

The Educational Value of Integrating a Social Networking Platform and a Learning Management System

C. Gremu and M. Halse
Department of Computer Science
Rhodes University
Grahamstown, South Africa
g12g1792@campus.ru.ac.za, M.Halse@ru.ac.za

Abstract

The evolution of teaching and learning from a teacher-centred, knowledge-transfer approach to a learner-centred approach necessitates the evolution of the tools used for teaching and learning. Learning Management Systems (LMSs) which are used to manage and deliver learning contents and other resources online are some of the tools which need to evolve to support the emerging understanding of teaching and learning styles. The inclusion of social features similar to those used for social networking in a LMS can help to enhance the capability of LMSs to support both non-formal and informal learning. This study investigated the educational value of integrating a social networking platform and a LMS and found that although the use of social networking in education may have the potential to promote both non-formal and informal learning, educational institutions intending on following this path should proceed with caution as many factors can affect results.

1 Introduction

E-Learning, which is the delivery of teaching and learning over a networked or a standalone electronic platform [5], has become increasingly prevalent with many education and training institutions implementing online Learning Management Systems (LMSs - these enable the management and delivery of learning content and other services to students [12]) to assist them to deliver training to learners who cannot be physically present in class at the time a course is being offered, or even to complement synchronous classroom learning. In a LMS, creation of content is commonly limited to users of the system

such as system administrators, teachers and tutors and the students are mostly consumers of this content.

The inception of web 2.0 technology saw the proliferation of Social Network Sites (SNSs), that enable users to interact online [13]. A SNS is a web-based service that enables individuals to 1) create a public or semi-public profile within a bounded system, 2) form relationships with other users of the system, 3) view their connections and the connections of other users of the system, and 4) create and distribute content within the system [2]. SNSs provide a favourable platform for individuals to express themselves,

establish new relationships, and maintain old relationships [13]. They are organized around users and they help foster close social relationships with a small group of people with similar interests [13], and enable users to locate data that has been contributed or endorsed by other users [9]. The capability of SNSs to allow users to interact online led to the development of SNSs (e.g. Elgg and Mahara) specifically for learning through interacting with non-institutional and non-formal learning spaces [3].

LMSs mainly support formal learning (which is organised and structured, and in which the learner's objective is to gain knowledge, skills and/or competencies) while SNSs support both informal learning (which is never organised, has no set objective in terms of learning outcomes, and is never intentional from the learner's standpoint [10]) and non-formal learning (lies between formal and informal learning and is the type of learning which is organised, and occurs at the initiative of the individual learner) . This makes the two systems complementary. Integrating features for SNSs into a LMS either through extending the LMSs to include SNSs' features, or through integrating a LMS and a SNS can therefore offer opportunities to support both formal and informal learning.

2 Related Work

Several studies, some of which are discussed below, have been done to investigate the use of social networking in education with only a few investigating the integration of a LMS and a SNS.

Jahan and Zabed Ahmed [6] investigated the students' perceptions of academic use of SNSs at the University of Bangladesh and found that students mainly use SNSs to connect with friends

and classmates, and they rarely use them to communicate with their teachers. Students are, however, keen to use SNSs for academic purposes and this presents an opportunity to engage them to learn informally by seeking, exploring and testing ideas with other students within their own social network. A similar study was done by [1] who investigated students' use of Facebook at the University of Cape Town (UCT), as well as lecturer engagement with students on the social network. It suggested that Facebook made it easy for students to obtain academic information from their fellow students and to connect with other students with similar interests even if they were in different classes or at different levels of study. The students were also able to connect during the holiday through Facebook which was not possible with the LMS which the university used.

Yu *et al.* [13] investigated the social impacts and implications of university students' online social networking using Facebook and showed that individuals' engagement in online social networking is beneficial to their developing relationships with peers, determines how fast they gain an understanding of the universities' norms and cultures, and how fast they adapt to the university environment all of which have a direct positive impact on their learning outcomes.

Rožac *et. al* [11] investigated the integration of Coome LMS and Facebook SNS. But at the time the paper was published, the authors were yet to investigate the educational benefits of integrating the two systems.

All these studies have one thing in common which is the use of a SNS (Facebook) which was not developed for academic use. Another similarity is that, except for the study by Rožac *et al.*, all the other studies did not deliberately engage the participants in using a SNS in their

studies before requesting their feedback on the use of social networking in the studies. The views of the participants were based on their informal use of SNSs or their engagement on a SNS with lecturers in other courses.

