



Rhodes University

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

Literature Review

Chikumbutso David Gremu

Grahamstown, South Africa

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1 Introduction

This project involves the investigation of the educational value of integrating a LMS and SNS using Moodle as a LMS and Mahara as a SNS. A review of literature on learning which happen both online and offline and how people interact within a social network will help to build the theory and understanding of the interactions in the two environments under investigation. A review of literature on learning will cover the learning which happen offline among peers, the learning which happens online using LMSs (e-learning), the different learning methods which happens online and their advantages and disadvantages. A review of literature on social networking will cover interactions which happen in the online social network environment using online SNSs.

2 Learning

Learning can either be formal, non-formal or informal. According to [28], formal learning is always organised and structured, and has learning objectives with the objective of the learner being to gain knowledge, skills and/or competencies. Informal learning on the other hand is never organised, has not set objective in terms of learning outcomes and is never intentional from a learner's point of view. Non-formal learning lies between formal and informal learning and it is organised and can or cannot have learning objectives.

3 E-Learning

Different authors use different terminologies including online learning, Internet learning, distributed learning, networked learning, tele-learning, virtual learning, computer-assisted learning, web-based learning and distance learning interchangeably with the term e-learning [1] [15] [26], making it difficult to come up with a generic term to define e-learning. The common factor in all these terms is the use of technology in the delivery of teaching and learning. Anderson [1] defines online learning as the delivery of teaching and learning over the Internet; Welsh [40] defines e-learning as the delivery of teaching and learning over the Internet and intranet; and Itmazi [15] in his definition of e-learning included any other multimedia technologies in addition to the Internet and intranet as the delivery media. According to [26], e-learning incorporates all educational activities carried out by individuals or groups either online or offline, synchronously or asynchronously via networked or standalone computers and other electronic devices. Naidu [26] breaks e-learning down into the following modalities:

1. **Individualized self-paced online e-learning** where an individual learner accesses learning materials online;
2. **Individualized self-paced offline e-learning** where an individual learner accesses learning materials offline;
3. **Synchronous group-based e-learning** where a group of learners work together in real time via intranet or Internet; and

4. **Asynchronous group-based e-learning** where a group of learners work together through Internet or intranet but their interactions are not done in real time.

This thesis adopts and consistently use the term “**e-learning**” and it is used to mean the delivery of teaching and learning over a networked or standalone electronic platform. Based on this definition, learning which takes place through the Internet, intranet or storage media like CD-ROMs and DVDs will be considered to be part of e-learning.

Many universities around the world have installed facilities for e-learning such as LMSs, and other online learning resources, video-conferencing technologies and other audio-visual technologies, making e-learning “part of the normal educational provision of ‘conventional’ campus-based universities” than as a tool for distance learning as it has been viewed traditionally [12, p. 62]. Adoption and implementation of e-learning in universities has increased in recent years mainly due to increased ease of access to Information and Communication Technologies (ICTs) and the continuous decrease in the cost of implementation of these technologies (to which reduced hardware costs has been a factor) [26]. A study by [12] on what university teachers think e-learning is good for in their teaching found that e-learning technologies can provide information to students, support occasional online communication, help to engage students in online discussions, and support knowledge-building tasks. All these activities do not require students to be at the same location or to interact in real time if an asynchronous LMS is used. The key attribute of e-learning using an asynchronous LMS is the flexibility it provides in eliminating the need for learners and instructors to be at the same

location during course delivery and this has made asynchronous e-learning popular and successful.

Learners' self-motivation is very critical in e-learning especially in individualized self-paced, offline learning, where an individual learner is at the centre of the learning with no interaction and support from other learners and instructors. It is very unlikely for an individual learner, studying offline, to complete a course with the absence of self-motivation. In order to increase learners' motivation, e-learning modules should be interactive, interesting and informative [21].

The different types of e-learning may be appropriate in different situations and may produce different results if used in similar situations. Success of e-learning is dependent on the delivery method and course content [21]. Asynchronous and synchronous e-learning support different purposes [14] and it is important that before an e-learning method is selected, the implementers should ensure that it is appropriate for the intended objective. Content used in a particular type of learning should also match with the objective to be achieved.

3.1 Asynchronous E-learning

Asynchronous e-learning is the type of e-learning where learners study at the time of their convenience, and does not require simultaneous participation of instructors and learners [21]. This type of learning is commonly facilitated by media like email, online discussion groups or forums , bulletin boards etc. The learning materials used in this type of e-learning may include audio, text, graphics, video, animation or a combination of some or all of these features

in order to make learning easier and more exciting. The key attribute of asynchronous e-learning is the flexibility it offers to learners in terms of study times and location.

