# The Use of Social Networking Sites in eLearning

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*Abstract*—The adaptation of social networking sites within higher education has garnered significant interest in the recent years with numerous researches considering it as a possible shift from the traditional classroom based learning paradigm. Notwithstanding this increase in research and conducted studies however, the adaption of SNS based modules have failed to proliferate within Universities. This paper, commences its contribution by analyzing the various models and theories proposed in literature and amalgamates together various effective aspects for the inclusion of social technology within e-Learning. A three phased framework is further proposed which details the necessary considerations for the successful adaptation of SNS in enhancing the students learning experience. This proposal outlines the theoretical foundations which will be analyzed in practical implementation across international university campuses.

*Keywords*—eLearning, higher education, social network sites, student learning.

## I. INTRODUCTION

SOCIAL Networking Sites (SNSs) have experienced a significant rise in popularity throughout the past years, as evidenced from the exponential increase in enrolled users [1]. The introduction of Web 2.0 was one of the main contributors to such popularity, sustaining the increase of online communication and interaction [2]. At the heart of Web 2.0's concept is the fundamental aspect of participation, which intrinsically entices users to cooperate with the creation and distribution of online content [3]. Combined with the use of SNSs, Web 2.0 presents all the necessary tools for the users to easily be able to create, use and alter content [2]. This provision for users to gather and store data in an online and open environment using features such as file sharing and instant messaging has further promoted collaboration whilst providing an indirect sense of ownership and control towards the material being generated [4]. This has further encouraged the usage, particularly by youths, of SNSs such as Facebook, Twitter, LinkedIn and Myspace for the creation of communities of practice (CoP).

This widespread proliferation of technology amongst young people has prompted academic interest to research and investigate ways in which SNSs can be incorporated in the education sector with the aim to offer a much more autonomous learning experience [5]. Such studies lead to a number of emerging investments in the academic sector to incorporate new methods and approaches to teaching techniques and learning methodologies [5], [6]. Embracing the potential of resourceful sources of information on the Internet, higher education institutions are exploiting further this technology as both an academic tool as well as a learning channel to reach a higher number of students [5]. The authors in [7] introduce the terminology of 'digital natives' when referring to nowadays generation of students who prefer to interact and approach tasks in an online, virtual space rather than the classic classroom environment [5], [8]. This approach inadvertently defines a new opportunity for students and lecturers alike to view SNSs as a tailor made media able to meet the diversity of students learning needs in a customized education systems [2], [9]. It is broadly understood therefore that the online domain holds potential that might lead to leap improvements within certain social aspects in education; such as openness, personalization, teamwork, overcoming of certain disabilities, social presence and joint wisdom [2], [10].

In a bid to obtain such benefits, universities have widely opted within the past years to subscribe their students onto controlled virtual learning environments (VLEs) such as Moodle and WebCT for administrative aspects of their programme. Alas, the holistic integration of social networking within teaching methods has still been lacking and this has been attributed to the limited understanding of the influence SNSs have with social communication, knowledge generation and transfer [6]. While it is well understood that the introduction of social media impacts directly student motivation, learning experience, classroom environment and atmosphere, the manner in which these will be affected is still controversial [11].

## II. CURRENT STUDIES AND SYSTEMS

Aiming at understanding how SNSs are perceived by students, [12] identified that the majority of students that utilize SNSs do so for recreational purposes, with the main collaborative technology used in education being email. Students agreed that the principal activities done using this medium are the sending of files or asking of questions to lecturers or fellow students, thus further reinforcing the hypothesis that students are falling short from exploiting the comprehensive tools that are available online to enhance their

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learning strategy. A similar study interestingly concludes however, that in order for the students to make use of SNSs to aid in their learning, training should be provided in highlighting how these tools can be and should be used [12]. In their work [13] focused on the variety of social media tools that undergraduate and postgraduate students attending three different courses used. Results reinforcing the previous conclusions showed that educational experience and training impact significantly on the ability to employ SNS tools for learning. In fact, it was noted that undergraduate students made use of mainly wikis to aid and support teaching and learning, whilst some classes used blogs to increase the element of participation and discussion of class related material. Conversely, it transpired that postgraduate students used a wide range of social media technologies within their education such as; Facebook, Delicious, blogs, wikis and also Second Life for collaboration.

