Enhancing pre-service teachers’ learning about on-line learning through use of a 
Self-managed On-line Learning Environment

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Abstract

This paper describes the development of a web-based Self-managed On-line Learning Environment (SOLE) and its feedback from pre-service teachers participated in a pilot project. The main purpose of this project was to enhance the understanding about on-line learning through the actual use of SOLE while pre-service teachers were doing their Teaching Practice in schools. Preliminary results showed that participants in the pilot study expressed positive attitudes and reported better understanding about using on-line learning in their future teaching. However, the unsolved technical problems in the trial process affected their confidence in attempting student-centred learning strategy with the use of the system.

Keywords: Teaching/Learning Strategies, Internet based Systems

Introduction

This paper describes a pilot project on pre-service teachers’ learning about on-line learning. In the project, a Self-managed On-line Learning Environment (SOLE) was developed for a group of pre-service teachers who were doing an “Information Technology in Education” module in Hong Kong Institute of Education. The main purpose of this project was to enhance the understanding about on-line learning through the actual use of SOLE while pre-service teachers were doing their Teaching Practice in schools.

Background

Internet as a tool for learning has been widely used in all school levels recently. From the constructivist view of learning, it is believed that Internet as an information delivery and access platform, a gateway to the outside world, a resources warehouse, a communication centre and a learning partner can enhance learning e.g. [1] [2] [3] [4]. Therefore, helping pre-service teachers to master the technologies and concepts of on-line or web-based learning becomes an inevitable objective in most of the technology in education related module in a teacher education programme. It is evident that future teaching is influenced by the learning experiences that pre-service teachers gained in their tertiary education [5]. Abdal-Haqq (1995) [6] also suggested that the best way for effective technology in education programme is to provide the opportunities for pre-service teachers to apply and integrate technology in the actual teaching situation. Recent studies also point out that the provision of instructional models for classroom implementations of technology is far more significant than the reception of knowledge and skills of technology if teacher education programmes are to be successful [7] [8]. Furthermore, effective learning in a teacher education programme arrives only when pre-service teachers are able to test out the principles and theories in particular teaching contexts and to build their own knowledge through active reflection [9] [10]. In the present project, the application of on-line learning environment was modelled through the use of the institute’s teaching and learning platform by the authors. The use of SOLE in Teaching Practice provided authentic experiences and tools for the pre-service teachers. Such experiences then formed the basis for reflection.

SOLE system overview

SOLE is a web-based system that simulates the operation of a teaching and learning platform. It allows the teaching staff or system administrator (first level users) of a teaching organisation to disseminate the different rights of the system applications to designated users, for instance, the pre-service teachers (second level users) in the present project. The designated users can then use the system and further disseminate the rights to other users, students of the pre-service teachers (third level users) in this case. Such feature enables users of different levels who own the administration right to create and manage a number of independent SOLEs. Therefore, each pre-service teacher in the project becomes a SOLE.

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administrator and has the chance to manage and develop on-line learning activities for his/her students.

In the SOLE, the resources building application allows the upper level users to establish a filing structure and to upload files of various formats to the system. A tool for creating Internet hyperlinks is also built in this application. The discussion forumbuilding tool enables the upper level users to create more than one forum. They can create different discussion topics and to assign specific “Forum Managers” to look after the forums. Apart from written messages for communication in the forum, users can choose to use the specifically designed tool for sound recording. The purpose of such design is to encourage communication among the low level users who were primary students in Hong Kong and were incompetent in keyboarding or Chinese input skill. SOLE also provides a web server function for users to upload their own homepages. The form tool in SOLE allows the upper level users to create online exercises or tests and survey for their sub-level users. The system also provides an online marking tool for the upper level users. Result is sent to the sub-level users directly from the system and is stored in the system for later retrieval. Another survey form tool enables the upper level users to develop an on-line survey form. Feedback from sub-level users in response type or short essay can be retrieved from the report and statistics tool of the system.

**Pilot Study**

SOLE was introduced in a topic about on-line learning in a group of seven pre-service teachers taking the “Information Technology in Education” related module. These teachers were brought into the context of “on-line learning” via studying research and exemplars in the literature with an on-line teaching and learning platform modelled by the authors. The pre-service teachers showed positive attitudes and reported better understanding about using on-line learning in their future teaching in an interview after the project. However, the unsolved technical problems in the trial process affected their confidence in attempting student-centred learning strategy with the use of the system. Nevertheless, the feedbacks from the experiences of these participants helped the continuous development of the SOLE.

**Conclusions and Suggestions**

This paper has described the development of SOLE. Pilot study showed positive effect on the mastery of learning about web learning. This paper also suggests that further in-depth study on the effectiveness of the application of SOLE in actual school teaching with more pre-service teachers should be conducted after the identified problems have been fixed.

It is believed that SOLE will be a powerful tool for pre-service teachers to experience and master the knowledge and skills of on-line learning. It is also addressed that the “learning use of technologies through actual using technologies” strategy employed in this project was also crucial to enhance learning. However, more evidence should be collected through more similar studies before conclusions can be drawn. It is also suggested that SOLE can be a powerful tool for the professional development about on-line learning for in-service teachers when it is well developed. It is expected that when a teacher is granted the administration right in SOLE, he/she can try out as many teaching strategies as he/she can without interfering with the existing school intranet system or learning platform. Through such self-managed activities, the educational use of Information Technology can then be promoted.

**References**


