

Social media in higher education: A literature review of Facebook

Ritesh Chugh¹ · Umar Ruhi²

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Abstract The rapid adoption of social media technologies has resulted in a fundamental shift in the way communication and collaboration take place. As staff and students use social media technologies in their personal lives, it is important to explore how social media technologies are being used as an educational tool. The aim of this paper is to analyse the role of social media, in particular, Facebook, as an educational tool in higher education. Through a review of the literature, this paper explores the myriad ways in which Facebook is being used as an educational instrument for learning and teaching. Multiple benefits of Facebook usage for learning and teaching have been identified such as increased teacher-student and student-student interaction, improved performance, the convenience of learning and higher engagement. The paper also highlights the potential problems and limitations of Facebook usage ranging from educators' dominance to privacy concerns. Finally, Facebook usage guidelines that can be adopted by educators to encourage social media adoption are proposed. As social media usage continues to grow in higher education, future empirical research is warranted.

Keywords Social media · Facebook · Social networking site · Higher education · Tertiary education

✉ Ritesh Chugh
r.chugh@cqu.edu.au

Umar Ruhi
umar.ruhi@uottawa.ca

¹ Central Queensland University, 120 Spencer Street, Melbourne, Victoria 3000, Australia

² Telfer School of Management, University of Ottawa, 55 Laurier Ave E, Ottawa, ON K1N 6N5, Canada

1 Introduction

Social media technologies have changed the landscape of both personal and professional communication. Social media platforms are an almost integral part of most users' personal lives via smartphones these days. Social media takes the form of online platforms that enable connectivity, communication, and collaboration (Zincir 2017). Blogs, vlogs, instant messaging, virtual communities and social networking sites are different examples in which social media manifests itself (Chugh and Joshi 2017). Social networking sites are segmented into different types of market segments and specific needs (Chugh 2012). LinkedIn and Viadeo target formal business-related interactions whereas Facebook and MySpace target informal social communication, though the boundary between formal and informal use is getting blurred. Although the gamut of social media is quite broad as it encompasses social networking, blogging, discussion forums, bookmarking and wikis, the sole focus of this paper is on social networking sites. Social networking sites form an integral and important part of social media, which aims to promote collaboration on a large scale. An inclusive definition of social networking sites that covers people, technology and processes is an online service allowing users to construct a public or private profile to connect and interact with their social connections (Boyd and Ellison 2007). For clarity and consistency, from here onwards the phrase social media will be used to denote social networking sites, in particular, Facebook. As the explicit focus is on Facebook, the term social media has also been used interchangeably at times.

Social media is not just used for informal social networking or enhancing social capital (Ellison et al. 2007) but for developing customer relationships (Eriksson and Larsson 2014), online engagement and marketing (Cvijikj and Michahelles 2013) and problem handling and complaint resolution (Pinto and Mansfield 2011) in a variety of different sectors by various people. The education sector has also joined the social media bandwagon and embraced it globally. In higher education, social media can be used for content generation, sharing, interacting and collaboratively socialising (Hamid et al. 2009). Social media can be utilised to deliver teaching material, educational information, updates and facilitate communication and collaboration. Facebook's social communication aspects benefit both educators and students by creating an online class group and increasing interactions between teacher-student and student-student (Munoz and Towner 2009) and promoting collaborative learning (Menzies et al. 2017). An awareness of the impact of social media on courses is important for teachers (Josefsson et al. 2016).

Facebook is now the world's most popular free social networking site with 1.71 billion active users (Facebook 2016). 72% of online American adults use Facebook (Duggan 2015), which further demonstrates the popularity of Facebook. Facebook enables collaboration and connectivity at a massive, previously unwitnessed, scale allowing people to create and share content and build relationships. Facebook is the most popular social media site for educators (Faculty Focus 2011). 80% of educators have at least one social media account, and they use Facebook to communicate with students (Tinti-Kane et al. 2010). An American report by Perrin (2015) for the Pew Research Center found that 90% young adults use social media, which also demonstrated a 78% increase over the 12% who used social media in 2005.

