

Factors Educators Should Consider When Integrating Facebook in Education

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Abstract – With Facebook having over 1.31 billion active users worldwide, it is only logical that educators would consider integrating Facebook into education. This review article evaluates the factors educators should consider when planning to integrate Facebook in education. The factors evaluated in this article include the benefits and risks of using Facebook; the perception of teachers and students using Facebook as well as the psychological and social implications of Facebook on student engagement in learning. In all the research studies reviewed, results show that Facebook use in education was well received by students who were willing participants and that Facebook had enhanced their interest, motivation, learning attitude and engagement in learning. Facebook also has potential as a learning management system (LMS) as it has the required pedagogical, social and technological affordances for learning management. Even though the response toward using Facebook is positive in all the studies conducted, the instructor's role to coordinate, facilitate and intervene in Facebook usage is crucial. In essence, educators must weigh the benefits and risks before integrating Facebook into their teaching and learning.

Keywords – Facebook in education, benefits and risks, perception, implications, learning management system (LMS)

I. INTRODUCTION

Technology has transformed human interaction from snail mail, to e-mail and finally to social networking sites (SNSs) for instant communication. One of the many SNSs to have influenced global communication is Facebook. Facebook was ranked the most popular social networking site (SNS) with over 1.31 billion active users worldwide on its tenth birthday^[1]. In Malaysia alone, there are over 13,589,520 Facebook users^[2]. Due to its extensive user base and ease of access by people around the globe, there is potential in using Facebook for education.

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With the immense popularity of Facebook, many educators have discovered that using Facebook for educational purposes proves beneficial to both teachers and students^{[3] [4] [5] [6] [7]}. However, there is also a growing controversy as some educators remain wary of its place in education claiming that SNSs may disengage students from learning traditional skills and literacies^[8]. Other concerns are that Facebook integration will infringe on privacy and integrity; lack of integrity of student submissions and privacy concerns have been reported as being among barriers to Facebook integration^[9]. Moreover, Sickler^[10] discovered that students did not welcome the presence of faculty members as Facebook friends. Researchers have commented that there is a lack of solid empirical research on the overall value of Facebook in pedagogy^{[11] [12]}. Hence, the question remains: should Facebook be integrated into education?

II. THE APPEAL OF FACEBOOK IN EDUCATION

Facebook was launched by Mark Zuckerberg in February 2004 as a social networking site, but with education as the focus. Membership then was exclusively for university students, but its popularity soon grew to include any person aged 13 and above with a valid email account. With such a grand mass of users, educators are beginning to realize the powerful potential of Facebook as a collaborative learning tool. Hence, the interest in Facebook as an educational tool became a popular research topic among educators. One of the main reasons educators are interested in Facebook is that 699 million people are logging onto Facebook daily and spending an average of 20 minutes per Facebook visit^[13]. According to online news portal^[14] the Daily Tech (2013), the Pew Internet & American Life Project (along with Harvard's Berkman Center) found that 95 percent of teenagers aged 12-17 use the Internet, and from these figures, 94% of them have Facebook accounts.

The user has the flexibility of controlling what is viewed in the user's timeline, which allows privacy to be respected. Now Facebook has a site dedicated solely for education and also hundreds of websites and applications to support education. Facebook also offers templates that help teachers get students interested and motivated to learn. Teachers can use and incorporate many applications, such as Study Group, Quizlet, SAT quest, To Do List and Quizmasters into their pedagogy. These are among the top applications for educators rated by Jenkins.^[15] With all these applications to support education, it may prove to be advantageous to integrate Facebook in education.

III. THE BENEFITS OF USING FACEBOOK IN TEACHING AND LEARNING

With the rapid development of Web 2.0 technologies, “our world has become flat”^[16]. We can now be instantly connected with each other through the World Wide Web via various types of electronic tool and gadget like the mobile phone, tablets, iPads, laptops and desktops. Technology has become part of our daily life and the younger generation known as “digital natives” to Prensky^[17] take to the Internet like a fish to water. The present society has become attached to various social media such as Viber, Wechat, Skype, Whatsapp, Twitter, Instagram and Facebook daily to keep connected with each other and the world. Facebook is a social networking service that was launched in February 2004 and its influence has spread like wildfire as it is widely used by people all around the world^[18].