3 Integration

Teaching and learning has evolved from a teacher-centred, knowledge-transfer approach to learner-centred approach where the learner is at the centre of the learning [8]. This shift has been due to the learning behaviours students have demonstrated in their learning. According to [4], students learn by seeing and hearing; reflecting and acting; reasoning logically and intuitively; memorizing and visualizing, and drawing analogies and building models. LMSs are however limited in their design in that it is difficult or impossible for them to support different teaching and learning styles. LMSs are mainly used by teachers to create and distribute course materials to students and to track their progress in the course. They provide limited or no support for informal learning and non-formal learning.

LMSs provide limited support for learners to interact online which is a major component of learning in a classroom environment. Learner interactions promote peer learning by enabling learners to gain knowledge and skills through seeking and providing help to each other. As suggested by [3], in order to support the emerging understanding of teaching and learning styles including learning through interactions, e-learning environments should be modified to reflect all the training activities of the learners and should facilitate mobility and constructivist learning with no limit on the time of the day or the location of the learner. This can be achieved through

the introduction of social tools into LMSs which promote user interactions, creation of content by users and their participation online.

4 Methodology

A LMS, Moodle, and a SNS, Mahara (both open source software), were integrated to provide a single-sign-on (SSO) and tested with students who registered for a Computer Science literacy course (code CS1L2) at Rhodes University. Moodle was selected as a LMS for the study because Rhodes University uses a Moodle-based LMS called RUconnected and most of the students at the university were familiar with the system. Mahara was selected because it was designed to support learning and has a rich set of features for this purpose and also because it interfaces cleanly with Moodle. To differentiate the Moodle-based system implemented by Rhodes University from the Moodle-based system used in the study, the Moodle-based system used by Rhodes University will be referred to as “RUconnected” while the one that was used for the study will be referred to as “test RUconnected”.

The integrated system was tested with the students for a period of 5 weeks. The students accessed course materials through the test RUconnected, and they used Mahara to organise and submit their work for marking, to collaborate on the practical assignments, and to interact with other students and tutors. A survey approach was used to collect study data, where an online questionnaire was developed using the questionnaire module of test RUconnected and the students were requested to complete it and provide feedback on their experience using the integrated system. The questionnaire was live for a period

of 11 days. An email was also sent to the tutors, requesting them to provide feedback on their experience using the integrated system.

5 Results

5.1 How students use RUconnected

In order to have a basis for comparison with the students' behaviour using the integrated system, the study collected information on how the students used RUconnected before they started using the integrated system. The results of the study showed that the students used RUconnected mainly to access course materials and to submit assignments. The students never used the system to interact with peers and staff on non-academic matters. However, they did very occasionally use the system to interact with peers or staff on academic work.

The way the students used RUconnected corresponded with their responses on the functions they found RUconnected to effectively support - downloading course materials and for obtaining help from their lecturers. Their opinion was that RUconnected was not suitable as a platform for giving or obtaining help from peers on academic work and for interacting with peers for non-academic purposes. The majority of the students (97%) found the features which enabled them to download course materials to be the most useful. The other useful features were those used to submit assignments, and to access news and announcements. The least number (5%) of the students found the features for sending messages to be useful. The other least useful feature was the discussion forum with 13% of the students responding finding this feature to be useful.

5.2 How students use SNSs

The study also collected information on how the students used SNSs in order to form a basis for comparison on how they used Mahara. Facebook was the most popular SNS among the students with 97% of the participants having used or using the site. Twitter was the second most popular with 53% of the participants having used or using the site and Google+ was the third most popular SNS with 51% of the students having used or using the site.

The majority of the students (97%) use SNSs to connect with family and friends. Other popular uses are information and news gathering (52%), sharing media (51%), making new friendships (48%) and accessing entertainment (41%). The least number of students use SNSs for blogging (10%), searching for jobs (8%) and interacting with brands (10%). The use of SNSs for educational purposes is also low with 30% of the participants indicating using SNSs to access educational materials and 25% of the participants indicating using SNSs to conduct research.

The majority of the participants (83%) responded that they find features for instant messaging to be the most useful in the SNSs. Other useful features are those for sending asynchronous messages (68%), for image uploading (65%), for sharing photos (62%), for friendship management (54%) and for social networking (46%). The least number of students indicated that they found the features for blogging (9%) and for discussion forums (8%) useful.

5.3 How the students used the Integrated System

The study excluded training for both students and tutors based on the assumption that the

tutors being senior Computer Science students, they would learn very easily how to use the system and guide the students, and also that the students would learn very easily how to use the different functions of Mahara using the knowledge they have of using similar functions in other SNSs. The assumption proved to be incorrect and most students experienced challenges using Mahara. For example, most of the students had challenges organising and sharing their work with the tutors even after being given a manual containing all the required steps and being shown several times how to do it.

