Investigation of Students' Engagement with Social Media for Mobile Learning practice

Behdja Boumarafi

Abstract---The digital age is witnessing an accelerated change in every sphere of life as a result of unprecedented development of information and communication technology (ICT). This has sparked the creative incorporation of the internet, specifically the Web2.0 capabilities into teaching and learning practices. Mobile technologies have in recent years expanded their reaches into learning activities and becoming the choice of students to share ideas and engage with universal knowledge. In fact, millennial students are in favor of collaborative learning and mobile devices came up with the promises of setting such environment. They are offering a new perspective to students' engagement to expand their own learning outside the classroom boundaries. They are providing opportunities for collaborating with peers and establishing communities of learners. Assimilation of social media and mobile devices into academic environment has created a synergistic combination of learning and technology. Students learn to communicate and collaborate electronically, conduct research online, create digital objects in form of text documents, images, email messages, and engage in online discussions with peers and instructors using handheld devices. This requires rethinking the way pedagogical activities are carried out to create the best learning model in line with this new educational paradigm.

This paper investigates Algerian students' attitudes towards using social media as a means of enhancing academic achievement within the context of mobile learning. It attempts to identify what students gain from using mobile technologies in formal and informal learning. Data is collected from 140 master students. Statistical analyses of participants' responses show that social media are used for a multitude of purposes including collaborative learning. Facebook topped the use followed by YouTube, Twitter, LinkedIn, and less used networks will be reported.

Keywords-- social media, mobile learning, informal learning, formal learning, higher education, Algeria.

I. INTRODUCTION

Information and communication technology (ICT) and related digital technologies have become prerequisites for survival of modern societies leading to many changes in all spheres of life including education. Furthermore, the speed at which such technologies are developing has sparked the creative incorporation into education systems offering new ways and tools for the delivery of education beyond the classroom boundaries and making the cyber-space a borderless learning sphere. By the adoption of social media in academia, instructors are shifting some of their teaching activities to students seeking their involvement in enhancing self and collaborative learning. Documented literature that attempts to shed light on social media adoption in learning indicates an increase in the use and popularity of social network sites among students. Facebook, Google+, Instagram, LinkedIn, MySpace, Skype, Twitter, YouTube… are making a considerable impact as essential tools to promote exchange of knowledge and to create virtual academic communities. The internet revolution is creating a new culture in learning and instruction activities. It is very clear that education industry worldwide is in the midst of a revolution caused by the evolving technologies such as the web 2.0 and the advent of web 3.0 allowing students to create content, exchange ideas and share knowledge. So much so that in the last few years there has been extensive discussion and heated debates exploring social media and more recently mobile learning in journal articles and conferences. Much of this discussion has focused on developing a clearer understanding of the capabilities of such technologies as a new means for enhancing students' independent learning and how much academic achievement social networking has yielded and whether it could be used as new pedagogical tools. As education institutions are embracing social networks there is a need to optimize the positive effect of such technologies to bring them into pedagogy to make instruction and learning active and applicable to the cyber environment of the new millennium. In recent years, more and more education institutions are making a presence in social networks such as blogs, twitter, YouTube, Facebook among others to create effective ways for the establishment of collaborative and interactive on site and distance learning systems as such, technology-driven culture is featuring prominently in pedagogical activities in formal and informal learning. Hence, the focus of learning and instruction needs to be viewed from a newer perspective "without gathering students and teachers in the same physical space" [1]. The purpose of this study is to provide a better understanding of how students at the University of Constantine 2 (Algeria) are investing their technological skills and learning time by engaging with social networks for mobile learning activities. The author seeks to advance the use of social media for mobile-learning in two ways: i: enhancing the academic validity of social networking as a learning and instruction tool, ii: making the link to social media as a means of learning experience in the context of mobile-learning explicit. The study will build upon the existing body of documented literature to make a contribution towards understanding such relationship in academic settings. To explore that further, the following objectives were set forth:

- Seek Algerian students' engagement with social media in learning activities;
- Identify which social network sites are more popular among students;
- Explore the gains and benefits for incorporating social networking into mobile learning.