3.1.1 Advantages of Asynchronous E-learning

Asynchronous e-learning is the common type of e-learning being used by different universities and organisations [35]. Its popularity is mainly due to the flexibility it offers to learners in terms of independence of study times, location and availability of space [21]. Where a LMS is used, learners log into the LMS at the time of their convenience, download course materials, and read and send messages to their teachers and fellow learners. Learners from different locations and time zones can participate in the same course and have access to the same learning materials at any time and from any other location. All the learners also have access to up-to-date course materials because changes of the course content in the LMS are reflected immediately [1]. Discussions in asynchronous e-learning systems are recorded and are accessible to any other learner who logs into the system [21]. Learners who are trailing behind in the course benefit by referencing the discussion threads and this assists them with the directions the course is taking making it easy for them to catch up with their fellow learners.

Asynchronous e-learning allows learners to plan and take control of their learning times and they also have control over the pace they conduct their studies [21]. Absence of pressure to complete a course allows learners to proceed to the next level of the course after fully understanding the material they are currently studying. Learners also have control over the order in

which they conduct studies [14]. This allows them to skip learning materials they already know and concentrate on what they need to learn, enabling them to successfully complete a course earlier than originally planned. Some asynchronous e-learning systems provide features to track progress of learners, and for the learners to bookmark a course in order to be able to stop and resume a course from a particular point [9]. These features are important because they can be used by instructors to provide proper guidance to learners and also for learners to easily track and manage their progress.

Flexibility of combining learning and work facilitates situated learning or immediate application of knowledge and skills gained during the course [1] which can further enhance a student's understanding of the subject. When asynchronous e-learning is used to complement other types of learning like classroom learning in what is called blended learning [19] they present additional benefits which are discussed in section 2.3.

3.1.2 Disadvantages of Asynchronous E-learning

As suggested by [14], asynchronous e-learning might not be appropriate in all types of learning leading to various challenges if not appropriately used. Absence of live interaction in asynchronous e-learning denies learners the opportunity to ask questions and receive immediate responses to their questions [14]. Learners only get immediate feedback if other learners or instructors are logged into the system at the same time they are asking the questions otherwise they have to wait until they login. Absence of real-time assistance may delay a learner's progress if successful completion of other modules is dependent on the successful completion of the current module. Learners'

self-motivation is very critical in asynchronous e-learning because of the high level of control they have over their studies. With unlimited flexibility and less self-motivation, some learners struggle complete the course leading to lower success rate.

3.2 Synchronous E-learning

Synchronous e-learning is the type of e-learning where learners and instructors participate simultaneously and their interactions happen in real time [21]. It is commonly facilitated by media such as video conferencing, teleconferencing, online chat programs etc. This type of learning is similar to instructor-led classroom learning because of the real-time interactions which happen between instructors and learners and among learners. The advantage of this type of learning over traditional classroom learning is that it is independent of the geographical location of the instructor or the learner [1].

3.2.1 Advantages of Synchronous E-learning

Synchronous e-learning defeats the barrier of physical location to have real time interaction between instructors and students as mentioned above [1]. With proper technologies, learners from different locations and time zones can interact with each other and with their instructors in real time similar to what happens in a traditional classroom environment. Real time interactions afford learners an opportunity to get timely feedback from other learners and instructors on the questions they ask making learning easier for some. This type of learning is very important for learners who face difficulties understanding course materials without support from instructors or

fellow learners, or learners who struggle with motivation. It also provides instructors with the liberty of delivering a course from any other location as long as the required equipment is available. The advantage of this type of e-learning over asynchronous e-learning is that it eliminates the isolation experienced by learners in an asynchronous environment due to limited or no interaction with other learners or instructors [14].

3.2.2 Disadvantages of Synchronous e-learning

Synchronous e-learning has several disadvantages which mainly borders on technology. According to [15], synchronous e-learning is heavily reliant on technology which also determines the quality of the learning. Bandwidth limitations can compromise the quality of multimedia (video and audio) content causing unnecessary delays which affects student's understanding of course materials. The other disadvantage is that discussions during the course are not automatically recorded as is the case with asynchronous textual e-learning denying learners an opportunity to use the recordings for their revision, unless recording mechanisms are in place to do things like capture audio and video, or log real-time text chat. Students can only reference the discussions if they were recorded and posted in a LMS or distributed to them on other media like CD-ROMs.

