

The Application of E-learning CMS in Higher Education

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Abstract

Since CMS is not fully utilized, e-learning environments within a CMS should consider students' diversity in terms of met cognitive ability, learning styles, prior knowledge, cultures, and so on. The application of CMS can provide new opportunities to diversify instructional support. Extensive training and support will be essential if instructors are expected to develop and implement CMSs as powerful learning tools. Meanwhile, it is essential that instructors have to keep in mind both technology and pedagogy when designing their course content and assignments for CMS delivery.

Keywords: CMS; cognitive ability; self-regulation; met cognitive skills

1. Introduction

The application of Course Management Systems (CMSs) for web-based instruction has been in stable growth in most of colleges and universities today. A CMS is a software program or integrated platform that includes a series of web-based tools to support a lot of activities and course management procedures. Course management systems (CMSs) are online systems that were originally designed to support classroom learning in academic settings, such as universities and high schools.

It is believed that e-learning environments have the potential to add learning

benefits and improve students' and educators' self-regulation ability, in particular their met cognitive skills. However, the characteristics and functionalities which have been blended into the systems are not fully utilized. As a result, the learning environments in CMSs do not effectively help learners to improve their self-regulation ability. From this, the e-learning environments in CMSs should be rearranged to fit for learners' diversity in terms of learning styles, culture, prior knowledge, and self-regulation ability. Self-regulation means that the learners can show personal initiative, perseverance and adaptive skill in pursuing learning, which needs enough monitoring strategies and met cognitive skills. Therefore, e-learning environments should be designed to encourage the utilization of learners' met cognitive skills by helping learners to grasp relevant content, and monitor and check their learning.

The paper aims to deal with the importance of a met cognitive e-learning method in the application of Course Management Systems. Generally it is recognized that a powerful CMS can promote learners to become more self-regulated. At last, sufficient training and support is of great concern since educators hope to carry out CMSs as powerful learning tools.

2. The development of educational technology

Since the late 1990s, the use of CMSs for

web-based instruction has been in steady growth in higher education. The application of CMSs in colleges and universities followed on the development of educational technology that featured student-centered education and claimed that it would foster more independent and active students. As electronic learning materials can be sent to distant places and it was regarded to be the most advanced learning mode. A latest study in the US indicates that around 96% or more of colleges and universities are or have been setting up online courses. To a great extent, the results of the survey reflect the revolution of education technology and the increasing in the use of CMSs. The integration of CMSs in higher education will impel the teachers to input most of their energy and time in the training on how to increase the effectiveness of CMSs without worrying about the replacement by the systems. Meanwhile, the new education modes are also encountering challenges related to the implementation of e-learning and CMSs.

3. The current elementary situation of course management systems

As we know, the CMS can be regarded as a replacement to the traditional classroom courses such as an electronic repository of course materials. The teachers just use the CMSs to transfer course materials in the form of electronic data and the students can obtain more flexibility. As traditional teaching environments tend to be teacher-centered, teachers can also carry on a true blend approach to course delivery by replacing in-class time with online components. It is thus clear that the method provides more flexibility in management and arrangement for universities and colleges. However, the blend also puts forward the higher request for the teachers who are expected to increase their expertise to cope with the complex

e-learning CMS environment. It is convenient for students to participate in synchronous and asynchronous interaction with either each other or with the teacher in the e-learning course environment through a CMS. What's more, the students can follow the learning process at their own pace through the course materials, and determine their personal needs. At the same time, CMSs offer distance education through online courses. It becomes a general trend for most of colleges and universities all over the world in recent years.

As a matter of fact, most CMSs have their limitations such as compatibility issues and template-driven structures, present CMSs provide extensive blocking materials to users. CMSs can support learner-centered activities, system interactivity, and personalized and flexible instruction, and even rapid feedback. But when the systems' function does not work properly, students reveal the use of CMS is uncertain. Currently the teachers use CMSs simply as a delivery tool for the subject contents. The features such as the capabilities to present the learning material by multimedia ways are more often than not utilized fully. This situation may not have a bad influence on the learning of in-class students but would have a negative influence on the learning of distant students in online courses. The traditional teaching mode does not increase student interactivity or engagement with the content. On the contrary, it gradually reduces the interests of the students and leads them to frustration. At the same time, the web-based communication tools such as discussion forums are embedded in CMSs, but underutilized by instructors and learners. Usually teachers use the communication tools of a CMS, and aims to communicate on course management issues rather than on instructional tasks. It is thus clear that the pedagogical aspect of CMSs is underexploited since the use

of the communication tools does not support the development of met cognitive skills. It is found that effective learners are more aware of their strong points and weak points than average learners, thus they improve their learning ability by thinking through problems, understanding situations, and then making decisions.

4. The role change of the college teachers in the CMS environment

The development of educational technology caused the role change of the teachers in the CMS environment. The teachers play the part of a guide, coordinator, facilitator, and coach of the learning process. They supervise the student and guide them when necessary during the learning activities. Of course, the teachers need technical training and assistance to grasp knowledge and skills on how a CMS can be applied to exploit the advantages to the full. If pedagogical approaches keep in consistence with the technology, the teachers are required to make use of both technology and pedagogy to design the courses or CMS delivery. Nevertheless, teachers don't have to spare time on developing e-learning instructional materials and learning objects or learning the subtle differences of the CMS. On the other hand, if teachers regard CMSs as powerful learning tools, they must receive necessary training and support.

5. Using course management systems as learning tools in higher education

The utilization of CMSs, by both teachers and students, shows that it doesn't do well in offering extensive support for learning. Teachers in the 1980s started to teach their students how to use cognitive strategies. But the study reveals that the instruction of learning strategies in the

long run does not result in self-regulated learning. What's more, learning strategies do not always produce the same results in a different context. Besides the students' self-regulation ability, students' critical thinking skills are also important. As students' demands are diversified, instructional support ought to be personalized. Therefore, instruction of learning strategies must keep in pace with instructional support in order to motivate the students and help them to regulate their learning, and different kinds of design for instructional support need to apply to the different demands and characteristics of the students. By this token, the structural design of a CMS must contain instructional support that enables both students who are lack of experiences and students who are full of experiences in learning online to improve their self-regulation skills. The design of a CMS should consider both the cognitive and emotional domain to enhance students' self-regulation ability. Obviously, one student is required to grasp the more met cognitive skills and adequate monitoring strategies to become a self-regulated learner. To some extent, nowadays CMSs really integrate the options that enable students to customize and personalize their learning experience.

6. Conclusions

In order to promote the development of the CMS as a powerful learning method instead of a mere delivery tool of content, colleges and universities must develop an overall support mechanism and service team for the use of the CMS itself. The team should consist of instructional designers, graphic designers, multimedia specialists, programmers, and information system specialists who are responsible for the faculty development, e-learning course materials design and development, the maintenance and service of the CMS hardware, software, and network. By

ways of seminars, tutorials or conferences, the teachers can be taught to make the best use of the features of the CMS.

7. References

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