II. LITERATURE REVIEW

For a generation immersed in a world of evolving technologies where internet applications, specifically the web 2.0 and 3.0 is having a considerable impact on the way people work, study, play, and communicate learning is no longer tied to a particular location and a particular time table. Social network along with mobile learning promise the opportunity to motivate students to constantly quest for new learning experience out of the physical locations of the university encouraging them to create and share ideas rather than simply memorizing lecture notes. The use of mobile learning has created a paradigm shift from emphasis on teaching content to helping students develop the ability to create content tailored to their learning needs and chare it with peers. Basically, social network sites provide open avenues for "collaborative education which in essence creates a synergy by bringing together technologically learners and instructors with a shift towards less instructor led teaching to a greater student's involvement"[2]. It is therefore, pertinent to say that the use of social network sites extend far beyond their traditional purpose of communication and entertainment to promote students' self-reliance in learning through enquiry and sharing. This underscores the need to empower students to take charge of their own learning taking place anytime anywhere. This requires a rethinking of the way core pedagogical activities are carried out and assess their effect on both learners and instructors in formal and informal manner.

The unprecedented development of ICT has sparked the incorporation of social media into pedagogical activities in playing a leading role for spreading education beyond the classroom boundaries. It can lead to students' engagement by making learning more flexible in providing opportunities for knowledge creation and sharing [3]. Blake and Sikkal declared that in the academic environment, "new technological developments specifically Web 2.0 applications will group students into virtual communities whose homogeneity in interest and intellect will create a synergy to learn and benefit from their heterogeneous cultural background and experience" [4].

Current research has indicated that using social networks as educational tools can lead to connections with peers to establish communities of learners and ultimately increase their overall learning experience [5], [6]. In another context, the use of social media by students at Sultan Qabus University in Oman was explored by Jabr who concluded that students use social media to exchange information, brainstorm ideas, search for new friends, and share everyday news [7]. In a similar context, Ellison, Steinfield and Lampe observed that Facebook supports resource sharing by establishing the social foundation between students and their peers [8]. In essence the advent of networking technology yielded the advent of new learning systems that point to the increased use of mobile learning through social interaction and exchange of knowledge using personal electronic devices such as smartphones, tablets and other handheld devices. Just as these electronic devices extended the function of communication, they also extended their usefulness to learning and instruction allowing for better "communication, collaboration, community creativity, and convergence" [9]. The best example of this is the increasing trend towards what is today called collaborative and interactive learning where students' self-governed and problem-solving activities are considered the focal point of a new learning process. Therefore, students become more engaged in course content and improve their critical thinking and individual learning [10], [11]. As students use social media for academic collaboration, there is a higher likelihood that engagement with mobile learning will also increase. For example, Tiryakioglu and Erzurum focused on facebook as an educational tool. They reported that 80% of participants used it to communicate with classmates. Results of their study also indicated that most faculty members were willing to use Facebook to create academic groups to share information about their courses [12]. Al Muitairi's study also highlighted that Facebook is used as a supporting tool offering faculty at the University of Kuwait a substitute channel to enrich their educational experience for both students and educators [13]. Jabr used online questionnaire to explore the use of social networks by students at Sultan Qaboos University in Oman. The study revealed that 70% of the 650 respondents used Facebook, 26% have a MySpace account, 9% use Twitter and only 5% use LinkedIn. The study confirmed that these are mostly used for communication and socializing purpose at a percentage of 91 and only 23% used social networking for assignment preparation [7]. Some researchers are not convinced that social networking can be used as a medium of formal education. For example, results of a survey conducted by Malesky and Peters showed that 40% of students and 30% of faculty believe that it is inappropriate for professors to use social media for learning and instruction [14]. Other studies have painted a different picture. For instance, Reuben contended that there is a great potential in education for Facebook and YouTube [15]. In relation to that, prior research has acknowledged that social networks had a positive effect on students' academic achievements. They not only increase their GPA, but also facilitate peers feedback on assignments and reflections on course content [16]. Universities have links to Facebook and Twitter on their homepage; they use them to relay information to students [14]. In this context one can only agree that mobile learning is gaining grounds in formal learning and becoming an important activity for promoting students' engagement who want to learn at a the time and space they choose. Mobile technologies are making that possible by shifting their use from entertainment into learning platform where "content is created, shared, remixed, repurposed, and passed along" [17]. Wagner stated that "as mobile connectedness continues to sweep across the landscape, the value of deploying mobile technologies in the service of learning and teaching seems both self-evident and unavoidable."[18] In retrospect, it is important to learn how to integrate such technologies into learning strategies; not just for technology's sake, but for the added value that these tools already familiar to learners provide [19]. Noneveless, the growing use of social network sites by students for learning has increased concerned about the quality of knowledge exchanged among them and how do they assess its credibility. Despite some contradictory survey results, what is clear is that a considerable portion of the digital era students consider the traditional mode of learning and instruction no longer the most appropriate model of education. Dalsgaard argued that using social software can help facilitate an approach to e-learning

which differs from using learning management systems and which better supports self-governed, problem-based and collaborative activities [20]. Basically, the purpose is to provide students with tools which they can use to solve problems on their own and/or in collaboration with other students. Battouche conducted a seminal study to investigate the use of social networks by Algerian youth aged 8 to 24. He found that 65% of the surveyed population benefited from social networks in improving their foreign language skills, 25% in strengthening national identity and belongingness and 11% in acquiring the ability to convince in debates [21]. Boumarafi surveyed the use of social media by students found that participants were exchanging lecture notes, collaborating in assignments, sharing knowledge and discussing points related to lectures and assignments they receive from faculty through facebook [22].