4 Blended Learning

Blended learning is the mix of delivery methods for teaching and learning aimed at accommodating the various learning needs of a diverse audience

in a variety of subjects [19]. Some of the delivery methods which can be blended are instructor-led classroom learning, asynchronous e-learning and synchronous e-learning.

4.0.3 Advantages of Blended Learning

Blended learning can be more effective than non-blended learning because it combines the strengths of the delivery methods in the blend [34]. King [19] suggests that blended learning allows instructors the flexibility of adapting a delivery method to meet the learning styles of different students. This can help to re-vitalise subjects that have lost their appeal by building interest in the students resulting in more effective learning. She however advises that for blended learning to be effective, the selected delivery methods should be appropriate to match with the subject matter and the audience.

Blended learning extends the reach of the audience as compared to using a single method of learning [34]. For example, instructor-led classroom learning limits access to the course to only those who are physically present in the classroom. A blend of classroom learning with synchronous e-learning can accommodate students who cannot afford to be present in class during course delivery because of the limitation of their geographical location. Recording the proceedings of classroom learning and uploading them in a LMS can further extend the reach to those who are not able to be part of the course because of their location and time zone, or simply because of clashing commitments.

5 Peer Learning, Peer Tutoring and Peer Assessment

5.1 Peer Learning

Peer learning is the learning which happens among peers through helping and supporting each other [36]. In academia, it involves a group of students learning with and from each other [5]. Examples of peer learning groups include student-led workshops, study groups, assignment and project teams, class feedback sessions and Internet forums. As indicated by [5], the peer learning approach may either be established and monitored by a teacher or students might organize themselves in groups if they view working in groups to be beneficial. Where teachers are involved in the establishment of the groups, they do not control the proceedings of the groups even if group interactions happen in their presence. Teachers intervene only when they have been requested to do so or when they observe that the discussions are proceeding in the wrong direction. The minimal intervention of teachers in the learning process provides an environment where students feel free to put forward their ideas and practice their communication skills on the subject being discussed.

Students are encouraged to learn in groups in order to afford them an opportunity to seek and give help to each other. Students who ask for help benefit by gaining different perspectives from their fellow learners, and those who offer help benefit by exploring their own understanding through their explanations. Even those who just observe benefit from the different kinds of explanations offered by other students which might assist them in solving

problems they are experiencing [18].

Peer learning is commonly used in university courses where students are requested to write and submit assignments or to do projects in groups. Group learning includes students working collaboratively with others, taking collective responsibility for identifying their own learning needs and planning how these might be addressed, and deepening their understanding of specific course content [5]. Acceptance of peer learning by students and its ultimate success is dependent on the organization of the group, the group task, group membership and how the groups will be held accountable or assessed [3]. Students by nature are used to working individually and competing with each other for grades. Group work, however, requires them to share ideas, take risks, listen and agree or disagree with others, and generate and reconcile point of views [3]. It is therefore most likely that students will participate in group activities if they see sufficient benefits for the time they invest in the group work. The benefits students look for include higher grades, the help they obtain from peers and the support and motivation they gain from other students from the group [18].

5.2 Peer Tutoring

Peer tutoring commonly involves advanced students in a class, or those studying in later years, taking limited aspects of a teacher's instructional role to teach other students [5]. In peer tutoring, there is a clear and consistent differentiation between the teaching and learning role though the teaching role is done by students. There is a high focus on curriculum content and there are usually clearly laid down procedures in which participants receive generic

training [36]. In another method of peer tutoring called reciprocal peer tutoring, students act as both teachers and learners [13]. This arrangement is beneficial because it enables students to gain from both the preparation and instruction of the course in which tutors engage, and from the instruction that tutees receive.

5.3 Peer Assessment

Peer assessment is the process of having the members of a group evaluate and provide feedback on the extent to which each of their fellow group members have exhibited specified traits, behaviours, or achievements [17]. Peer assessment can enhance self-assessment and knowledge about when and how to use particular strategies for learning or for problem solving [36]. Peer assessment enables students to learn from the feedback they get from other students and also from reviewing and providing feedback on the work of others.

6 Social Networking Sites (SNSs)

According to [8], a social network is a group of individuals who share common interests. Some of the common interests of individuals in a social network include the community the individuals live in, their career and social interests, their common friends and their beliefs. Relationships in a social network can either be online through a SNS or can be in the offline environment.

