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The Computer Adaptive English Tutoring System focusing on Errors often made by Japanese Learners

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Abstract Learners of English as a foreign language make some errors, some of which result from language model built in their process of learning which is different from the correct English language. This study proposes a method of using intelligent language tutoring system to raise awareness of individual learner's misconception, which is the basis of correct English usage.

Keyword CALL, Second Language Acquisition, English as a Foreign Language, Spoken Language, Intelligent Tutoring System, Learner Corpus

1. Introduction

Indicated by Rumelhart (1981), when learning new skills, people rely heavily on their previous knowledge. In the case of second language acquisition, learners' native language becomes the main resource, which the learners often use to build the Interlanguage model (Mason 1993) of second language they are learning in their mind. Therefore, when studying a new target language, the learners of the same native language tend to make common mistakes, some of which result from the influence of their mother tongue.

Japanese learners, as well as other non-native English speakers, make a number of errors in grammar and vocabulary during their learning process. Though some errors are small that the information can be correctly conveyed, the others impair communication or occur frequently so that, as stated by Hendrickson (1987), should be corrected.

This study aims to propose a method of increasing error awareness of Japanese learners of English by correcting errors they often make. Because of the difference between spoken and written English, this study will focus only on spoken language. This method will make use of intelligent tutoring system to which the instructional material is adapted

according to individual errors or misconception.

2. Intelligent Tutoring System

An intelligent tutoring system, which also known as an adaptive learning system, is the computer system to which teaching material and feedback provided to the students are customized according to individual. Generally, an intelligent tutoring system consists of 3 main components: expert model, student model, and tutor model.

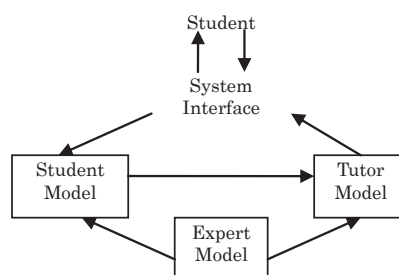


Figure1 Structure of Intelligent Tutoring System

2.1 Expert Model

This model stores the information to be taught, including tutorials or even expert methodologies to the questions.

2.2 Student Model

In this model, each learner's performance will be evaluated by his

interaction with the system. For example, an answer choice that a learner chooses in a test can be determined which concept he has mastered or missed to understand.

2.3 Tutor Model

This model presents instruction and feedback to students' answers by the pedagogical method that is proper for each student's understanding.

3. Methodology

The method proposed in this study is mainly as a self-practicing system for Japanese learners of English as a foreign language. This method is the implementation of the intelligent tutoring system, which uses student error pool consisting of frequent errors in conversational English of Japanese learners as the resource.

Student model will use the error pool to compare with the errors actually made by the learner using the system and determine the concept to be correct. Tutor model will give the feedback to the learner and provide new instruction to fix individual weak points.

The error pool will be constructed beforehand by using the NICT Japanese Learner Corpus, created by Tono (2005) by collecting sentences made by Japanese learners from SST English oral tests. Statistical analysis tool, stated by Tanimura (2004), provided with the corpus will be used to extract frequent errors in each error type, which is defined within the corpus.

4. Evaluation

The goal of this study is that Japanese learners of English have awareness of their own frequent errors. This is evaluated by two aspects. On one hand, the students undergoing the proposed method can point out mistakes in given sentences. On the other hand, the students learning by this method made fewer errors than before studying and

than whom using other traditional learning strategies.

5. Conclusion

This study proposes a method of using intelligent tutoring system in English as a foreign language study to monitor errors made by Japanese learners and provide them proper feedbacks. The purpose, which is to be evaluated, is to increase error awareness, which is one step to mastering English language.

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