AND THE ROLE IT PLAYS IN L2 READING PROCESSES OF SCIENTIFIC TEXTS AMONGST EFL UNDERGRADUATES

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This paper reports on how EFL undergraduates negotiated two scientific texts in their first year at the university. Besides the reading theory, the research design of this study was guided by the schema theory that accounts for the role of prior knowledge in reading comprehension of texts. Two biology texts which differ in topic familiarity and language difficulty were used to determine the relationships between science prior knowledge and strategy use and reading comprehension scores of EFL undergraduates. A number of instruments to measure science prior knowledge, reading strategies and reading comprehension of both texts were used. For qualitative approach, think aloud protocols and retrospective interviews were conducted to gauge readers' strategy choices and moves. The findings revealed that EFL readers with high prior knowledge did not overtly access their prior knowledge to understand the texts but vice versa for those with less prior knowledge.

Keywords: EFL learners, Second language reading, Prior knowledge, Scientific texts, Reading strategies.

Introduction

Scientific texts are typically domain specific, syntactically complex and low-cohesion (Atkinson, 2001; Conrad, 2001; Halliday, 1993; 1998; Best, Rowe, Ozuru & McNamara, 2005) and thus reading them is very challenging. The challenges are even greater to EFL (English as a Foreign Language) readers as they have to not only make sense of the scientific terminology used but also navigate the linguistic complexities (Amer, 1994; Fang, 2006; 2007; Flowerdew, 1993). Most often, readers of scientific texts are required to make correct inferences to the conceptual gaps that are left unexplained. All these demand readers of scientific texts to be equipped with ample and accurate prior knowledge as well as a certain reading strategies to comprehend the scientific contents (Halliday, 1998; Best, Rowe, Ozuru & McNamara, 2005).

Prior knowledge has been found to significantly affect readers' reading processes (Taub, Azevedo, Bouchet & Khrosravifar, 2014) and reading comprehension of scientific texts (Cromley, Snyder-Hogan & Luciw-Dubas, 2010; Ozuru, Dempsey, McNamara, 2009; Ozuru, Best, Witherspoon, McNamara, 2007). It plays a central role which prompts the use of inferences (Tarchi, 2010), it influences the utilizations of metacognitive strategies (DiGisi & Yore, 1992; Taub et. al, 2014; Moos & Azevedo, 2008),