A SNS is a “web-based service that allows individuals to create a public or semi-public profile within a bounded system, form relationships with other users of the system, and view their connections and the connections of other

users of the system” [6]. SNSs are organized around users and they provide “a basis for maintaining social relationships, for finding users with similar interests, and for locating content and knowledge that has been contributed or endorsed by other users” [25, p.5]. Interactions in SNSs are done through posting and commenting on messages, pictures and videos on an individual’s profile or profiles of other users to which an individual is connected; chatting through SNS’s inbuilt programs similar to email and online chat; and making online voice calls (VoIP). Online social networking emerged and was popularized with the inception of web 2.0 technologies [42] defined as “more personalised, communicative form of the World Wide Web that emphasises active participation, connectivity, collaboration and sharing of knowledge and ideas among users” [24, p. 665]. Web 2.0 applications include wikis, blogs, SNSs and photo and video sharing sites.

6.1 Social Networking in South Africa and selected countries

According to the South African Social Media Landscape 2012 report on the study of the use of social media in South Africa by World Wide Worx and Fuseware [41], the use of SNSs among rural and urban dwellers and across different age groups has been increasing. According to the study findings, by August 2012 there were 5.33 million South Africans who were accessing Facebook through the Web while 6.8 million people were accessing Facebook through their mobile phones. The number of South Africans using Twitter, Mxit and LinkedIn were 2.43 million, 9.35 million and 1.93 million respectively. When the same study was conducted in 2011, it revealed that Twitter

and Facebook had 1.1 million and 4.2 million users respectively; this translates to a growth rate of around 100, 000 new users per month for both Twitter and Facebook. Linked in had 1.1 million users in 2011, giving it a growth rate which is slightly lower than that of Twitter and Facebook.

A similar study was done in the U.S.A. by the Pew Internet and American Life Project, this time focussing on the usage of SNSs by different age groups. The results of the study conducted showed that 41% of 12 - 13 year olds and 61% of 14 - 17 year olds use SNSs [29]. The study further showed a universal use of SNSs among college students at different universities with 91% of the students belonging to the SNS Facebook.

Another study on the use of Social Media in Australia conducted by Sensis in conjunction with Australian Interactive Media Industry Association [33] found that 97% of social networking users used Facebook with an average user spending more than six hours a week on the site. Other popular SNSs were LinkedIn with a 16% user base, Twitter with a 14% user base and Google+ with an 8% user base. The study found that average users logged in to Facebook 21 times a week, logged in to Twitter 23 times a week and logged in to Linked in 5 times a week. The top reasons for using social media was to catch up with friends and family, sharing photos and videos, and coordinating social events. Females were found to use SNSs more than males. There were however big variations on the use of SNSs by age group with 90% of those aged under 30 using SNSs and those aged over 40 using them less. An investigation on the reasons why some people do not use social media found that the primary reason was lack of interest with 58% of the participants stating this as the reason. This was followed by security concerns

(18%), and finding the use of SNSs too time consuming (15%). The least number of participants (5%) preferred using phone to using a SNS. While the statistics from the U.S.A. and Australia might not directly apply to the South African scenario, they give a picture of the use of social networking among different type of users including the youth and college students which gives some guidance as to what might be expected in the absence of specific South African data.

6.2 Use of Social Networking in Academia

SNSs are very popular among university students with a large number of students belonging to at least one SNS [4] [23]. According to [42], SNSs provide students with an additional channel to express themselves freely, to establish relationships which might not be possible in offline environment and to gain access to a wide range of information which assists them in their learning. They support informal learning where learners acquire new skills and knowledge from experience and interaction with non-institutional and non-informal learning spaces [7]. Yu *et al.* adds that SNSs allow users to maintain close relationships with a small group of users in addition to establishing new relationships which expand their networks. A close relationship with a small group of users is very important for knowledge generation because it is where most interactions within a social network happen. SNSs provide a platform where students learn informally “by seeking, exploring and testing ideas with others within their own social network beyond the constraints of a classroom” [16, p.243].

A study on the use of SNSs for teaching and learning at the University of

Cape Town (UCT) by [4] found out that students' use of SNSs is very varied with students using SNSs mainly for informal social networking, seeking support from peers, community building on campus, information sharing, and student activism. Users of SNSs varied and ranged from those who did not frequently log into and use the SNS on a daily basis; those who frequently logged in but did not actively participate in the various activities of the site but only observed the activities of their friends; to those who actively participated by uploading and downloading information and using the site's applications. It is therefore important that before using SNSs for learning, all the categories of users should be considered with the aim of making all the users participate as much as possible.

