Using Social Networking Tools for Teaching and Learning: A Perspective of University Lecturers and Students

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Abstract. The use of online social networking tools (SNTs) has become commonplace within higher education. In this paper a definition and a typology of educational affordance of social networking service (SNS) are presented. The paper also explores the educational affordances whilst examining how university lecturers and students use SNTs to support their educational activities. The data presented here were obtained through a survey in which 38 participants from three universities took part; two universities in Uganda and one in the United Kingdom. The results show that Facebook is the most popular tool with 75 % of participants having profiles. Whilst most participants perceived the educational significance of these tools, social affordances remain more pronounced compared to pedagogical and technological affordances. The limitations of this study have also been discussed.

Keywords: Social networking tools · Social networking services · Online social networks · Educational affordance · Typology · E-learning · Students · Lecturers

1 Introduction

The traditional approach to managing e-learning has been through the learning management system (LMS). LMS platforms, such as Blackboard and Moodle, have dominated teaching and learning landscape in higher education for the past decade [1]. The study in [2] shows that LMS does not provide the pedagogical conditions of interaction and collaboration. Students do not only want to "listen but also to ask questions, to express opinion, to answer questions and tasks, and to change content and learning forms" which may explain why they resort to social networking tools (SNTs), such as Facebook and Twitter, to support their educational interactions and collaborations. Research demonstrates that Facebook, for example, impacts students' motivation to learn, affective learning, and classroom climate [3].

SNTs are online tools that facilitate sharing, interaction and collaboration among users [4, 5]. Like other genres of social media, SNTs are commercial products initially

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designed for the social interaction purpose [6] but they have a powerful influence on all aspects of our society [7] and provide great potentials for transforming teaching and learning [5, 6]. "However, technology alone cannot guarantee positive learning outcomes" [8] which is why much of the studies in this area focus on affordances of these Social networking services (SNSs) [5, 9]. SNSs are online services provided by SNTs for establishing and participating on online social networks of people who share interests or activities. This paper explores the affordances of SNSs as perceived by university students and lecturers in three universities; Makerere University and Uganda Christian University in Uganda, and University of Reading in the United Kingdom.

2   Educational Affordance of Social Networking Services

2.1   Defining Educational Affordance of Social Networking Services

The concepts derived from affordance theories are very useful in understanding the role of online networking services in learning [10]. Typical SNTs provide different possibilities for action, allowing users to generate, modify and share contents in addition to connecting and collaborating over the Internet.

The possibility for action is referred to as affordance [11]; Gibson was influential in establishing the affordance theory which states that "the world is perceived not only in terms of object shapes and spatial relationships but also in terms of object possibilities for action (affordances) — perception driving action".

It is important thus to understand that technology and educational contexts are mutually shaped. From Gibson's theory it can be inferred that; SNTs are "objects", users' interactions and collaboration are "actions", and socio-educational structures are "environments". Therefore it can be recognized that SNTs have an empowering potential for educational utilization. Perceiving educational affordance of SNSs can enhance users' local and global connectivity and provide users an additional means for educational interaction. This paper presents educational affordance of SNS, defined (in Fig. 1) as *abilities of a user to utilize social networking tools' capabilities for specific educational activity within socio-educational environment*.

This means that the properties of SNSs will enable or constrain educational activities depending on the pedagogical, social, and technological environment in which users operate. The factors that define the affordances of SNSs may be classified in three broad categories namely technological, user, and environmental. The choice of social networking technology tool, the quality of users, and the environment determine how the affordances are derived from these services.

2.2   Typology of Educational Affordances of Social Networking Services

The educational affordances offered by SNSs are categorised in to three perspectives namely: pedagogical, social, and technological affordances [4]. The significance of the second is normally overemphasised but this paper argues that all the three perspectives are significant for effective integration of SNS into educational system. Pedagogical affordances relate to: innovative learning approaches, motivates learners' participation,

