Design and Implementation of an Online Auxiliary System for Correcting Japanese Composition

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ABSTRACT

In language learning, error correction information given by teachers for student compositions is of great value in both teaching and learning. However, in traditional paper-based error correction mode, error correction information is easily lost and cannot be fed back to students systematically. The aim of this research is to provide maximum feedback related to systematic correction for students and teachers so that there can be targeted learning and teaching. This paper describes a web-based auxiliary error correcting system for Japanese writing that compares compositions before and after error correction and provides statistics related to error type, error frequency, and error variation. The system was evaluated in the Dalian University of Technology and the experiment proved that teachers and students benefit from this system.

Keywords: Composition Correction, E-Learning, Japanese Learning & Teaching, Japan, Online Auxiliary

INTRODUCTION

In foreign language teaching, composition writing has been major way to test language comprehension skill. Much useful information appears in student composition related to language application, such as error-prone words, grammar and literary style (Kroll, 1990). If these errors can be concentrated, summarized, and emphasized in a teaching course, learning efficiency can be improved by avoiding recurrence of such errors (Wible, Kuo, Chien, Liu, & Tsao, 2001).

In China, most error correction for compositions is paper based, even though Internet penetration rate (IPR) has increased steadily from 1.7% in 2000 to 36.3% in 2011 (Wang & Li, 2012). Corrected compositions tend to be discarded by students, so error information implicit in the composition as well as valuable

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information contained in teacher corrections may well be lost. Such loss leads to loss of the initial step in the feedback loop, which is based on the study of language data collection and teaching feedback. This study focuses on helping teachers in China easily correct learner compositions by using computers and helping to save raw data for further usage.

With increasing contacts and exchanges between China and Japan, the number of Japanese learners in China has already reached 716,353 students (Japan Foundation, 2006). Against this background, building a composition correction system related to Japanese language learning is very meaningful for students who want to review previous work and teacher comments. Section 2 of this paper introduces published work related to the present study. Section 3 provides an overview of the system, including workflow, main functions and implementation. Section 4 describes the design and results of the experiment. The conclusion contains information about future work.

RELATED STUDIES

Before domestic and foreign auxiliary systems were applied in foreign language composition correction, there was much study in this field (Hendrickson, 1978; Witbeck, 1976; Zamel, 1976). As computer technology has evolved, many e-learning systems with various characteristics have emerged:

1. Email-based composition correction systems appeared in the mid-1990s when email began to be popular (Harrison, 1998). Students and teachers could use those systems to communicate more expediently and data storage improved somewhat. However, such systems also had disadvantages in that teachers could not make corrections easily due to limitations related to Email input formats and students could not readily master information about the type of their errors. Teachers and students could not use those systems conveniently to manage and organize data. Moreover, the mix of information corrected by teachers and ordinary mail made it harder to locate specific email for students and teachers. Those systems also did not have an intelligence function to remind learners of some common errors and could not assist teachers in dealing with difficulty experienced by most learners and their learning situation.

2. CoCoA (Communicative Correction Assisting System) (Ogata, Hada, & Yano, 1999) defined unified CCML (Communicative Correction Markup Language) markup language based on SGML (Standard Generalized Markup Language) to provide simple automatic statistics of revised essays, allowing students can overcome errors conveniently (Ogata, Yano, & Wakita, 1998). However, since this system connected teachers and students through email, the problem of data management was not solved and the system did not help teachers summarize errors made by most students. In addition, the system only focused on thesis revision and collected data was not analyzed further.

3. Direct against XECS (Usami & Yarimizu, 2007) expressed original paper-based corrections in computers through unified custom XML language. The biggest advantage of this system was that a researcher could use “the composition of Japanese learners and the native language translation” expediently with unified custom language. However, there was little support for instructors by statistically analyzing learner error data. Similar systems such as MSMT (marking-based synchronized multimedia tutoring system) were designed for English as Second Language learners (Chen & Liu, 2009), but few were designed for Japanese learners.

4. This kind of composition correction system is based on SNS (Social Network Service). Lang8 (Lang-8, n.d.) is now one of them, which is a popular language exchange systems. Foreign language learners send diaries to native language users and ask
Validation of Learning Effort Algorithm for Real-Time Non-Interfering Based Diagnostic Technique
Pi-Shan Hsu and Te-Jeng Chang (2011). *International Journal of Distance Education Technologies* (pp. 31-44).
[www.igi-global.com/article/validation-learning-effort-alGORITHM-real/55797?camid=4v1a](www.igi-global.com/article/validation-learning-effort-alGORITHM-real/55797?camid=4v1a)