III. RESEARCH METHODS

A. Data collection
To collect data for this study, a questionnaire instrument was designed based on the previous literature using a five-point Likert scale ranging from (1) completely inappropriate as a learning tool to (5) completely appropriate. The statistical package for social sciences (SPSS) was used to analyze the data. Four students and two faculty members pre-tested the questionnaire. Based on their suggestions, the questionnaire was revised to its final form.

B. Survey population
Participants of this study consisted of master students at the Institute of Library and Documentation Science at the University of Constantine 2. A request for participation along with 140 questionnaires was distributed to participants during class sessions. All questionnaires were returned; a response rate of 100%.

IV. RESULTS

A. Participants
All respondents were master students at the Institute of Library and Documentation Science. Female student participants (n=90; 64.28%) out- numbered male participants (n=50; 35.71%). In actual fact the number of female students outnumbers the male students' intake in general in library studies. The age group of students is 21-28, those who grew up as active users of different internet applications i.e. the internet generation. All participants (n=140; 100%) reported using social network sites (SNs) for different purposes and some of them have more than one account and all of them have a smatphone. A number of them mentioned having a tablet and a laptop.

B. Social networks popularity
Respondents were asked which social network they prefer to use. Their preferences are summarized in table 1. As expected, all respondents 140 (100%) gave the top rank to Facebook at a mean of 4.95. Previous studies [12], [7], [21], [13], [22] also identified Facebook as the most frequently used social

network. YouTube is ranked second by 70 (50%) respondents with a mean of 3.95. Respondents put Twitter in third position in terms of importance with 40 (28.57%) users and a mean of 3.78. Other social network sites scored average means i.e: Google+ in fourth position with a mean of 2.75. Followed by Skype with a means of 2.64 that respondents use as video phone to communicate with family and friends in different locations of Algeria and abroad. A mean of 2.01 for LinkedIn. MySpace is ranked last with only last with a mean of 1.40.

Table I: Popular social network sites (n=140)

Type of social network	Mean	Standard Deviation	Number of users	percentage	Rank
Facebook	4.95	0.50	140	100	1
YouTube	3.95	0.65	70	50	2
Twitter	3.78	1.88	40	28.57	3
Google+	2.75	2.15	15	10.70	4
Skype	2.64	1.26	15	10.70	5
LinkedIn	2.01	2.97	10	7.15	6
MySpace	1.40	2.79	5	3.58	7

C. Purpose for using Social network sites
Respondents were asked to indicate the purpose for using social media. According to the results in Table 2, it is clear that social networking is primarily used as a communication tool for exchanging e-mails, receiving the top rank with the highest mean of 4.50. Keeping in touch with family and friends is ranked second at a mean of 4.28. These results match the findings of Gentzler and Oberhauser who reported that students use social networks mostly for communication and socializing [23]. Making new virtual friends and discuss group projects scored similar means of 4.21. This is followed by sharing assignments and course work and sharing files and lecture notes with means of 3.95 and 3.85 respectively. This results support findings of Boumarafi's earlier study [22]. Exchange ideas, join discussion forums, learn English Language and correct its pronunciation also scored high means ranging from 3.83 to 3.35. Communicate with my supervisor for my theses work has a mean of 3.33. this means that using mobile technology for formal learning has not yet attracted the attention of students. This result agrees with the statement of Khaddage, Muller & Flintoff who found teachers reluctant to allow widespread use mobile devices in formal learning [24] . Trace a friend has a mean of 3.30 that is still above average. Make a presence in the cyber-space, search for a job, share photos, download videos and audios are scoring means less than 3. Finally, participants seem not very confident about creating content which is ranked last with the lowest mean of 1.90.

In general, these results indicate that the surveyed population of this study uses networking technologies not just for socializing and leisure but also for informal academic activities. Respondents seem to be interested in mobile technologies more for informal learning and less for formal learning. Surprisingly, the study found that downloading videos and audios and sharing photos, searching for a job were among the least reasons for using social networks by the

surveyed population. The most likelihood is that participants are using other websites for those activities and looking
for jobs in other sources i.e. newspapers and job announcement sites.

