Analysis and Support of EFL Reading Comprehension with Kit-build Concept Map

(キットビルド概念マップによる外国語としての英語の読解の分析と支援)

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ABSTRACT

Reading comprehension in English as Foreign Language is a complex task, requiring a number of different cognitive skills and processes that enable the reader to understand the meaning of the text. Students with difficulties in reading comprehension demonstrate impairments on a number of language tasks. For some learners of EFL, reading comprehension in English can be difficult because they can understand each word individually, but when the words are merged into coherent phrases, they still fail to understand the context as it should. Reading a reading material for EFL readers requires more effort because they are more attached to texts or more frequently required to read the same texts than native readers. Several researchers have tried to build a Learning System to simplify this problem. The effectiveness of the Learning System has been investigated for a variety range of learners.

There are three categories of cognitive processes that affecting the output of learning from text. The first category and the most important is the *selection process* where it involves applying the selective attention to relevant information. The second category is the *internal connection* process where it involves organizing the presented/ selected information from the text. The last category is the *external connection* process which require to relating the presented/ selected information to the prior knowledge that is stored in the memory.

Concept maps are interactive instruments used for information organization and representation. The Concept map has two principal sections. The first component is the concepts that have formed like a circle or boxes of some kind, and the other parts are the connecting line that consists of terms that connect two concepts together. Concept map can

fully facilitate the cognitive processes in Reading, but there is the potential for a failure in the processes when they failed to select the selective information exposed to them and the other cognitive process will also be failed since the selective process is the main key.

To solve the problem, we are using a closed-end version of the concept maps called Kit-build concept map (KB-map). This means that the student cannot build their concept and link, because the system provides it from the dissembled expert map. This approach will avoiding the failure in reading since the selective process is being done by the expert/ teacher. Learners can focus to the text recognition and the structure of the text. As it has the same aspect as the expert map, the closed-end approach can also be easily taken into the automated diagnosis of the learners ' built map. Hence, it will be feasible to find a difference between them from the diagnosis result form.

Previous researchers found that, Concept map learners are more bound to the appearance order of the text while KB-Map learners are not. It still remains unclear what kind of style did the KB-map user use. There are possibilities of ways to construct KB-maps; randomly or based on a certain pattern. The first goal of this research is to confirm the reading style differences between concept map and KB map user. The second aim of this study is improving the learning support on KB-map by adding a new function called source-connection. The aim of this function is to encourage learners to confirm their understanding with the reading material in the form of the map of learners. It helps learners to validate each proposition by establishing a relation between a proposal and a sentence of the reading material.

This thesis consists of five chapters. In **Chapter 1**, the research context and motivation are described, following by research questions, research goals, and the general structure of the thesis. **Chapter 2** consists of the theoretical background that support this study. In **Chapter 3**, we conduct an experiment to analyze the characteristic of concept-map user and KB-map user. Next, **Chapter 4** we are conducting another experiment to measures the improvement that was added in the KB-map. The improvement was aiming to improve the learner's understanding by making clarification of their own understanding. The new function facilitates learners to identify the proposition deeper. We are encouraging them to link the proposition they've made with the reading material. In **Chapter 5**, we made a conclusion, experimental limitation and future work than can be used for further research