present multimedia materials and enables students' reflections. Social affordances regard interaction in different scopes (such as peer-to-peer, small group and whole class) and communication in different formats (asynchronous and synchronous). Technological affordances provides open and customisable environment for users to interact and collaborate.
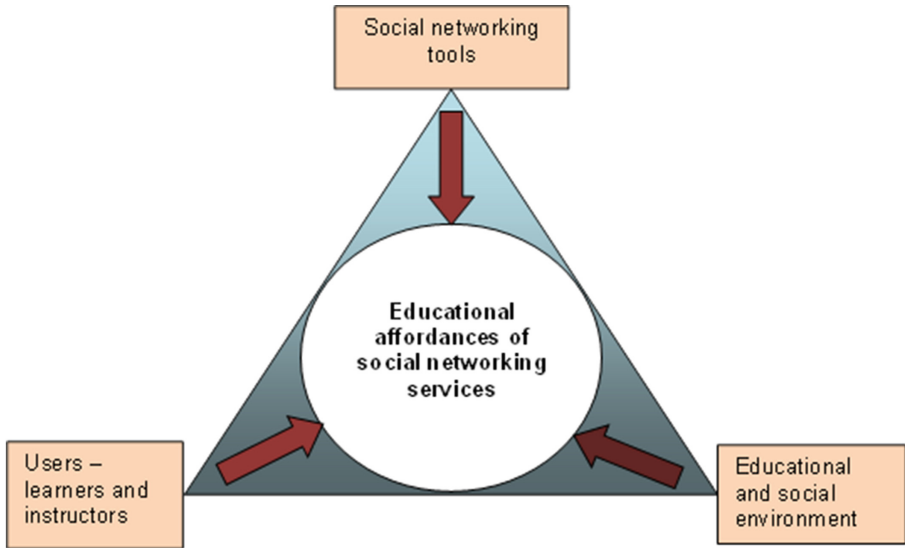
Fig. 1. Educational affordances of social networking service

Educational environment is a socio-cultural system in which users (learners and instructors) engage using various tools and forms of interaction to create collective and collaborative activities, supported by technology affordances [5]. The users in this environment are motivated by various factors (referred here as purpose for action). The following are five broad categories of purpose for action of users when they choose to engage in SNT: networking, creating, modifying, aggregating, and lurking. The services provided to users whilst they engage in the SNTs offer possibilities for action (affordances) in pedagogical, social, and technological perspectives. The typology presented in Table 1 distinguishes between three perspectives of educational affordances of SNSs whilst listing possible activities and tools supporting the five categories of purpose for usage of SNTs.

Other attempts have been made to categorize usage of SNTs. For instance, a study in [12] explored the factors that drive students to use online SNTs; this study, which conceptualized the use of online SNT as intentional social action, investigated the 'We-Intention' to use online Facebook. The 'We-Intention' used in this study focuses on the presence of 'we' together in making an intention about using online SNT in the future. Li [13] categorized usage of social tools using a ladder of levels of a participation. Li's six levels of a participation in social tools are: creators, critics, collectors, joiners, spectators, and inactives. Li's emphasis is on the level of participation but the typology

developed in this paper uses matrix classification based on purpose of use and the perspective of affordance.

Table 1. A typology of educational affordances of social networking services

Purpose of use	Pedagogical affordances	Social affordances	Technological affordances
Networking	Informal learning; reaching out; communication and engagement; sharing experiences and reflections	Identity seeking; social rapport - appreciating members, activities, and contents; and connecting socially	Comments, like & Share buttons; friend request; profile editing tools; digital literacies; status updates
Creating	Publishing page, course content, slides, games and other materials; creating educational and research activities; asking questions; setting polls; creating topics for discussion	Setting social events, group activities, setting group meeting; inviting members to join activities, or event; uploading contents	Tools to create web-based activities, event, and content; open source and tools for creating text, audio and video; webinars
Modifying	Giving response/feedback; editing and reformulating learning content	Participating in discussion forum; critiquing views; posting reviews; commenting	Group chat; discussion forum; RSS, podcasting, and vodcasting; syndication; open editing; and review structure
Aggregating	Organizing references to learning materials, sites, and contents; adding links of networking profile; saving Tweets to favourites	Sharing links and Tweets	Subscribing; liking; sharing; aggregation of text, audio, and video content
Lurking	Subscribing to the tags of others, reading, listening, and watching contents	'Liking' and tagging; reading updates and other users' posts	Tagging tools; media players

3   The Sample and Context

In order to get the perspective of both lecturers and students, 36 participants were selected to take part in the pilot study in May 2014. This study was an initial stage of a case study aimed at exploring adoption of social collaborative e-learning at a university level education. There were 8 lecturers and 28 students from three universities; University of Reading in the United Kingdom, Uganda Christian University, and Makerere University in Uganda. An invitation email with the URL link to the online survey questionnaire was sent to a number of students and lecturers (mostly through personal contacts, class leaders and lecturers). To increase the response rate, Facebook messages, phone text messages (SMS), and oral reminders were also sent.

Both students and lecturers were asked similar questions in the survey which included five sections and was taking between 10–20 min. There were also some open ended questions in which participants were invited to give their own views about using SNSs for educational purposes and to comment in their own words about any aspect of learning technologies or teaching innovation.