There was also lack of willingness by most of the students to spend time to create content and connect with others in the system which was probably influenced by their use of SNSs like Facebook where they were already committed and had well established relationships. The content most of the students created in Mahara was limited to their profile information and the work they uploaded after completing their practicals. The practical work was shared with and only with their tutors (for marking and feedback) and was not accessible to other students. A close look at the friendships that existed in the system showed that it was more likely that the students replicated the friendships which already existed offline and through other SNSs. One of the indicators for this was that most of the students had friends from the same year of study and only a few students had friends in a different year of study. The majority of the students also indicated that they are more interested in using familiar SNSs like Facebook and Twitter but this requires an investigation to establish whether they would be happy using these as part of the formal educational courses.

There were mixed comments from the tutors on the use of social networking in the studies.

Those who were for the idea indicated that Mahara enabled them interact with students both as individuals and as a group. They were, however, of the opinion that for social networking to have much impact on the students' learning experience, the social features should be included as part of RUconnected rather than being introduced through a SSO with another system as was the case with the study. This was possibly due to students already being familiar with and having committed to using RUconnected for academic purposes. Those who were against the idea indicated that the students' interaction on Mahara promoted laziness because the students were giving each other answers in the process of their interactions and this did not encourage them to think on their own to understand how to solve problems which would affect their performance during examinations where interactions are not allowed.

6 Discussion

6.1 Use of LMSs

The results of the study show that students use LMSs mainly to download course materials and to submit their assignments for marking rather than as a platform for interactive, non-formal and informal learning. The reason for this is that LMSs provide limited support or no support for users to interact online. For example, little or no support is provided in LMSs for learners to establish custom relationships with a small group of other users except being grouped together via being enrolled for the same courses. As suggested by [13], most online interactions happen in small groups where relationships are close, rather than in large groups.

6.2 Familiarity and Use of SNSs

Many students are familiar with and use SNSs mainly to connect and interact with family and friends. The students are also using SNSs for non-formal learning as evidenced by the number of students using them for information and news gathering. However, the use of SNSs for formal learning is very low as evidenced by the number of the students using them to access educational materials and to conduct research. The popularity of SNSs among the students and their use of SNSs for informal learning make the use of social networking in education a promising option for promoting the students' learning through interaction, particularly if they are included as part of a LMS and the students are encouraged and guided to use them in their studies.

6.3 The Impact of Integrating a LMS and a SNS

Test RUconnected and Mahara were integrated with the aim of engaging the students to use the tools they are familiar with using for informal learning (in other SNSs) for formal learning. The expectation was that the students would use Mahara in the same way they used other SNSs. The way the students used Mahara was not as expected, and the observation was that they used most of its features because they were requested to do so. Their understanding of the use of the integrated system was not different from their understanding of the use of RUconnected, and they still considered Mahara as a tool for formal learning rather than for informal and non-formal learning. This is evidenced by a message from one of the students which read "*This is my work for the 2nd excel practical. By the way I think this social networking thing is going too*

far. Why can't we hand in our work through the normal RUconnected ...". The ideal situation would have been letting the students use Mahara purely for informal purposes with guidance from tutors and staff rather than for submission of assignments.

The overall response of the students was that the features of Mahara were not particularly useful for their learning, and that the use of the SNS did not make an impact on their learning. Except for the features used for blogging and for discussion forums which the participants also found not particularly useful in other SNSs, their responses were that the features of Mahara were not useful, which did not correspond with their responses about similar features in other SNSs.

There is however a potential for SNSs to make an impact on the students' learning experience as evidenced from their responses where they indicated that they did not find being limited to interacting with classmates only to be frustrating and that they do not mind familiarising themselves with new systems. If the integrated system was used for a longer period, and in most of the courses for which the students were registered, they could possibly have become very familiar with the system and the use of social networking in their studies could have made an impact. An indication for this is the message the authors received from one the students at the end of the CS1L2 course which read "*..the way I understand Mahara now, it is a pity that we will not use it again*". This suggests that the students started to understand the aim of Mahara more each time they used it, but that this understanding came close to the end of the trial period for some students, and might not have occurred at all for others.

7 Conclusion and Further Work

The use of social networking in the studies did not receive a positive response in our study because of among other factors the complication of Mahara and the omission of training for both students and tutors. The results of the study, however, do not rule out the idea that social networking services could have educational benefits if integrated in the students' studies. If the challenges like the ones mentioned above are addressed or avoided, and the students are helped to see clear benefits of using social networking in their studies, social networking could have a positive impact in the studies. As suggested by [7], the use of social networking in education should be properly planned with a clear purpose known to all (students, staff and tutors) for it to be successful.

There is however a need for further studies to investigate 1) how the students' informal use of the Internet tools correlate to their formal use of similar tools for learning and how this can affect the implementation of e-learning programs in formal education; and 2) whether using an application that works as a plugin for a SNS like Facebook and offers features tailored for education use but leverages off the strong popularity of the SNS, could be more enthusiastically adopted.

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