Measurement of Student Engagement in a Generic and Online Learning Management System-Based Environment

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ABSTRACT

Use of technology on campuses of higher education has changed how students are engaged in the process of learning. It also has brought lot of asynchrony to the definition of class room teaching, active learning, student-staff interactions, and dealing with various academic challenges. The paper presents a study conducted to measure student engagement in a generic and online learning management system-based teaching learning environment. The paper presents threefold results. The first one is on identification of student engagement styles. The styles identified can further be used to design, develop, and implement most student engaging policies on campus which are beneficial to all the stakeholders. Second, the central point of the study is the student and her/his engagement with the learning process. The paper presents a student engagement report card to individual students for their analysis. Informing and involving students to know about their engagement report card would be beneficial. The third is feedback on a trail left by students' logs on the learning management system that can help the teachers to plan the teaching methodology. The methodology used was based on the data collected by the students of the institute/university. A student engagement questionnaire was used to measure student engagement in both generic and online learning environments. A cluster analysis was conducted on the data collected to identify the student engagement styles. A subcategory analysis was reported as a student engagement report card. The student-logged data on the institute learning management system was used to present the third analysis.

KEYWORDS

1. INTRODUCTION

Student engagement is used to, "depict students' willingness to participate in routine academic activities, such as attending class, submitting required work, and following teachers' directions in class" (Kuh (2001)). It has even been suggested that student engagement could be used as an indicator of institutional teaching quality (Kuh (2001)). In higher education, engagement has become

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a catch-all term most commonly used to describe a compendium of behaviours characterizing students (Krause (2005)).

The time students spend on learning tasks and willingness to participate in these activities can be considered as engagement. (Stovall (2003)). Engagement is quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes. Krause and (Coates (2008)). Additionally, (Chen, Gonyea and Kuh (2008)) say that engagement is the degree to which learners are engaged with their educational activities and that engagement is positively linked to a host of desired outcomes, including high grades, student satisfaction, and perseverance.

However, the term is also increasingly used to describe meaningful student involvement throughout the learning environment, including students participating in curriculum design, classroom management and school building climate. (Bomia et al. (1997)). It is also often used to refer as much to student involvement in extra-curricular activities in the campus life of a school/college/university which are thought to have educational benefits as it is to student focus on their curricular studies. (Chapman (2003)).

The current research attempts to measure student engagement in generic and online environment. Such a measurement leads to group students and provide customised learning solutions as per their student engagement styles. A typical report card can be prepared so as to help all stakeholder for supporting the development and providing access to learning environment at Higher Educational Insitutions (HEI)s. The current paper is organised as, in section 2 details on the student engagement, it's measurement and learning environment and need for such research. Section 3 presents methodology used to present the research results and section 4 and 5 presents the results, discussions and conclusions.

2. RELATED WORK

Student engagement research works from the perspective that education is fundamentally about students creating their own knowledge. While students are seen to be responsible for constructing their knowledge, learning is also seen to depend on institutions and staff generating conditions that stimulate and encourage student involvement (Davis and Murrel, (1993)) For the last two decades or so, the penetration of sophisticated technology tools like online learning management systems into many educational institutions have provided a blended learning environment for the current student generation. Learning management systems (LMS) are at the forefront of this technological development. LMS have been designed to have a diverse influence on the ways in which campus-based students engage with their university studies (Hamish Coates (2006)). LMS have the capacity to change how students collaborate with others, communicate with staff, and access the materials which they use to learn. It enriches student's learning experiences and engages them by opening wide range of resources. However, on this important and emerging aspect of higher education very little work has been reported. Research on this aspect comes from National Survey on Student Engagement (NSSE), USA, and also from Australian Student engagement research studies. In India, the National Mission of Education Information Technology Communication (NME ICT), an Indian government body, is also conducting various studies on student engagement.

Before investing on the online infrastructure at Higher Educational Institutions (HEIs), there is a need to understand what themes are important for online student engagement experiences. In a study conducted by authors Farrell and Brenton, five central themes such as student's confidence, learning approach, sense of community, supporting network and balancing life activities and study were proposed. They found that students developed time management and organizational skills in an online setup. They also have reported that successful online engagement enabled a perfect balance of life load and study for students. (Farrell and Brunton, (2020)).

In another interesting study authors showed significant results for student engagement as a mediating variable for perceived measuring of student learning, course content and structure, learner interaction, instructor presence. The paper also presented a relationship among the aforesaid four

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