The authors in [14] and [15] went a step further in their study, by focusing on the impacts that SNSs might pose on the students. They analyzed thousands of students that attended different universities in Pakistan and India respectively, and asked several questions based on the amount of time spent on the Internet and the type and intent for SNSs usage. The obtained outcome from both works highlighted once more almost all students held a profile on one or more SNSs available and that students tend to use SNSs mostly for non-academic purposes. Whilst fearing that the encouragement of SNSs by educational institutions might reflect on the student's studying habits, [16] noted however, that students claimed not to be disturbed with such sites and further outlined that with the use of SNSs they were better able to accomplish and deliver their tasks, thus meeting their study plans. It was hence observed that students were able to manage their time between leisure activities and class related work well, further sustaining the study of [17], who concluded that the use of SNSs does not generate a negative effect on students. Quantitatively, the work in [18] and [19], collaborated such findings by not being able to find any correlation or association between the use of Facebook and the students' grade. Moreover [18], observed that that the use of Facebook was more popular and frequently used by students who have high grades. This showcased the pedagogical shift that can be imparted on learning techniques by proper use of social media and groupware tools.

The authors in [4] led a study on the students attending the University of Cape Town in South Africa aiming to outline the advantages of using Facebook over the university online course administration software Vula. Surprisingly, the results revealed that students were already part of academic related groups on Facebook, thus contentedly embraced the fact that SNSs can be used for academic purposes. The work in [9] also directed a part of its study on the lecturers that worked at the University and found diverse believes and opinions related to the use of SNSs within teaching strategies. Whilst some lecturers opposed to the elements of further responsibility and increased workload, the fraction that were favorable to the SNSs for academic use were at times trying to integrate such sites with their teaching styles.

The work in [20] examined students' insight with regards to the possible pedagogical uses of social media. This study was conducted to aid in the creation and support of Personal Learning Environments (PLEs) that would result in the assessment of learning methods based on the use of social media. Following the exercise, it was noted that the perception that students preliminary had on the use of social media in education, had altered and aligned closer to the one held by the researchers believes. This success, lead the researchers to urge for students to be motivated, lead and inspired in order to acquire the ability for choose the right social media tools for their education according to their personal needs. Furthermore, the authors in [20] also recommend that new learning methods and approaches should be developed in order for the students to be able to improve their time management and organizational skills when adapting their individual learning environment. With similar interest, [21] also conducted a study on how students are participating in learning styles that provided for an amount of personalization from the students' end, thus catering for their individual learning needs. From the provided questionnaires to students, their study discovered that the projected element of self-regulation had increased the students' and instructors' social presence, while at the same time also enhancing the sense of connection, knowledge acquisition and learning. Based on these positive annotations, [2] proposed a framework that utilized social media to support and aid Self-Regulated Learning (SRL) in PLEs. The main purpose of development of this framework was to educate and advice the lecturers and university faculties on how to encourage their students to start using PLEs which are based on the element of SRL, thus aligning to the ideas introduced by [9], for self-directed tools which enhance the students' cognitive progression through learning.

The framework introduced by [2] was segmented in three levels; personal information management, social interaction and collaboration, and information and accumulation management. By making use of this segregation, the authors aimed to highlight the importance of stimulating students to engage on the creation of PLEs for generating and managing content as the initial step. Subsequently, teachers would then be able to focus on social interaction and collaboration opportunities provided by social media and promote the benefits of sharing and group work activities. These prerequisites would consequently allow students to adopt the use of informal learning and be involved in more self-regulation tasks that eventually lead to the emulation of more formal learning processes. This intrinsically enables students to personalize their PLE based on their personal needs, goals, as well as preferred social groups and networks [2].

