Chapter 17
Effectiveness of International Distance Education in High School between Thailand and Japan

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ABSTRACT

This paper presents a view of the effectiveness of teaching and learning systems by focusing on how courses using ICT can be designed based on educational theories and evaluated using student feedback. This study analyzes a distance learning project in which Thai and Japanese (grade 10) students studied how to use MX Flash software for the creation of animations. In designing the course prior to implementation, the theoretical framework was examined and the Constructivism theory and the Bloom's taxonomy were adopted. From these perspectives, effective learning-teaching methods are determined by course content, conditions of teaching processes, and media usage. The teaching processes were classified with the following three stages determined: (1) traditional lecture; (2) self-learning; and (3) collaborative learning. At the end of each class, the students were asked to respond to the course evaluation related to following the three domains: (1) comprehension; (2) cognitive load; and (3) motivation. These evaluations by the students were fully utilized in a regression analysis which examined whether the course design was appropriate for student understanding.

INTRODUCTION

In accordance with wide development of Information and Communication Technologies (ICT) related to distance learning for higher education, the effort to improve learning and teaching quality using ICT support has been reshaping traditional classroom environments for school education. Computers seem to be the most common ICT tool for distance learning. ICT develops distance learning in two directions; one is the so-called e-learning type, and the second is the broadcasting type (Bates, 1986). Much learning contents through PCs has been developed. As for the broad-

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casting type, ordinary classroom lectures can be transmitted information or even images to other classrooms in different campuses or universities via online-communications.

International distance education is one of the most efficient methods of transferring cutting-edge knowledge and technology, even though it has more problems than traditional face-to-face education (Tsuji, 2004, 2006; Tsuji et al., 2002). ICT has enabled the connection of educational institutions in different countries, and has promoted globalization in education. Many prominent universities in the U.S. and Europe have already established campuses in Asian counties and offer the same lectures though the Internet. This is part of their global strategy to cope with increasing competition among them, and some counties have undertaken to transfer educational know-how to developing countries. Developing countries, on the other hand, are looking for a way to satisfy insufficient educational infrastructure and teaching staff as a means of coping with growing demand for higher education. International distance learning thus meets the desires of both developing and developed counties.

Previous Studies

Distance learning offers a range of research topics. According to technological development, some educators (e.g., Hasegawa, 2006) attempted to develop the lecture environment in the university level with the high technological support system from the aspect of reliability, stability and interactivity. In case of international distance learning, many innovative educators attempted to raise teaching and learning quality to the level of face-to-face traditional classroom learning. Cho (2006), for example, studied communication by using e-mail in the class of social study subject between Japan and Korea. Different backgrounds such as culture and language were focuses on the teaching design, and presents actual problems such as the imbalance of communications among students, the language barrier and student's ICT knowledge. Some research viewed the implementation of educational media as supplementary sources to approach learning. Yun (2003) attempted to use various media such as the video conference system, school homepage, and web board in teaching Japanese for foreigners. Few students, however, used ICT media. This situation usually occurs in many case studies, and accordingly it is difficult to identify factors and reasons of successful usage of ICT.

The most of distance education projects therefore seem to be designed according to teachers' individual experiences, rather than to the vigorous analysis of the effective combination of ICT in order to improve students' learning performance. Gagne (1987) believed that the conditions of effective learning include not only important issue relate to how technology used in teaching, but also the capacities and qualities of an individual learner. Moreover, a variation of learners' characteristics from different cultures and backgrounds is difficult to obtain any substantial result of learning effectiveness only by the studying of previous case studies. Learning effectiveness should be analyzed from the viewpoint of educational concepts of teaching and the actual feedback of learning. A few studies, however, have investigated focusing on learners, such as studies of the possibilities and appropriateness of learners receiving knowledge within the limits of technology, variations in teaching method, students' knowledge background, cultural difference, etc.

Objective of this Paper

In order to improve the quality of education through the use of technology and to accommodate the needs, knowledge and characteristic of students, the aims of this study are thus summarized as follows: (i) To design and manage an international distance learning program which