Table II: students' engagement with social media (n=140)

Purpose	Means	Standard deviation	Rank
Communicate with others through e-mail	4.50	.50	1
Keep in touch with family and friends	4.28	.56	2
Make new virtual friends worldwide	4.21	.74	3
Discuss group project works	4.21	.85	4
Share assignments and course work	3.95	.90	5
Share files and lecture notes with peers	3.85	.85	6
Exchange ideas friends and classmates	3.83	1.00	7
Join discussion forums	3.78	1.05	8
Learn English language individually	3.50	.79	9
Correct English pronunciation	3.35	. 88	10
Communicate with my supervisor for my theses work	3.33	1.17	11
Trace old friends	3.30	1.15	12
Make a presence in the cyber-space	2.82	1.18	13
Searching for a job	2.50	1.90	14
Share photos	2.35	1.87	15
Download videos and audios	2.05	2.50	16
Create content	1.90	2.90	17

D. Incorporating social media into students' learning activities

To explore the students' gains and benefits for incorporating social networking into learning activities and seeking their opinions about the usefulness of social media as a means of informal learning. Results in table 3 show that SNs are primarily used for building relationships with peers at the highest mean of 4.90 followed by improve communication skills with 4.50. Develop social skills ranked third at a mean of 4.30. is still more popular among Algerian students for communication. Respondents perceive social networking appropriate for improving their foreign language skills. This finding supports the results in table 2 that indicate that social networking is used to learn English and improve its pronunciation. This confirms the results shown in table 2 with "making new virtual friends worldwide" as the third most important reason for using social networks cited by participants. Participants seem to gain from engaging with social media to self regulate their learning, share ideas and

promote creativity, create peer to peer learning community, personalize learning content and improve learning in general are all ranked high with means above 3. These findings correlate with the previous studies such as [22], [3], [4], [16]. Make contact with faculty easier, and enhance academic achievement" giving them means less than the mid-point 3. This could be attributed to the fact that the use of social networks in fo academic activities is still new and not perceived as a very important tool for formal learning.

Table III: Usefulness of social network sites (n=140)

Statement	Means	Standard deviation	Rank
Build relationships with peers	4.90	1.96	1
Improve communication skills	4.50	1.65	2
Develop social skills and modify one's behavior	4.30	2.05	3
Improve foreign language skills	4.05	1.15	4
Improve one's personal image	3.98	2.01	5
For self regulated learning	3.90	2.00	6
Share ideas and promote creativity	3.85	1.99	7
Create Peer to peer learning communities	3.80	1.15	8
Personalization of learning content	3.75	1.75	9
Improve learning in general	3.50	1.70	10
Make contact with faculty easier	2.00	1.22	11
Enhance academic achievements	1.30	1.90	12

V. CONCLUSION

Professional literature indicated an increase in the use of social network sites highlighting their popularity among students especially for informal learning. They are gradually making inroads as educational tools, and seem to have the potential to support collaborative instruction and learning. A survey of use of social media among Algerian students indicated a high use of social network sites. Participants showed a preference for Facebook. Participants are using those social media mainly for communication with peers for a number of academic activities outside the classroom and to some extent for socializing purposes. However, perceptions of respondents expressed through the survey did not indicate precisely that the use of social media is enhancing their academic achievements. Results of the study indicate that respondents are somehow less comfortable with the creation of learning content.

Results of this study cannot be generalized as they reported the views expressed by the master students of Library and Documentation Science; a small portion of students at the University of Constantine 2 (Algeria). However, the author is confident that as the internet becomes more readily available on and off campus we will certainly see more students and faculty reverting to mobile-learning.

REFERENCES

[1] K.. Maney, (2009). "Next: An Internet Revolution in Higher Education." Bloomberg Businessweek. Available at: http://www.businessweek.com/technology/content/sep2009/tc20090914_969227.htm

[2] *B. Boumarafi, "Strategies for the Delivery of e-information Services to Support the e-learning Environment at the University of Sharjah". The Electronic Library, vol.28, no 2, pp.276-285, 2010*
https://doi.org/10.1108/02640471011033639

[3] R. Junco, (2012), "The relationship between frequency of facebook use activities and engagement. Computers and Education [online]. vol. 58, pp. 162-171, doi: 10.1016/j.comped. 2011.08.004.

[4] Y. Blake and J. Sikkal, "Will the Internet revolutionize business education and research?" Sloan Management Review, vol. 37, no.3, pp.34-41, 1996.

[5] A.M. Fewkes and M. McCabe, "Facebook: learning tool or distraction?", Journal of Digital learning in Teacher Education", vol. 28, no. 3, pp. 92-98, 2012.