The education field must stay abreast with the advancement and innovation of technology to suit the learning styles of students at this modern age. Previously, communication and learning platform technologies such as email, chat rooms, bulletin board and Moodle^[19] were integrated to aid education. As educators are focusing on using technology, pedagogy and content knowledge (TPACK) in teaching and learning, Facebook is an option to enhance learning outcomes. Selwyn (2007) found that Facebook has become the SNS of choice by college students with 85% of college students having a college network adopting Facebook^[20] while Teclehaimanot and Hickman^[21] further stated that students were willing to accept teachers using Facebook in education.

Social networking encourages the development of transferable technical and social skills such as participation, production, communication and collaboration, which adds value to formal and informal learning^[22]. He and Wang^[23] showed that integrating social media into the learning environment could increase learners’ satisfaction with the course, improving their learning and writing ability as well as fostering interaction. Ku, Lin and Tsai^[24] concluded that students’ motivation to learn was improved via collaborative learning through social interaction activities performed using Facebook. Another study^[25] also discovered that learning outcomes improved tremendously when a Facebook group was created to assist students in learning the Chinese language. The Facebook group helped both teachers and students to provide positive interactions as well as organize learning activities and resources. To summarize these findings, Facebook provides a relaxed, friendly atmosphere that invites student engagement. When students feel engaged, collaboration and participation ultimately leads to learning outside of the classroom.

Furthermore, teachers realize that they need to turn to SNS like Facebook to adapt to the learning styles of students^[26]. With the growing influence of Facebook in education, The Education Foundation of the UK produced a Facebook guide for educators. The Facebook guide offers insight and practical advice on how social media can support traditional classroom learning, enable “out of hours” learning, facilitate communication between educators, students and parents,

and enhance digital skills and citizenship^[27]. However, educators need to consider the findings of other researchers on the risks, perceptions and implications of using Facebook in education before making the decision to integrate Facebook into their pedagogy.

IV. THE RISKS OF USING FACEBOOK IN TEACHING AND LEARNING

Although Facebook has the potential to significantly revolutionize teaching and learning, educators also need to be aware of the risks associated with its use. One such risk^[28] is the lack of control over the use of this application. Students or even the public may create or engage in inappropriate content or malicious behavior. These actions can have serious implications and undermine the credibility of the educator and the institution concerned.

The greatest risk of Facebook usage is infringement of privacy. Studies show that students were very likely to post actual information in Facebook, such as birthday (96%), e-mail address (85%), hometown (85%), and relationship status (81%)^[29, 30, 31]. Wildemuth^[32] in 2008 further observed that users of SNSs such as Facebook seem either unconcerned about their privacy or unaware of the loss of privacy they suffer during their time online. By disclosing personal information on Facebook, students disregard the need for privacy and subject themselves to third party intrusion. These parties can use the information posted on Facebook for data mining, phishing, and other malicious purposes. For example, Jagatic et al. (2005) launched a phishing experiment using SNS to get information from selected students about their friends at Indiana University. The results show a 72 percent success rate of phishing within the social network as opposed to 16 percent within the control group^[33]. With privacy being the main issue, the views of teachers and students regarding Facebook in learning should be considered.

V. TEACHERS’ PERCEPTION OF FACEBOOK IN LEARNING

Researchers have mixed views on teachers’ perception of Facebook in education. DiVall and Kirwin^[34] found that educators who considered Facebook as a voluntary adjunct to teaching will be well received as many students were already Facebook users. They realized students were open to the idea of using this tool in their course as it could help bridge the gap between classroom theory and practice. However, another study by Morris and Millen^[35] found that teachers were not supportive of Facebook as they felt privacy, security and identity management would pose a problem. Another concern teachers voiced was that Facebook is a social networking platform and not an online learning platform such as Moodle. These teachers felt that the applications available in Facebook may be unable to support online learning. Moreover, data integrity issues may arise from Facebook use. Thomas and Thomas^[36] found that professors of higher institutions regarded Facebook as a “young-person’s game”. As a result, it is often argued that Facebook is seen as an obstacle rather than an opportunity.