Empirical studies which have been done in the area of social networking have shown that social networking can have a positive impact on students' learning outcomes. A study on the pedagogical impact of online social networking on university students' learning by Yu *et al.* [42] found that online social networking has a positive impact on students' personal development through improvement of their psychological well-being and skills, and their relationships with peers. In addition, online social networking helps students to attain social acceptance and adapt to the university culture. Similarly Madge *et al.* [23] found that the use of social networking assists students in their settling process at the university which has a direct impact on their academic performance. These results indicate the immediate benefits universities get when they integrate social networking into their courses. Integrating social networking tools into a LMS at a university can be one of the easiest means of getting these benefits considering the popularity of SNSs among

university students.

One of the critical issues is the acceptance of students of the inclusion of social networking tools as part of their learning. Students interviewed during a study at UCT by Bosch found it very beneficial being able to check class-related materials on a SNS while at the same time engaging in personal communication since they were already spending more time there. The students also acknowledged that friends on SNSs helped them to identify and find learning materials on the Internet, and provided them with a wide range of information which made their lives on campus easier. SNSs also allowed junior students to interact with and learn from senior students in the same field which was not possible in offline environment. Some students however felt that the use of a SNS for learning can be more of a distraction than a benefit to the learning process. It is therefore important that before including social networking as part of students' learning, all these challenges should be considered and addressed. As suggested by [18], this could be done by having a proper implementation plan, with a clear purpose known to students, and a design and structure that meets the purpose.

7 Social Networking Platform Features Supporting Learning

There exist social networking engines that provide social networking features which are specifically developed to support learning. Some of these features are:

7.1 E-portfolios

A portfolio is a collection of works/artefacts developed across varied contexts over time representing an individual, group, organization or institution [38] [22]. An e-portfolio is therefore a portfolio which is in a digital format. The collection of digital works can either be online on the web or on other electronic media such as a CD-ROM or DVD [22]. An e-portfolio provides students and/or faculty with a way to organize, archive and display their pieces of work online enabling others including peers to review, communicate and assess them asynchronously thereby helping them to make improvements [38]. Lorenzo *et al.* [22] breaks down e-portfolios into 3 categories namely student e-portfolios, teaching e-portfolios, and institutional e-portfolios.

7.1.1 Student e-portfolios

Student e-portfolios are developed and maintained by students. They may include course assignments, student artefacts in response to assignments, reviewers feedback to students work [11], drafts of the students work and the students self-assessment of the work [20]. The artefacts can be in form of videos, dialogues, simulations, links to references, and interchanges of ideas in the chat room [11]. E-portfolios can be used to assess students on their abilities and how they have improved over time [20] and to document their specific learning outcomes in a course [22]. The accomplishments showcased in the student e-portfolios may also be shared with prospective employers. According to [22], one of the advantages of student e-portfolios is that they help students to become critical thinkers through reflection over the content

and may assist them to develop their writing and multimedia communications skills [22].

7.1.2 Advantages of E-portfolios

As reported by [22, p.2], e-portfolios can be used to support “student advisement and career preparation; student or alumni credential documentation; sharing of teaching philosophies and practices; department and program self-studies; and institutional and program accreditation processes.” E-portfolios make students’ works to be easily accessible by different people [11]. Students can grant others students, instructors or anyone in the world access to their e-portfolios [11] enabling them to suggest new ideas and provide feedback on their work. Sharing e-portfolios with instructors allow them to assess and provide feedback online. Using a shared e-portfolio, students can collaborate on work with other students or any other professionals in their field. E-portfolios also allows students to conduct self-evaluation and to reflect through examination of their works [11]. By reflecting on their works, students can create a meaningful experience of their work [22] which can enhance their understanding of their field of study. E-portfolios eliminate storage problems presented by traditional paper-based portfolios [11], by freeing physical storage space for use by other things.