As the usage of social media continues to rise, the usage of social media in higher education is also continually growing and evolving with proponents tugging between its merits and demerits. Higher education, also referred to as tertiary education, relates to education undertaken after high school that includes undergraduate and graduate studies. Literature reviews have been carried out in the past that outline the usage of social media for learning and teaching activities but lack a sole emphasis on Facebook and higher education. This literature review paper aims to plug that gap by summarising the present findings with an exclusivity on Facebook and higher education by holistically bringing the different studies together. In doing so, the review outlines the benefits and uses of Facebook for teaching and learning before highlighting the problems and limitations of Facebook usage. It then highlights Facebook usage guidelines, which can be a starting point for educators towards the integration of Facebook in their educational domains.

The remainder of the paper is organised as follows. The next section outlines the research method. A review of the literature is carried out in subsequent sections, focussing on benefits and uses of Facebook as an educational tool, problems and limitations of Facebook usage and Facebook usage guidelines. Finally, in section six, conclusions and recommendations have been presented along with the constraints and opportunities for future research.

2 Research method

A narrative literature review has been carried out, which focussed on describing and discussing the topic from a theoretical and conceptual viewpoint (Rother 2007). To be more inclusive and systematic in the search for articles, an explicit search strategy, and criterion was devised. A systematic search of full-text peer-reviewed journal articles was conducted via one of the researchers' institutional online library, which is powered by the EBSCOhost database. Keywords and phrases used for the search were: Facebook, social media, social networking site, higher education and tertiary education. Keywords were combined in different ways using Boolean operators (And, Or, Not). Truncation and wildcarding were used when available.

The search was limited to full-text articles in scholarly peer-reviewed journals and only articles published between 2013 to 2016 were chosen. This date range provided the opportunity to review existing knowledge that is as current as possible (Knopf 2006) and follows on after the previous exhaustive review by (Davis et al. 2012), which lacked an exclusive focus on Facebook. A possible caveat to the search was that as the keywords in journal articles are not based on a standardised list, it is possible that some of the articles during the identified period may have been omitted.

An initial search of the EBSCOhost online database revealed a total of 88 articles. Firstly, duplicate articles were removed and then articles that were not relevant (based on exclusion criteria and rationale) were excluded. Articles that only focussed on Facebook were selected rather than other social media platforms such as LinkedIn, YouTube, Twitter, proprietary platforms and so forth, hence were particularly pertinent. Finally, 25 articles were deemed to be suitable for the literature review. These 25 articles solely focussed on Facebook usage in higher education using a sample population of undergraduate and graduate students. Table 1 summarises the identified