VI. STUDENTS' PERCEPTION OF FACEBOOK IN LEARNING

Student attitude toward Facebook has the strongest indication of student engagement in learning^{[37][38]}. Hewitt and Forte^[39] found that interaction via Facebook has a positive impact on the students' perception of the professor with 66% (n = 136) feeling comfortable with teachers on Facebook. According to DiVall and Kirwin^[40] (2012), 86% of students perceived Facebook use benefited their learning. Estus^[41] also found that students thought Facebook application was easy to use and the assignment added value to the course. Students also felt satisfied with using Facebook as a learning management system^[42] as it could be easily implemented. Although, students welcomed using Facebook and that learning motivation via Facebook increased, learning achievement was not significantly improved^[43]. Another study^[44] also found that students preferred the Facebook interaction to be more passive to allow them more opportunity to learn from their teachers. Besides that, students did not feel Facebook provided privacy^{[45][46]}.

VII THE PSYCHOLOGICAL IMPLICATIONS OF FACEBOOK IN LEARNING

O'Sullivan et al. (2004) found that students who viewed an instructor's website with high levels of mediated immediacy, including forms of self-disclosure, reported high levels of motivation and affective learning, indicating positive attitudes toward the course and the teacher^[47]. This finding was validated by a number of research studies that found student motivation, affective learning, classroom climate and student-faculty relationship increased when students accessed websites of teachers with high level of positive self-disclosure^{[48][49]}. In conclusion, motivation, satisfaction, positive student learning outcome and student engagement in learning can be positively correlated with the teacher's immediacy and self-disclosure on Facebook.

When DiVall and Kirwin (2012) investigated the use of Facebook as an alternative tool for learning compared with Blackboard, they found that students viewed Facebook as a valuable study tool that added to their learning^[50]. Moreover, 57% of these students actually said they would miss Facebook if its use was not continued in subsequent courses. However, Wang et al.^[51] stated that using Facebook seems to be more appropriate for young learners than adults and teachers who do not have to be students' friend on Facebook.

VII. THE SOCIAL IMPLICATIONS OF USING FACEBOOK IN LEARNING

Social networking sites such as Facebook provide individuals with a way of maintaining and strengthening social ties, which can be beneficial in both social and academic settings. However, these social sites also pose a danger to students' privacy, safety, and professional reputations if proper precautions are not taken. Hence, it is important to understand that issues of trust, risk, copyright, liability, and privacy may be as important as understanding how the Web works^[52].

It is clear that issues of privacy, safety and security need to be addressed by educators before considering Facebook integration into education. Students need to be educated about the risks associated with social networking services and issues of online privacy, potential dangers, responsibility for controlling access to online profiles, legal issues concerning libelous remarks and invasion of privacy^{[53][54]}. Schools planning to use Facebook should have policies and guidelines for their students to be more socially responsible Facebook users.

VIII. FACEBOOK AS A LEARNING MANAGEMENT SYSTEM

Research shows that using LMSs have many benefits in teaching, such as allowing faculty to shift from content-based learning to process-based learning^[55]. LMSs can also shift learning processes from passive to active^[56] and have the potential increase student enrollment^[57], besides promoting interaction between students and faculty members^[58].

However, using existing commercial LMSs such as Blackboard often entail practical constraints^[59] such as the high cost involved in purchase and maintenance. Besides that, trainee teachers cannot access certain features such as creating courses, enrolling students and setting up student groups. Moreover, research also shows that learning a new system can be tedious and discouraging^[60]. Facebook is free and can be used as a LMS. In the study conducted by DiVall and Kirwin (2012), 77% of students preferred to read and view posts on Facebook compared to Blackboard and statistics confirmed that Facebook was used more often than Blackboard^[61].

In another study, Wang et al. (2012) found that Facebook group can be used as an LMS as it has certain pedagogical, social and technological affordances. Despite the limitations of Facebook in supporting the direct uploading of other format files, students were happy to share learning resources with the help of third-party applications. Students also found that organizing weekly learning activities using the event function to be meaningful in their learning^[62].

