

Chapter 11

The Use of Course Management Systems in Pre-Service Teacher Education

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ABSTRACT

Course management systems (CMSs) have now become firmly embedded into pre-service teacher education courses in many universities around the world to support teaching and learning. This chapter investigates some of the features of CMSs and how they are being used. In investigating the use of CMSs, some of the theories/models that underpin online and blended learning including social presence, community of practice (CoP), and constructivism are investigated. Some of the key themes that are discussed in this chapter include blended and flipped learning and the use of analytics. Contemporary spaces such as Facebook and Google Classroom are also investigated.

INTRODUCTION

The use of Course Management Systems (CMSs) or Learning Management Systems (LMSs) is a relatively new aspect of higher education. Since their implementation, they have become widely adopted in many teacher education programs with reports of 95% of United States colleges and universities having adopted some form of online course management system (Pollack, 2003). These systems have been part of the change in educational practice that technology has facilitated allowing for more sophisticated online learning spaces, which in turn allows for a wider variety of learning experiences. Through the use of online systems such as CMSs, physical barriers have been minimised to support the free flow of information (Bishop & Verleger, 2013). Pre-service teachers can now learn anywhere and at anytime through the use of CMSs. These systems serve a number of different purposes; providing resources that students have access to (such as subject outlines and readings), as a platform for assessment and feedback, and as a collaborative space for the sharing of ideas.

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Increasingly in schools there are a number of different platforms that are being used which pre-service teachers need to learn to teach with. This means that rather than being one unified space, CMSs are increasingly becoming a collection of spaces, which serve particular purposes. This chapter will focus on the different spaces and what they can contribute in regard to pre-service teachers' learning. In exploring various CMSs and their different purposes, a number of areas related to their educational use are explored. This chapter investigates the different ways that blended and flipped learning can support pre-service teacher training and focuses on some of the theoretical models and pedagogical innovations that underpins the learning that they support. Another area that CMSs supports, which is considered here, is an understanding of students' learning via learning analytics. The general literature is drawn upon as is research conducted by the author as well as his experiences as a pre-service teacher educator.

COURSE MANAGEMENT SYSTEMS

A course management system is defined as: *a software system that is specifically designed and marketed for faculty and students to use in teaching and learning* (Morgan, 2003). These systems have become a critical component of education at all levels, including primary and secondary education, higher education, continuing education, and professional industry training (Wang, 2014). Management Systems have evolved to deliver, manage, track and assess learning activities in a structured environment. Additionally, the development of the online learning landscape has seen the introduction of new forms of communication, including social networking and content sharing (Rekhari, 2015) as components of contemporary management systems.

Management systems have been designed to support teachers and learners with varying learning philosophies, communication modes (which are supported in part by audio, video, photos, text and interactive simulations), and to facilitate access to content (Black, Beck, Dawson, Jinks & DiPietro, 2007). Some of these learning philosophies are examined in this chapter in relation to the different uses of management systems.

Examples of management systems include WebCT, Blackboard, Learning Space, Moodle and eCollege. Such integrated systems provide a shared space to students and lecturers with tools such as file sharing, social media, discussion forums, wikis as well as group and individual blogs (Howell & O'Donnell, 2017).

While these systems are designed to include the resources needed to support student learning, other systems including Facebook, Google Classroom, Twitter etc. are also widely used to support learning. This chapter uses the term course management system (CMS) as an umbrella term to refer to both CMSs and LMSs and to shared learning spaces which can be linked to form a hybrid CMS.

THEORIES OF LEARNING

Constructivism

A model of learning that supports learning facilitated through CMSs is constructivism, which is an influential model that guides teaching and learning in pre-service teacher education. Constructivism is one of the branches of cognitive psychology and was first proposed by Piaget (1966). From a construc-

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