[6] C. Jackson, (2011), "Your students love social media and so can you", Teaching Tolerance", vol.39, pp.38-41. Retrieved from: http://wwwtolerance.org/ magazine/number-39-spring-2011/

[7] N. H. Jabr, "Social networking as a tool for extending academic learning and communication", International Journal of Business and Social Science, vol.2, no. 12, pp.93- 102, 2011.

[8] *N. B. Ellison, C. Steinfield and C. Lampe, "The benefits of Facebook "friends:" social capital and college students' use of online social network sites", Journal of Computer Mediated Communication, vol.12, no.4, pp. 1-26, 2007.*
https://doi.org/10.1111/j.1083-6101.2007.00367.x

[9] L. W. Friedman and H.H. Friedman, (2008). "High impact areas of the new media technologies: A review". Available at: http://www.morexpertise.com/download.php?id=97

[10] *G. D. Kuh, (1993), "In their own words: what students learn outside the classroom?", American Educational Research Journal, [online]. vol.30, pp.277-304 doi: 10.3102/00028312030002277*
https://doi.org/10.3102/00028312030002277

[11] *G.R. Pike, G.D Kuh and A.C. McCormick, (2011). An investigation of contingent relationships between learning community participation and student engagement. Research in Higher Education,[online]. vol. 52, pp. 300-322.doi: 10.1007/s11162-010-9192-1*
https://doi.org/10.1007/s11162-010-9192-1

[12] F. Tiryakioglu and F. Erzurum, "Use of social networks as an educational tool", Contemporary Education Technology, vol. 2, no. 2, pp. 135-150, 2011.

[13] S. Al-Muitairi, "Use of Facebook by faculty in Kuwait University". Proceedings of the SLA/Gulf Chapter 19th conference on the future of library profession, 2013.

[14] *L.A. Malesky, and Peters, C., "Defining appropriate professional behavior for faculty and university students on social networking websites", Higher Education, vol. 63, pp. 135-151, 2012*
https://doi.org/10.1007/s10734-011-9451-x

[15] R. Reuben, (2008), "The use of social network sites in higher education for marketing and communications: a guide for professionals in higher education". Available at: http://doteduguru.com/id423-social-media-uses-higher-educationmarketing-communication.html

[16] K.. Tarantino, J. McDonough and M. Hua (2013), "Effects of student engagement with social media on student learning: a review of literature. Available at: http://studentaffairs.com/journal/summer2013/

[17] Downes, S. (2004), "From Classrooms to Learning Environments: A Midrange Projection of E-Learning Technologies", College Quarterly, Vol.7, no.3. Retrieved from http://www.collegequarterly.ca/2004-vol07-num03-summer/downes.html

[18] E.P. Wagner (2005), "Enabling mobile learning". Available at: https://net.educause.edu/ir/library/pdf/erm0532.pdf

[19] P.Brotherton, "Social network enhance employee learning". ABI/INFORM Complete, vol.65, no.4, p. 18, 2011.

[20] C. Dalsgaard, (2004), "Social software: E-learning beyond learning management systems". Available at: http://www.imv.au.dk .

[21] K. Battouche, Social networks and the globalization of culture: a study of Algerian youth institutions. A paper presented at the second international conference on "the place of social sciences and their role in studying contemporary issues: orientations and future prospects" Oman, December 16-18, 2012. (paper in Arabic).

[22] B. Boumarafi, "Social media use in Algerian Universities: University of Constantine 2 case study", The IAFOR Journal of Education: Technology & Education special Edition, pp: 31-41, 2015.

[23] *A. Gentzler and A. Oberhauser, "College students' use of electronic communication with parents: links to loneliness, attachment and relationship quality", Behavior and Social Networking, vol. 14, pp. 71-75, 2011.*
https://doi.org/10.1089/cyber.2009.0409

[24] F. Khaddage, W. Muller and K.. Flintoff, "Advancing mobile learning in formal and informal settings via mobile app technology: where to from here and how?", Educational Technology and Society, vol.19, no. 3, pp. 16-26, 2016.

Dr Behdja Boumarafi holds a BA in foreign languages from Algeria,a master and PhD in LIS from UK and an EMBA. She worked in Malaysia as faculty in LIS and moved to the UAE as a founding Dean of Sharjah University libraries. DrBoumarafi. Now she holds an Associate Professor position at the Institute of Library and Documentation in Algeria. Dr Boumarafi worked as a library consultant in a number of institutions. She publishes in English, French & Arabic in peer reviewed journals.
E-mail: bboumarafi@gmail.com