It is most interesting to note that Blackboard created a new application called "Blackboard sync" in the hope of reaching out to students using Facebook. Blackboard's strategy is to bring its services where the students already are and capitalize on Facebook's ubiquity and collaboration capabilities^[63]. On the other hand, Moodle LMS responded with a re-configured home page to resemble Facebook in an adaptation known as Moodlebook, effectively importing Facebook to Moodle LMS. While, the (not well-known) London School of Business and Finance abandoned hybrids altogether and posted its "free" on-line MBA curriculum on a Facebook Wall. It is undeniable that these organizations recognize Facebook as a potential LMS.

IX. DISCUSSION AND CONCLUSION

Facebook was originally designed as an online social networking site and the debate continues as to whether it

should be integrated into teaching and learning. This article attempts to consolidate the many views and findings of different researches with their justifications. We must acknowledge that students keep changing their behavior with new technologies and that the generation gap between teacher and student is increasing over time. While students adapt and adopt new technologies almost instantly, teachers require more time to assimilate and familiarize themselves with the ever-changing technology.

The divide between teachers' perception and students' perception on Facebook cannot be ignored. Although Facebook has revolutionized the way we communicate, the resistance to incorporate it into teaching and learning is evident. However, teachers need to acknowledge that their method of pedagogy have to evolve in line with the generation Z students. Therefore, to embrace this need to keep up with developments in instructional technology, Thomas and Thomas (2012) suggested that educators should be trained in social media and Web 2.0 technologies to be able to embrace their importance and in development^[64].

Facebook has many features and applications that can be adapted and used in education^[65]. Moreover, it is a social network that has the largest following of users worldwide. It is no wonder that students welcome this technological tool as part of their learning. However, the concerns surrounding Facebook use in education are real^[66] and these includes issues such as privacy, safety, responsible usage of posting and discussion, including something so trivial as time spent on real learning. A summary of the factors teachers need to evaluate before integrating Facebook in their pedagogy is given in Figure 1.

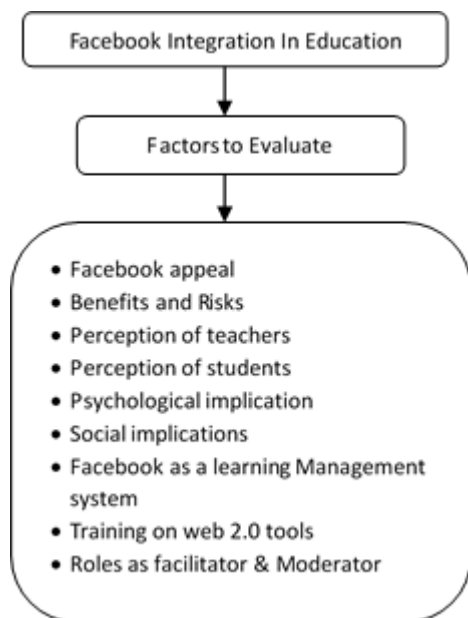


Figure 1. Summary of factors to evaluate when integrating Facebook in Education

While not exhaustive, these factors when evaluating Facebook use in education are the most common in the literature reviewed, and they provide some guidelines to consider before integrating Facebook into the classroom.

REFERENCES

- [1] Statistic Brain Research Institute (2013). Facebook statistics – Statistic Brain. Retrieved from <http://www.statisticbrain.com/facebook-statistics/>
- [2] Miniwatts Marketing Group (2012). Internet usage in Asia: Internet Users, Facebook Subscribers & Population Statistics for 35 countries and regions in Asia. Retrieved from <http://www.internetworldstats.com/stats3.htm#asia>
- [3] M. Arrington. (2005, September 7). 85% of college students use Facebook. TechCrunch. Retrieved from <http://www.techcrunch.com/2005/09/07/85-of-college-students-use-facebook/>.
- [4] M. V. DiVall, and J. L. Kirwin, J. L. "Using Facebook to facilitate course- related discussion between students and faculty members". American Journal of Pharmaceutical Education, 76(2), 1-5, 2012.
- [5] Jenkins, B. Awesome Facebook Apps for Educators. 2013. Retrieved from <http://www.teachhub.com/awesome-facebook-apps-educators>
- [6] P. Y. Ku, Y. T. Lin, and Y. H. Tsai, "Social-Media-Assisted Learning: A Case Study of Teaching Computer Science on Facebook". International Journal of e-Education, e-Business, e-Management and e-Learning, 2(3), 2012.
- [7] N. Selwyn, "Screw blackboard...do it on Facebook!": An investigation of students' educational use of Facebook." Presented at the "Poke 1.0 – Facebook Social Research Symposium," University of London, 2007.
- [8] T. Brabazon, The university of Google. Education in the (post) information age. Aldershot: Ashgate, 2007.
- [9] M. Moran, J. Seaman and H. Tinti-Kane, "Teaching, learning, and sharing: How today's higher education faculty use social media", 2011. Research report published by Pearson, The Babson Survey Research Group, and Converseon. Retrieved from <http://www.pearsonlearningsolutions.com/educators/pearson-social-media-survey-2011-bw.pdf>
- [10] E. Sickler (2007, March). Students comment on Facebook. University Business. Retrieved from <http://www.universitybusiness.com/viewarticle.aspx?articleid=724>
- [11] J. P. Mazer, R. E. Murphy, and C. J. Simonds, "I'll see you on 'Facebook': The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate". Communication Education, 56, 1-17, 2007.
- [12] T. Towner and A. VanHorn, "Facebook: Classroom tool for a classroom community?" Presented at the Annual Meeting of the Midwest Political Science Association, Chicago, Illinois, 2007.