An alternative framework was proposed in literature by [22], and is fundamentally based on the Technological Pedagogical Content Knowledge (TPACK) model coined by [23]. The TPACK model establishes the hypothesis that the process of teaching through the use of technology is a non-trivial task and the presentation of technological availabilities is not enough for lecturers and faculties to overcome its complexity. To this end, this model introduces several types of

skills and knowledge that each stakeholder involved with the e-learning process should possess so as to ensure the successful handling and completion of tasks. The authors in [22], merge the TPACK concepts with an adaptation of the control dimensions proposed by [24] of Power, Support and Independence to anticipate the opportunities imparted on students for preparing and controlling their learning methods. The work in [22] further presents three main roles; knowledge producers, decision makers and socialisers, which students are to assume in order to fruitfully develop their own PLE. Together with continuous student-lecturer communication, the student is considered an active participant in content generation, innately involved within social activity processes to attain feedback and support from peers and who is ultimately responsible for implementing his/her own learning method and process [22]. Similar to [2], the model of [22] assumes the student can attain a level of self-organization on the type and method of learning, and the latter is directly dependent on the continuous and active participation in the personalization of the learning process.

Despite the presented frameworks, the integration of SNSs in eLearning is still heavily debated, and albeit the use of social networking can be considered a predominant tool for augmenting the student's learning experience, few are the academics which have embraced this approach [4]. Numerous lecturers and students alike envisage a personal-professional boundary relating to their online presence and the use of SNS for educational purposes can be perceived as an invasion of such privacy [5], as well as a hindrance to maintaining a professional relationship with students. Whilst considerable amount of members from both parties acknowledge the fact that they spend a significant time on SNSs, and appreciate that the convenience and promptness of communication would thus be augmented [10], reluctance is still present from the academic side. This is particularly due to the short-hand writing style commonly engaged in social networking, which it has been argued hampers proper usage of grammar in school related material as well as diminishes formality [4]. Meaningful concerns also stem from academics that are reluctant to alter their teaching methodologies, either due to their inertia in changing their traditional teaching models, genuine lack of technical knowledge or fear of being eventually replaced by these technological tools [25].

## III. PROPOSED FRAMEWORK –
### A PEDAGOGY-DRIVEN APPROACH FOR INTEGRATING SNSs INTO THE EDUCATION SECTOR

It is evident from the various deliberations within literature that the holistic process entailed for learning and lecturing through SNS technology presents a number of challenges which are not explicitly addressed in previous works. To this end, this paper amalgamates several features from numerous frameworks together in order to provide a more detailed and guided model. The proposed framework is thus composed of several phases, which together provide direction in the approach of how to introduce SNSs as an essential tool in eLearning to all stakeholders.

*Phase 1 – Improving the lecturer's knowledge about teaching with technology*

In a strive to embedding a pedagogy-driven approach, the proposed framework acknowledges the critical need for universities and college faculties, together with the lecturers, to believe in and recognize the benefits that SNSs potentially provide to education. This is in fact acknowledged as an essential pre-requisite prior to implementing SNSs inside curricula. Academics should be queried during this phase on how technology can be integrated within their teaching activities, and techniques should be scrutinized with respect on their ability to communicate the required knowledge on the subject. Assisting this subject-centric task requires the faculty to be open for various alternatives which academics would propose in order to suit their content and preferred methods of teaching. At the same time, the institution should promote internally such an adaptation variety with an information programme to assist lecturers in incorporating social media tools through their teaching.

This programme should be based on TPACK model [23] which is similarly founded on the premise that incorporating technology to teaching is not a trivial task, and provides a list on the type of knowledge and skills that are required by lecturers to be able to successfully teach with technology. The proposed model acknowledges intrinsically that lecturers need to carry out a lot of activities and processes within such a transition and therefore commences by assisting in the provision of technological knowledge, particularly that available on social media tools and their different functionalities and features. The following step relates to highlighting for academics the different manners which these technologies can support their teaching, with direct outline on how traditional lecturing methods will be influenced by the use of particular technologies. This ensures that lecturers are comprehensively aware and prepared for the change that will incur in their job. Consequently this understanding will stimulate academics to come up with unique and creatively structured SNS methods, which specifically suits their subject and classroom needs best. Once adapted to the new teaching methods, the lecturer will possess the required knowledge and understanding to move into phase 2 of the SNS adaption which relates to guiding students on how to best use the technologies available and create their own PLEs.