It is difficult however to speculate on the nature of the sample as compared to the population of students and lecturers as this was a convenience sample drawn from those easily accessible to pre-empt the response from the main study, carried out at a later date. However analysis of the data showed that the respondents' distribution by sex and age was a realized. There were both female and male lecturers of ages varying between 26 and 45 years. The students included both females and males of ages mainly varying between 18 and 40 years.

4   Discussion of the Findings

Key aspects of findings discussed here attempt to map of the perception of lecturers and students about the use of SNTs to the typology of educational affordances of SNSs which is presented in Table 1. That is, the discussion attempts to show how the lecturers and students perceive the use of SNTs and how they are actually using them in relation to the typology.

4.1   The Role of Social Networking Tools

To find out the role of SNTs in the lives of participants, this paper examines the proportion of participants, and the time spent on social networking. This study reveals that the majority of students and lecturers are using SNSs. 83 percent of the participants indicated that they had at least a profile on the SNT. Only six percent did indicate that they haven't and profile. The other 11 percent didn't indicate whether or not they have profiles.

On Average, the time participants spend social networking is 21 h per week. This is similar for students and lecturers. This shows how SNTs have become part of the life of users.

### 4.2   Social Networking Tools Used by Participants

To find out the most popular SNTs among the participants, this study established which tool is used by most participants and why certain platforms are preferred over others. Figures 2 and 3 demonstrate that Facebook, Twitter, LinkedIn, and Google + are the popular platforms. Facebook is mainly preferred because of its ease to use interface. Participants indicated that each of the tools was effective for a particular type of interaction. For instance, Facebook group chat feature is used for class announcements and other group activities. LinkedIn was used for professional connection and getting career information.

4.3   Purpose of Using Social Networking Tools

This study examined participants' use of their social networking profile in order to determine their purpose of using SNTs in educational environment. Although chatting seems to dominate the purpose of social networking, this study reveals that seeking and sharing information is prominent. This is an evidence of informal learning within these tools (Table 2).
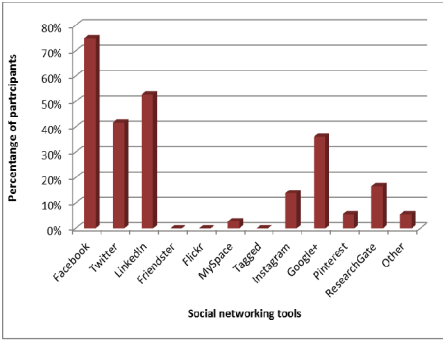
Fig. 2. Percentage of participants using social networking tools
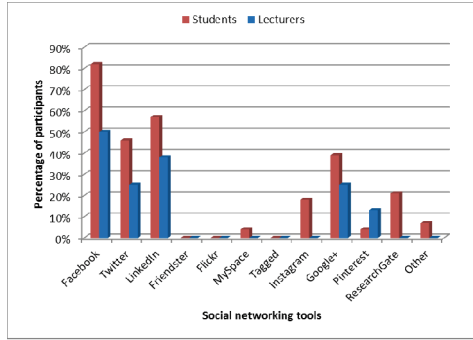
Fig. 3. Number of students and lecturers using social networking tools

Table 2. Purpose of using social networking tools

Purpose	Students	Lecturers
Chatting	82 %	50 %
Sharing information	82 %	50 %
Seeking information	64 %	50 %
Making friends	64 %	38 %
Entertainment	57 %	25 %
Getting news	57 %	13 %
Collaborating on group work	54 %	0 %
Checking other friends' profiles	43 %	38 %
Learning	50 %	13 %
Brainstorming	32 %	13 %
Giving feedback	29 %	13 %
Student/Lecturer interaction	18 %	13 %
Other	7 %	0 %

4.4   Overall Perception

In order to establish the views of the participants on the educational use of SNTs, the study explored activities participants perform whilst using SNTs whilst the factors influencing adoption of these tools.

The reasons given by lecturers for using SNSs are: getting updates on events, sharing ideas and information, collaboration, and learning from others. On the other hand,

students are motivated by: Collaboration, linking with professionals, access to information, sharing information, connecting with friends, participation, brainstorming, learning from other, closing the physical gap, avoiding cost on face-to-face meeting, increasing motivation and interaction, enabling diverse ideas, research and educational activities, organizing learning meetings, instantly reach out to many members, and organizing events.

Finally, in order to relate perception of students and lecturers on the educational affordances of SNSs and the typology proposed in Table 1, the following observations can be made. The participants' responses on the purpose of using SNSs are mapped on the typology in order to determine what perspective of educational affordances is more emphasized. The results showed some difference in the perception of students and lecturers. Whereas there is evidence of pedagogical and technical affordance, social affordance is more recognized by students.