- [13] Statistic Brain Research Institute (2013). Facebook statistics – Statistic Brain. Retrieved from <http://www.statisticbrain.com/facebook-statistics/>
- [14] T. Kaiser, Survey: 94 Percent of Teens use Facebook. DailyTech. May 22, 2013. Retrieved from <http://www.dailytech.com/Survey+94+Percent+of+Teens+Use+Facebook/article31611.htm>
- [15] Jenkins
- [16] C. J. Bonk, *The world is open: How web technology is revolutionizing education*. San Francisco, CA: Jossey-Bass, 2009.
- [17] M. Prensky, “Digital natives, digital immigrants”. *On the Horizon* 9(5). MCB University Press, 2001.
- [18] E. Eldon, Growth Puts Facebook In Better Position to Make Money. VentureBeat. Retrieved from <http://venturebeat.com/2008/12/18/2008-growth-puts-facebook-in-better-position-to-make-money/>
- [19] (Volery & Lord, 2000)
- [20] M. Arrington. (2005, September 7). 85% of college students use Facebook. TechCrunch. Retrieved from <http://www.techcrunch.com/2005/09/07/85-of-college-students-use-facebook/>.
- [21] B. Teclehaiamant and T. Hickman, “Student-Teacher Interaction on Facebook: What Students Find Appropriate”, *Techtrends*, 55, 3, 2011.
- [22] C. Crook and C. Harrison, Web 2.0 technologies for learning at key stages 3 and 4: Summary report, 2008. Retrieved from http://schools.becta.org.uk/upload-dir/downloads/page_documents/research/web2_ks34_summary.pdf
- [23] He, S., & Wang, P. (2008). Web 2.0 and social learning in a digital economy, *IEEE International Symposium on Knowledge Acquisition and Modeling*, 1121-1124.
- [24] P. Y. Ku, Y. T. Lin and Y. H. Tsai, “Social-Media-Assisted Learning: A Case Study of Teaching Computer Science on Facebook”. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 2(3), 2012.
- [25] C. Y. Ooi and K. Y. Loh, Using online web 2.0 tools to promote innovative learning, in, *Workshop Proceedings of the 14th Global Conference on Computers in Education*, Q. Y. Wang & S. C. Kong, Eds. Singapore: National Institute of Education, 2010, pp. 72–76.
- [26] E. B. Tanja, “Using online social networking for teaching and learning: Facebook use at the University of Cape Town”, *Communication: South African Journal for Communication Theory and Research*, 35(2), 185-200, 2009.
- [27] I. Fordham, and T. Goddard, T. (2013). Facebook Guide for Educators: A tool for teaching and learning handbook. The Education Foundation, UK. Retrieved from <http://www.ednfoundation.org/wp-content/uploads/Facebookguideforeducators.pdf>
- [28] A. Schroeder, S. Minocha, and C. Schneider, The strengths, weaknesses, opportunities and threats of using social software in higher and further education teaching and learning. *Journal of Computer Assisted Learning*, 26, 159–174, 2010..