Table 1 Shortlisted articles for the review

| Author/s and year of the study | Key emphasis of the study | Research method | Location of the study |
|--------------------------------|---|--|--------------------------------|
| Alm 2015 | Out-of-class, informal language learning | Questionnaire | New Zealand |
| Aubry 2013 | Students' motivation | Survey | United States of America (USA) |
| Aydin 2014 | Learners' interactions | Questionnaire | Turkey |
| Bahati 2015 | After-class discussion venue | Survey | Rwanda |
| Balcikanli 2015 | Adoption, purpose and usage | Survey | Turkey |
| Brew et al. 2013 | Usage and privacy | Survey | USA |
| Bruneel et al. 2013 | Educational use and privacy | Interview and survey | Belgium |
| Çevik et al. 2014 | Online teaching | Written reflection | Turkey |
| Chen 2015 | Learning styles and learning | Questionnaire | Taiwan |
| Dougherty and Andercheck 2014 | Student engagement and learning | Survey | USA |
| Harran and Olamijulo 2014 | Developing literacies | Observation and focus group | South Africa |
| Hope 2016 | Spatial elements (learning spaces) | Semi-structured interview and focus group | United Kingdom (UK) |
| Magro et al. 2013 | Usage to enhance educational experiences | Survey | USA |
| McGuckin and Sealey 2013 | Students' sense of belonging | Survey | Australia |
| Mendez et al. 2014 | Integration in a pedagogical environment | Case study | USA |
| Nalbone et al. 2016 | Student satisfaction, academic performance, and retention | Survey | USA |
| Nkhoma et al. 2015 | Out-of-class communication for learning | Questionnaire | Vietnam |
| Northey et al. 2015 | Student engagement | Survey | Australia |
| Prescott et al. 2013 | Learning and integration | Survey | UK |
| Rambe and Ng'ambi 2014 | Power asymmetries in educational interactions | Interview | South Africa |
| Stirling 2016 | Transition | Ethnographic stories | UK |
| VanDoom and Eklund 2013 | Learning and teaching potential | Questionnaire | Australia |
| Wang et al. 2014 | Impact on students' social and academic lives | Interview and focus group | New Zealand and UK |
| Whittaker et al. 2014 | Online learning community | Observation | Australia |
| Wichadee 2013 | Developing writing ability | Document analysis, Questionnaire and Interview | Thailand |

studies, in alphabetical order of author's surnames, along with the key emphasis of the study, the research method and the location of the study.

The published shortlisted articles indicate a declining trend over time – 8 articles were published in 2013 and 2014 respectively, 5 in 2015 and 4 in 2016. The geographical distribution of the articles, based on the location of the study, shows the USA leading with six articles, followed by Australia with 4 and UK and Turkey on an equal of 3 each. Surveys were the most popular research method in the shortlisted articles.

3 Benefits and uses of Facebook as an educational tool for learning and teaching

Research has suggested that the use of Facebook provides a myriad range of advantages as an educational tool. The use of Facebook was explored in a Turkish study of prospective teachers, which found that using Facebook in language teacher education can offer benefits to both teachers and students (Balcikanli 2015), such as increased teacher-student and student-student interaction. The students in the study found Facebook to be an effective educational tool in their learning contexts, helping them in communication, collaboration and resource sharing and developing their ability to use online technologies in learning environments. Facebook can be used to promote metacognitive awareness, especially reflective practice in English language teacher education (Balcikanli 2015). A Thai study found that peer feedback on Facebook for writing development activities significantly improved performance, made giving feedback less burdensome and boring and led to greater enjoyment (Wichadee 2013).

Facebook provides a platform for interaction amongst students and teachers and amongst students themselves. The use of Facebook as an after-class discussion venue showed that it can be a valuable platform to promote student engagement, collaboration, and sharing of ideas outside face-to-face interactions (Bahati 2015). In a qualitative research, the reflections of online teaching through Facebook has shown to enhance interactive learning and participants found it to be an effective learning environment, which led to perceptions of successfully working in collaboration and achieving satisfaction (Çevik et al. 2014). In a similar vein, Facebook can be used in a learning and teaching environment as a “pedagogical/andragogical tool to foster communication and information exchange” (Magro et al. 2013 p. 308). A 2-year longitudinal US study of 1033 students found that Facebook paved greater interaction between students and instructors between classes, easier adjustment to an academic environment and an increase in student retention (Nalbone et al. 2016). An Australian research which specifically explored the use of Facebook’s chat functionality (synchronous communication) found its usage to be perceived positively by students as the interaction led to immediate responses and made geographical distances irrelevant (VanDoom and Eklund 2013).

Facebook can be used both as a formal and an informal tool for language learning. A study by Alm (2015) found that language students can be skillful users of social media and Facebook enables them to be active users in remote places too. The study called for encouraging out-of-class language engagement vis-à-vis Facebook and designing learning activities centred around the use of social media. Through content analysis of Facebook posts, focus group interviews and journal reflections, it was found that Facebook is preferred as a communication space by students because it is convenient, provides mobility and freedom of learning, promotes teamwork and encourages shy students to partake freely in online discussions (Harran and Olamijulo 2014). Specifically, the use of Facebook as an online learning community has helped in problem-solving, developed an emotional connection and contributed to a stronger sense of community amongst students (Whittaker et al. 2014).