When asked about usefulness of social media for educational purpose, 75 % of the students responded in affirmative (Table 3). This signifies the overall view of the possibility for action that the students attach to SNSs. The lecturers however seem not to perceive a great deal of use of these tools for educational purposes. This indicates that students perceive the usefulness more than the lecturers do, which is consistent with the findings in [2]. The low response (49 %) of lecturers indicates the high level of uncertainty about the usefulness of these tools.

Table 3. Perception on the usefulness of social networking tools

Usefulness	Students	Lecturers
Very useful	14 %	0 %
Useful	61 %	25 %
Not sure	14 %	13 %
Not useful	4 %	13 %
No Response	7 %	49 %

4.5 Limitation of the Study

The sample was not representative of the composition of the three universities therefore the results cannot be generalizable. The time was short and being a busy time for the academic calendar, it was not possible to get high number of responses. However, these limitations have been addressed in the main study that has been conducted in two Ugandan universities.

5 Conclusion

The shift from using the LMS to a more social and collaborative approach using SNTs has also been highlighted in the paper. This shift is largely due to the emergence of Web

2.0 technology [14, 15] which enables users to create and disseminate contents. Educational affordance of SNS was defined and a typology which distinguishes between pedagogical, social and technological affordances was presented whilst illustrating the purposes of use of these tools by students and lecturers. The results presented showed that although the majority of participants are using these tools. The majority of the students perceived educational affordances but further research is still required in order achieve full utilization of these tools for educational purposes. The limitation of this study paper is that the results are based on the responses obtained through a survey. However, more investigations will be conducted using other qualitative approaches in future.

References

1. Du, Z., Fu, X., Zhao, C., Liu, Q., Liu, T.: Interactive and collaborative E-Learning platform with integrated social software and learning management system. In: Wei, L., Cai, G., Liu, W., Xing, W. (eds.) Proceedings of the 2012 International Conference on Information Technology and Software Engineering. Springer, Heidelberg (2013)
2. Mozhaeva, G., Feshchenko, A., Kulikov, I.: E-learning in the Evaluation of Students and Teachers: LMS or Social Networks? Procedia-Social and Behavioral Sciences **152**, 127–130 (2014)
3. Mazer, J.P., Murphy, R.E., Simonds, C.J.: I'll see you on "Facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. Commun. Educ. **56**(1), 1–17 (2007)
4. Idris, Y., Wang, Q.: Affordances of Facebook for learning. Int. J. Continuing Eng. Educ. Life Long Learn. **19**(2), 247–255 (2009)
5. McLoughlin, C., Lee, M. J.: Social software and participatory learning: pedagogical choices with technology affordances in the Web 2.0 era. In: ICT: Providing Choices for Learners and Learning. Proceedings Ascilite Singapore (2007)
6. Tess, P.A.: The role of social media in higher education classes (real and virtual) – A literature review. Comput. Hum. Behav. **29**(5), A60–A68 (2013)
7. Martin, S., Diaz, G., Sancristobal, E., Gil, R., Castro, M., Peire, J.: New technology trends in education: seven years of forecasts and convergence. Comput. Educ. **57**(3), 1893–1906 (2011)
8. Dzulkefli, Z.M.S., Sin, N.M.: Selection of web 2.0 technologies and teaching practices among lecturers in selected malaysia higher education institutions. In: 2012 IEEE Colloquium on Humanities, Science & Engineering Research. IEEE Press, New York (2012)
9. Robertson, J.: The educational affordances of blogs for self-directed learning. Comput. Educ. **57**(2), 1628–1644 (2011)
10. Day, D., Lloyd, M.M.: Affordances of online technologies: More than the properties of the technology. Aust. Educ. Comput. **22**(2), 17–21 (2007)
11. Gibson, J.: The concept of affordances. Perceiving, Acting, and Knowing, pp. 67–82 (1977)
12. Cheung, C.M.K., Chiu, P.Y., Lee, M.K.O.: Online social networks: Why do students use facebook? Comput. Hum. Behav. **27**(4), 1337–1343 (2011)
13. Li, C.: Social technographics, in Mapping Participation. In: Activities Forms The Foundation of A Social Strategy. sl: Forrester. (2007)

14. O'Reilly, T.: What is web 2.0: Design patterns and business models for the next generation of software (2005)
15. Price, K.: Web 2.0 and education: What it means for us all. In: Australian Computers in Education Conference (2006)