- [29] E. Christofides, A. Muise, A., and S. Desmarais, “Information disclosure and control on Facebook: Are they two sides of the same coin or two different processes?” *CyberPsychology & Behavior*, 12(3), 341–345, 2009.
- [30] C. Lampe, N. Ellison and C. Steinfield, A familiar face(book): Profile elements as signals in an online social network. In *Proceedings of the 26th annual SIGCHI conference on Human Factors in computing systems*, 435–444. New York, NY: ACM, 2007.
- [31] A. L. Young, and A. Quan-Haase, “Information revelation and internet privacy concerns on social network sites: A case study of Facebook”. In *Proceedings of the fourth international conference on communities and technologies* (pp. 265–274). New York, NY: ACM, 2009..
- [32] B. M. Wildemuth, “The illusion of online privacy”, University of North Carolina at Chapel Hill, 2008. Retrieved from <http://sils.unc.edu/~wildem/Publications/CHI2006-Privacy.pdf>
- [33] T. Jagatic, N. Johnson, M. Jakobsson, and F. Menczer, F. Social phishing. Indiana University, Bloomington, December 12, 2005. Retrieved from <http://www.indiana.edu/~phishing/social-network-experiment/phishing-preprint.pdf>
- [34] M. V. DiVall, and J. L. Kirwin. “Using Facebook to facilitate course- related discussion between students and faculty members”. *American Journal of Pharmaceutical Education*, 76(2), 1-5, 2012.
- [35] J. M. DiMiccio, and D. R. Millen, “Identity management: multiple presentations of self in facebook”, in *Proceedings of the 2007 international ACM conference on Supporting group work*.
- [36] Thomas, M., & Thomas, H., (2012). Using new social media and Web 2.0 technologies in business school teaching and learning. *Journal of Management Development*, 31, 4, 2012.
- [37] L. Lam. An Investigation of the Factors Influencing Student Engagement in Learning Through Using Facebook as Part of Online Learning Platform. *International Conference on e-Learning: 211-219*, 2012. Kidmore End: Academic Conferences International.
- [38] P. C. Sun, R. J. Tsai, R. J., G. Finger, Y. Chen, and D. Yeh, D. “What drives a successful e- Learning? An empirical investigation of the critical factors influencing learner satisfaction”. *Computers & Education*, 50, 1183-1202, 2008.
- [39] A. Hewitt, and A. Forte (2006). Crossing boundaries: Identity management and student/faculty relationships on the Facebook, 2006. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=868D59E247180E9FC80D6F415F8C8ECC?doi=10.1.1.94.8152&rep=rep1&type=pdf>
- [40] M. V. DiVall, and J. L. Kirwin, “Using Facebook to facilitate course- related discussion between students and faculty members”. *American Journal of Pharmaceutical Education*, 76(2), 1-5, 2012.
- [41] E. L. Estus, “Using Facebook within a geriatric pharmacotherapy course”. *American*