Research demonstrates that students found Facebook to be convenient for their learning, enhanced collaboration amongst peers and promoted a sense of belonging. A study of Taiwanese students which explored students’ experience and attitudes

towards mobile Facebook in their learning found the interface convenient to use, helpful for reflecting, organising ideas and sharing practical experiences, and encouraged group-learning (Chen 2015). An important observation from this study also highlighted that students found themselves more willing and less pressured to participate in online Facebook discussion than face-to-face in-class discussions. The benefits of Facebook for community-building and learning have been documented in a US study involving 170 students (Dougherty and Andercheck 2014). The study found that Facebook was useful as a curricular tool, for seeking assistance and navigating course requirements, for collaboration, for managing their learning and importantly for learning more from the course. In a study of Sport and Exercise Science students in Australia, it was found that the use of Facebook led to greater awareness of university events and promoted a sense of belonging to peers and staff and the profession (McGuckin and Sealey 2013). This shows that the use of Facebook is not just limited to benefits in learning and teaching activities.

A study that explored student engagement as a result of asynchronous learning via Facebook and regular face-to-face classes found that students become more engaged, contribute more actively, and achieve better grades when they participated in both face-to-face classes and asynchronous learning over those who only attended face-to-face classes (Northey et al. 2015). Hope (2016) concludes that while Facebook usage may help to foster learning communities and provide academic creativity, the intended results are not necessarily certain. Hence, the need to consider the problems and limitations of Facebook are evident.

4 Problems and limitations of Facebook usage

Research has outlined that Facebook usage is not free from limitations. Some of its challenges and constraints include educators' dominance, inactive behaviour, lack of academic language usage, technological and privacy concerns, and discrimination. This section examines the relevant literature that reports the problems and limitations of Facebook usage in an educational environment.

A South African study of 165 first year students found that educators were dominant in Facebook interactions between staff and students, adopting didactic teaching approaches online (Rambe and Ng'ambi 2014). Nkhoma et al. (2015) emphasised that how often/how much students use Facebook has a positive impact on how they perceive the quality of the content of student–instructor interaction on Facebook and a negative impact on how they view their performance. A study of Turkish English as a foreign language (EFL) students' interactions with their teachers on Facebook found that students display passive (reading, viewing and watching) behaviours in their interactions and avoid active (chatting, commenting and posting) behaviours (Aydin 2014). Aydin also concluded that the passive behaviour problem could be related to cultural factors aimed at showing respect for teachers in the Turkish culture and maintaining social distance. It was also reported that Facebook posts made by students do not necessarily follow rigorous academic language literacy levels i.e. they tend to use SMS/abbreviated language in their responses (Harran and Olamijulo 2014).

The use of Facebook for educational purposes can also be marred by unreliable and slow Internet connection (Bahati 2015) and possible distractions arising from the

readily available social and recreational content (Chen 2015). Similarly, access to Facebook can also be limited for students because of restrictions on data downloads from mobile devices and no Internet access at home (Harran and Olamijulo 2014).

In spite of all the privacy settings of Facebook, it is not certain that information posted on Facebook will necessarily remain private. In an exploratory study regarding usage and privacy settings of Facebook by counselling students, it was found that 50% of the male students used privacy settings for less than half of their information whereas only 14.6% of the female students used privacy settings for the same amount of information (Brew et al. 2013). The study also found that millennial generation students established more privacy settings in contrast to older generation students. Students have also expressed concern about being under surveillance when using Facebook and a blur between academic and personal space (Rambe and Ng'ambi 2014), akin to the big-brother attitude.