*Phase 2 – Developing students' digital competencies*

Once academics embrace the technological shift within their lectures, they would innately undertake an active role in aiding students develop and enhance their digital competencies for excelling within their study. By explicitly pointing out the advantages, benefits and new functionalities that will be made available with the integration of SNSs, lecturers are able to instruct on the tools available, the manner in which each of these tools can be used for class-related task, as well as the way in which the students' learning experience will be enhanced. Once students get accustomed to utilizing SNS tools, lecturers would be able to introduce the concept of a PLE whereby each student would be able to construct a

tailored virtual learning environment, and in the process gaining further control over their learning style and methods. Eventually this process will result in students having enough technological skills and digital capabilities to be able to support and direct their own learning.

This phase together with the subsequent learning process will be based on the control dimensions models proposed by [24] and the three-phase model presented by Zimmerman in [26]. Amalgamated together in the proposed framework, these fundamental principles will provide the necessary direction for assisting students to gain control over their learning, outline the responsibilities and obligations that the students will have; together with the highlighting the skills they need to develop in order to employ their PLE successfully. Adapted for SNS integration, the power dimension will be seen as the knowledge that the students will need to acquire to be able to produce their own learning material and share it online. The socializing processes of sharing and distributing information and ideas will represent the support dimension while the independence dimension relates to allocating the necessary elements of freedom where students will prompted to take decisions independently regarding their individual learning processes. The latter tie in with Zimmerman's processes of self-evaluation and self-regulation, which relate to the independent motivation in a student's learning process that will eventually aid in the accomplishment of their goals.

Segmented according to Zimmerman's three aspects of forethought, performance and self-reflection the proposed framework implementation will ensure provision of the essential elements for students to be able to upgrade and improve the PLE constantly. By encouraging the forethought phase, students prepare themselves by outlining their believes and interests which in turn carries influence on the manner in which they plan and define goals in relation to the SNSs that will be integrated in their PLE. The performance phase is where the students will actually start to apply the necessary actions and social networking to meet the set goals whilst in the self-reflection phase, students are encouraged to look back at the manner in which they utilized their PLE in the previous phases, evaluate their learning performance and outline any improvements needed to enhance their learning performance and experience.

*Phase 3 – The student's learning process*

The final phase relates to the cyclic processes of action, reflection and reorganization which students go through in creating and using their PLE. Via these three main processes, students will gain the required knowledge to be able to control their studies and through active participation choose the best learning methods and approaches for them.

In the action phase, lecturers start assigning simple tasks to students that are to be accomplished with the use of social media tools for their module. These tasks can entail the creation of bookmarks; usage of online resources to search for particular information, creation of online calendars and study groups as well as the creation and maintenance of online blogs and journals. Through these tasks the students will become

familiar with the environment and functionalities present within SNS and the manner in which they can be used to enhance their learning experience. This maiden step also serves the student as an academic foundation exercise whereby the generation of the modules' required educational skillset is developed via the creation of the online PLE. As a byproduct of such tasks in fact, the student is presented the opportunity to acquire the technical knowledge required, understand better the study skills and learning methods needed, accustom to the group and resource sharing requirements as well as understand the information availabilities and content repositories. Following this knowledge process, students can thus start to employ the relevant social media tools to externalize their individual needs and understanding onto their online PLE system, which in-turn, the lecturer will use to encourage students to share their work.