Journal of Pharmaceutical Education, 74(8), 145, 2010.

- [42] Q. Wang, H. L. Woo, C. L., Quek, Y. Yang, and M. Liu, M. "Using the Facebook group as a learning management system: An exploratory study". *British Journal of Educational Technology*, 43: 428–438, 2012.
- [43] P. Y. Ku, Y. T. Lin, and Y. H. Tsai, "Social-Media-Assisted Learning: A Case Study of Teaching Computer Science on Facebook". *International Journal of e-Education, e-Business, e-Management and e-Learning*, 2(3), 2012.
- [44] B. Teclehaimanot and T. Hickman, "Student-Teacher Interaction on Facebook: What Students Find Appropriate", *TechTrends*, 55, 3, 2011.
- [45] B. Debatin, J. P. Lovejoy, A.-K. Horn, and B. N. Hughes, "Facebook and Online Privacy: Attitudes, behaviors, and unintended consequences". *Journal of Computer-Mediated Communication*, 15, 83–108, 2009.
- [46] Q. Wang, H. L. Woo, C. L., Quek, Y. Yang, and M. Liu, M. "Using the Facebook group as a learning management system: An exploratory study". *British Journal of Educational Technology*, 43: 428–438, 2012.
- [47] P. B. O'Sullivan, S. K. Hunt, and L. R. Lippert, "Mediated immediacy: A language of affiliation in a technological age". *Journal of Language and Social Psychology*, 23, 464–490, 2004.
- [48] J. P. Mazer, R. E. Murphy, and C. J. Simonds, "I'll see you on 'Facebook': The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate". *Communication Education*, 56, 1-17, 2007.
- [49] J. P. Mazer, R. E. Murphy, and C. J. Simonds, "The effects of teacher self-disclosure via Facebook on teacher credibility". *Learning, Media and Technology*, 34(2), 175–183, 2009.
- [50] M. V. DiVall, and J. L. Kirwin, "Using Facebook to facilitate course- related discussion between students and faculty members". *American Journal of Pharmaceutical Education*, 76(2), 1-5, 2012.
- [51] Q. Wang, Woo, H. L., C. L. Quek, Y. Yang, and M. Liu, "Using the Facebook group as a learning management system: An exploratory study". *British Journal of Educational Technology*, 43: 428–438, 2012.
- [52] G. Lorenzo, D. Oblinger, and C. Dziuban, *How choice, co-creation, and culture are changing: What it means to be net savvy*, 2006. Educause Learning Initiative. Retrieved from <http://www.educause.edu/ero/article/how-choice-co-creation-and-culture-are-changing-what-it-means-be-net-savvy>
- [53] J. Kornblum, and M. B. Marklein, "What you say online could haunt you". *USA Today*, March 8, 2006. Retrieved from http://usatoday30.usatoday.com/tech/news/internet/privacy/2006-03-08-Facebook-Myspace_x.htm
- [54] B. Read, "Think before you share". *Chronicles Higher Education*, 52(20), 38–41, 2006.
- [55] D. Vogel, and J. Klassen, "Technology-supported learning: Status, issues and trends". *Journal of Computer Assisted Learning*, 17(2), 104–114, 2001.
- [56] P. Herse, and A. Lee, "Optometry and WebCT: A student survey of the value of web- based learning environments in optometric education". *Clinical and Experimental Optometry* 88(1), 46-52, 2005.
- [57] M. B. Nunes, and M. McPherson, "Action research in continuing professional distance education". *Journal of Computer Assisted Learning*, 19(4), 429–437, 2003.
- [58] R. E. West, G. Waddoups, and C. R. Graham, "Understanding the experiences of instructors as they adopt a course management system". *Educational Technology Research & Development*, 55(1), 1–26, 2007.
- [59] M. Sanchez-Franco, "WebCT—the quasimoderating effect of perceived affective quality on an extending technology acceptance model". *Computers & Education*, 54(1), 37–46.
- [60] E. W. Black, D. Beck, K. Dawson, S. Jinks, and M. DiPietro, "The other side of the LMS: Considering implementation and use in the adoption of an LMS in online and blended learning environments". *TechTrends: Linking Research and Practice to Improve Learning*, 51(2), 35–39, 2007.
- [61] M. V. DiVall, and J. L. Kirwin. "Using Facebook to facilitate course- related discussion between students and faculty members". *American Journal of Pharmaceutical Education*, 76(2), 1-5, 2012.
- [62] Q. Wang, H. L. Woo, C. L. Quek, Y. Yang, and M. Liu, "Using the Facebook group as a learning management system: An exploratory study". *British Journal of Educational Technology*, 43, 428–438, 2012.
- [63] Inside Higher Ed. (2008, May 14). Facebook, Meet Blackboard. Retrieved from <http://www.insidehighered.com/news/2008/05/14/sync#sthash.YISY>
- [64] M. Thomas, and H. Thomas, "Using new social media and Web 2.0 technologies in business school teaching and learning". *Journal of Management Development*, 31(4), 2012.
- [65] M. Kharbach, "The ultimate guide to the use of Facebook in education. Educational tool and mobile learning. A resource of educational web tools and mobile apps for teachers and educators," 2011. Retrieved from <http://www.educatorstechnology.com/>
- [66] T. Taraszow, E. Aristodemou, G. Shitta, Y. Laouris, and A. Arsoy, "Disclosure of personal and contact information by young people in social networking sites: An analysis using Facebook profiles as an example". *International Journal of Media & Cultural Politics*, 6(1), 81-101, 2010.