Connecting Top-down and Bottom-up Processing in Reading Comprehension – Lexical Inferencing and Comprehension of Text

Hiroko Tajika[1], Ryoko Saito[2], Saeko Noda[3], Natsumi Okuwaki[4], Noriko Hoshino[3], Saeko Toyoshima[5]

[1]Kaichi International University, Department of Education
[2]Shirayuri University, Department of Literature
[3]Tsuda University, Department of English
[4]Tsuda University, Department of Policy Studies
[5]Tsuru Bunk University, Center for Language Education

hirokotjk@gmail.com, amer@wta.att.ne.jp, {saekonod, okuwaki, noriko}@tsuda.ac.jp, toyoshima@tsuru.ac.jp

This research investigates how reading comprehension and inferencing unknown words in context can be related. We encourage our students to keep reading without consulting a dictionary in extensive reading. They are encouraged to keep reading by inferring the meanings of unknown words without explicitly confirming the accurate meanings of them. Reading extensively is assumed to enable learners to acquire vocabulary incidentally (Nation & Waring 2020).

Still, we do not know how incidental learning of new vocabulary words actually occurs. This research examines how lexical inferencing occurs in context and at the same time to what extent learners can grasp the meanings of the text being processed. Fifty-nine university students learning English at the intermediate level participated in the experiment. They were asked to infer the meanings of non-words in the context of 4000-word level narrative texts and responded in both L1, i.e., Japanese, and L2. Non-words were used to control any possible variable contributions made by varied lexical knowledge. They were also asked to report all the contextual clues they used to attain the inferred meanings. In addition, they wrote a short summary of the passages. This was expected to demonstrate the levels of text comprehension by the participants.

The results of the quantitative analysis revealed that semantic clues within or beyond the sentence level were most frequently used, which could be reasonable for narrative text comprehension. The qualitative analysis on summary writing shows that the achieved levels of lexical inferencing and comprehension of the reading passage demonstrated in summary writing do not match. In other words, some students who are good at lexical inferencing do not necessarily do well on summary writing, and vice versa. Of course, such patterns as those who are good at lexical inferencing do well on reading comprehension and those who are poor at inferencing show poor reading comprehension do exist. These results indicate that the problem of developing L2 reading skills lies in the fact of not being able to appropriately connect lexical inferencing and comprehension of the gist of the reading passage. This means that L2 readers need to become able to use their lexical inferencing skills to meaningfully connect various parts of the reading passage and attain comprehension of the text (Bialystok 1983; Nagy & Herman 1987; Sternberg 1987; Nagy & Scott 2013; Farstrup & Samuels 2008). In other words, connecting top-down and bottom-up processing needs to be done.

The results obtained in the present research have numerous implications for further developing the pedagogy of reading comprehension and ultimately vocabulary build up. More research is needed to combine the effects of lexical inferencing and the process of understanding the gist of a text.

Acknowledgements

References

Bialystok, E. (1983). Inferencing: Testing the "Hypothesis-testing" Hypothesis. In H. W. Seliger & M. H. Long (Eds.), *Classroom Oriented Research in Second Language Acquisition.* (pp. 104-124). Rowley, Massachusetts: Newbury House.

Farstrup, A. E. & Samuels, S. J. (Eds.). (2008). *What Research Has to Say About Vocabulary Instruction*. Newark, Delaware: International Reading Association.

Nagy, W. E. & Herman, P. A. (1987). Breadth and Depth of Vocabulary Knowledge: Implications for Acquisition and Instruction. In M. G. McKeown & M. E. Curtis (Eds.), *The Nature of Vocabulary Acquisition.* (pp. 19-35). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Nagy, W. E. & Scott, J. A. (2013). Vocabulary Processes. In D. E. Alvermann, N. J. Unrau, & R. B. Ruddell (Eds.), *Theoretical Models and Processes of Reading.* (pp. 458-475). Newark, Delaware: International Reading Association.

Nation, I. S. P. & Waring, R. (2020). *Teaching Extensive Reading in Another Language*. New York and London: Routledge.

Sternberg, R. J. (1987). Most Vocabulary Is Learned from Context. In M. G. McKeown & M. E. Curtis (Eds.), *The Nature of Vocabulary Acquisition.* (pp. 89-105). Hillsdale, New Jersey: Lawrence Erlbaum Associates.