During second phase of reflection, the emphasis is thus placed further on the importance of involvement in social activities with other fellow colleagues so students can get closer to attaining their academic goals. By introducing and enabling features such as comments and feedback options on the submitted work, lecturers are able to review the students' work online, leave the feedback instantaneously as well as encourage students to provide peer-review of each other's work if necessary. This PLE can be natively exploited for the provision of group work and collaborative assignments which will urge students to make use of the inherent features of SNS to facilitate their collective tasks. Within this phase, students will also be exposed to subjects and work which they have not implicitly contributed on themselves, thus having the possibility to augment their breath of knowledge whilst simultaneously using SNSs to induce an element of informal learning within their studies which furthers their PLE into a social learning space.

The reorganization phase is mainly concerned with the decisions and learning paths that the students will take for the goals that are set. Whilst lecturers incite students to use SNSs to collect and combine all the information that has been generated and made available in the previous two steps, students will in turn be modifying and tailoring the PLE to reflect their learning paths and goals chosen. Through these social activities therefore, students will start developing a self-regulation processes in which they will identify which are the best strategies and methods that best suit their needs. Lectures therefore adopt more of a mentoring role in this phase, and by promoting the element of self-reflection, they motivate students to keep altering their PLE until it is exactly what they need for it to aid them in their studies and learning activities.

This continuously recurrent three-step learning process, allows students to enhance the knowledge and skills to be able to take control over their learning. Within each epoch, students are encouraged to adopt different SNSs to continuously generate and share educational content, improve their technological skills and each time refines their PLE. This process further matures the students learning process, whereby throughout the cyclic execution of these phases, students learn

to exploit different technologies in various ways within their learning, identify what type of information they need, from where to obtain it and how to evaluate and recognize its quality. They improve also their ability to store the obtained information online in an efficient manner so that it can be accessible each time they need to make use of it or share it in their PLE for other students or lecturers to read and review. Moreover, students are accustomed to the process of critically evaluating created content, and prompted to give feedback and opinions on other students' work. This forms the basis for the natural creation of online communities, where discussions are held on common subjects and interests with other students. SNSs are hence employed to work on group work assignments in much easier manner.

## IV. CONCLUSIONS AND IMPLICATIONS

The pedagogy-driven framework outlined in this paper combines a number established theories and models for the successful adaptation of SNS technology for enhanced lecturing and learning in higher education. This framework provides the theoretical foundation for the experimental work which is currently undertaken by the authors at distinct international campuses of Middlesex University.

The charted methodology underpins the importance that whilst suitably guided by academics, the fruitful implementation of online PLEs lies in directing more control to students. By providing students the ability to choose the appropriate social media tools for their tasks, Universities and Colleges would also be gaining the necessary versatility to mitigate the diverse programme requirements. It evidently highlighted that central to the success of SNS integration is the collusion of academics which, albeit this approach demands principally a mentoring and guidance aspect, are critical for the prolific inclusion of SNS within their lectures. The importance for correct provision of skills and knowledge for lecturers to utilize and understand SNS is therefore essential prior to implementation within classrooms. To this end the framework highlights several manners in which informative sessions can be undertaken to illustrate social media capabilities as well as to ensure that the correct perception of lecturing staff towards technology is present prior to encouraging the restructuring of their teaching methods and predisposition towards more active student involvement. Notwithstanding such, the practical implementation currently being done of this approach accentuated the need for caution in the way to encourage sharing of personal information and providing consistent communication with students; elements which are vital to the pedagogical approach defined.

The framework also places direct consideration to the need for student enticement and correct utilisation of SNS techniques towards education. Successful implementation lies dearly in ensuring holistic acceptance and hence the framework acknowledges the potential reluctance that students might convey whilst altering their traditionally passive learning styles and accepting the increased responsibilities of undertaking active learning and managing their own PLE. The proposal thus outlines numerous aspects of pedagogical

delivery which would assist developing management and self-regulation skills within students, improve their social identities and engage them in communities of practices thus augmenting their learning experience. In tandem with edifying the students' technical competence during lectures, the phased implementation aims to innately support students with the arising difficulties they would encounter. The experimented implementation currently undertaken across a number of international university campuses, hence aims to establish the theoretical considerations presented in this paper in order to include SNS within curricula and provide students the opportunity to enhance learning experience whilst broadening their knowledge.

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