7.2 Blogs

A blog is a web site consisting of a series of entries on various topics arranged in reverse chronological order which is frequently updated with new information [32]. The information on the site can be written by the blog owner,

contributed by others, or can be links to other pages on the Internet. Blogs can be devoted to one or several subjects or themes. According to Wagner [39], blogs create opportunities for students to receive feedback on their work. Students can present the results of their research or any of their works on their blog and invite other students or professionals in their field to visit and appreciate or provide feedback or comments online on their blog entries. The feedback provided by others can assist the blog author to improve his or her works. Since by design the blogging software orders the entries, students can only focus on the content while the software takes care of the formatting. Students can also collaborate writing a blog which can lead to quality work supporting group learning. Tagging the blog allows entries on specific topics to be located easily by readers

7.3 Podcasting

Podcasting is the delivery of audio content to electronic media players on demand allowing users to listen to the content at the time of their convenience [27]. The audio content can be delivered automatically to electronic media players if users subscribe to feeds using technologies such as Really Simple Syndication (RSS) [2] or users can download the content manually. The delivery of video content in a similar manner is called videocasting [10]. As reported by [30], users who subscribe to their desired (RSS) feed do so through media aggregator software which automatically download predefined content to the users' electronic devices whenever there are new updates on the site.

Ractham and Zhang [30] suggest that podcasting eases content pub-

lication and subscription relieving users from time-consuming information searching, updating and downloading [30, p.314]. Academic materials such as class lectures, assignments, audio or video recording of class sessions can be uploaded on an instructor's website, tagged with RSS feeds and automatically distributed to students who subscribed to RSS feeds once an upload or an update has been made. This removes the need for students to go to the instructor's website to check whether content has been updated.

Podcasting also provides an opportunity for students to improve their social networking and collaboration activities on research work [30]. If students are collaboratively working on a research project, as is the case in research commons, podcasting enables them to get immediate updates of what their colleagues have done on the project through automatic downloads of updates making communication easier.

8 Learning Management Systems

A LMS is a software package that enables the management and delivery of course content and resources to students [37]. Most LMSs are usually web-based systems that allow students to access learning materials from anywhere and at any time [37]. Typically, LMSs allow students to register for a particular course and they provide facilities for instructors to create and deliver content, monitor participation of students and assess their performance [31]. Registered students can use LMS's interactive features such as threaded discussion forms, video conferencing facilities, and messaging systems. To understand the functions of a LMS, this paper presents common features which

are present in the Moodle LMS (see section 3.2).

9 E-Learning with Peers

The Internet offers an improved means to create, share and distribute knowledge allowing instructors to deliver content to students online [30]. It also allows students to easily collaborate on academic work online. SNSs and LMSs are some of the media platforms on the Internet where students can interact and collaborate on matters which can either be academic or non-academic. LMSs are designed to be used for academic purposes while SNSs are currently most popularly used for non-academic purposes. The aim of LMSs is to ease the management and delivery of course materials rather than promoting social interaction. Interaction in a LMS is mostly among students who have enrolled on the same course. On the other hand SNSs are designed to foster social interaction in virtual environments [29] presenting a greater opportunity for enhancing student interaction and learning when used for academic purposes.

Students are used to interacting on SNSs with different people on issues which are mostly non-academic. A study by [29] on college students' social networking experience revealed that 84% of the students used SNSs for communicating with friends. Specific responses revealed that 50% out of the total percentage (84%) used SNSs to communicate with friends not on campus, 17.39% with friends on campus and 13.04% with friends they rarely saw. The remaining 4.35% did not specify the type of communication. Using SNSs for learning can therefore present many opportunities because most of

the students are already spending much time on SNSs, are familiar with the fundamental concepts thereof and enjoy the interaction.

10 Conclusion

The use of LMSs at universities and in different organizations is very wide spread because of the features they provide which simplify the management and delivery of course content to students. Regardless of their wide use, their focus is more on the delivery of content than on the learner. LMSs offer little or no opportunities for learners to interact and collaborate on different works and to author content which can contribute to the knowledge which is already available in the systems as provided for in most of the Web 2.0 applications which are the most common applications in use these days.

The inception of Web 2.0 technologies saw the rise in popularity and the wide usage of SNSs among people of different ages with a large population of university students being members of one or more SNSs. Their popularity for use academically is however low as compared to LMSs because they are more associated with informal social activities which tend to occur in non-academic circles. Studies have shown that most of the university students who are members of a SNS use the site for interacting with friends who are either on campus or outside campus or for obtaining information which does not directly relate to their studies. SNSs, however, provide features which promote interaction and collaboration among users which are not available in most of the LMSs. Using the features available in SNSs for academic purposes can make learning easy and exciting. The potential power of these features

for learning is what prompted the development of SNSs like Elgg and Mahara which were built with the purpose of supporting learning. Integrating these features into LMSs can help universities change the focus of LMSs from content delivery to learners and learner interactions without the need to completely rebuild the LMS or for the users to completely change the way they used the LMS or interact with each other within the system.

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