Nalbone et al. (2016) also found that older students were less inclined to form collaborative friendships on Facebook and have called for more training and grouping adult students together. Similarly, another study highlighted that the use of Facebook may become a discriminatory factor for mature-age students who may not be net-savvy (VanDoorn and Eklund 2013).

In spite of all the benefits, students have also labelled Facebook as unsocial because the ambiguity of online communication allows for misinterpretations and can lead to conflicts between peers (Hope 2016). In the same study, Facebook was also labelled as anti-social because students do not socialise or go out in the real world but only in the virtual world.

The use of a non-university supported social media platform, such as Facebook, for pedagogical purposes has also brought some negative implications for teaching staff in the form of complicated academic appeals showing that students were discriminated against because of Facebook usage (Mendez et al. 2014). There is also a possibility of teachers becoming biased to their students after finding information about their students on Facebook (Brew et al. 2013). The bias could be either positive or negative. Students have also expressed concern over their personal information being available to their peers who are not good acquaintances (Chen 2015). All these problems and limitations call for some usage guidelines, which educators can adopt to circumvent the difficulties and enhance adoption of Facebook in higher education.

5 Facebook usage guidelines

It appears from the benefits and limitations that students both like and dislike Facebook activities in their courses. There is both an eagerness and apprehension that seem to co-exist. Undoubtedly, students use Facebook differently. Educators need to be aware of these different approaches to the use of Facebook in formulating the integration of Facebook for learning and teaching activities. A longitudinal ethnographic study of Facebook usage by newly enrolled undergraduate students in a UK university found that Facebook can be a constant companion and source of information while on the other end it presents a more detached and disconnected use (Stirling 2016). The growing popularity and uptake of Facebook by students is quite evident. However, a US student found that only 15.56% of respondents had used Facebook in previous

classes i.e. educators are also not using Facebook for educational activities in their classes (Magro et al. 2013). Similarly, 78% of students in a UK study stated that they did not use Facebook for learning purposes (Prescott et al. 2013). This calls for some usage guidelines that educators can readily apply to incorporate Facebook into their learning and teaching activities.

To begin with, asynchronous learning environments can be easily developed using popular technology such as Facebook as it provides learners both familiarity and comfort (Northey et al. 2015). However, students have expressed caution about using Facebook as a formal learning platform but support its use for informal learning and course-related communication to share ideas with other students and discuss assignments (Prescott et al. 2013).

A Belgian study found that students have difficulties in perceiving Facebook as a tool that supports learning and none of the participants would accept a Facebook friend request from a faculty member (Bruneel et al. 2013). However, this is in contrast to the study by Çevik et al. (2014) where participants found Facebook to be an effective learning environment. The non-acceptance of friend requests can be attributed to protection of their personal information on Facebook. However, this poses an interesting dilemma, if educators were to use Facebook as a learning tool.

Aubry (2013) suggested that the use of online teacher self-disclosure using Facebook in an online administered language course promotes a shift in students' motivation type – from extrinsic to intrinsic motivation. Intrinsic motivation tends to yield most positive results in the learning process (Vallerand 1997). Aubry (2013) also highlighted that teacher self-disclosure using Facebook led to students showing enthusiasm and enhanced interactions in contrast to the control group.

Achieving the attention of learners and engaging them is a significant challenge in an online environment. Çevik et al. (2014) have outlined strategies to enrich an online learning environment and motivate students by “emphasising critical points throughout the content, supporting the content with multimedia, providing crystal-clear guiding questions, utilising both synchronous and asynchronous tools, and regularly interacting with students”(p. 724). Extending discussions beyond face-to-face interactions and on to Facebook calls for intrinsic and extrinsic measures to motivate students by setting tasks that stimulate students to use their higher-order thinking skills (Bahati 2015). Extrinsic incentives such as participation marks for using Facebook for out-of-class discussion has a positive impact on academic outcomes (Northey et al. 2015). Educators should be very proactive in the initial stages of Facebook activity formation to guide the direction of online discussion by students and to respond to their queries (Whittaker et al. 2014). To increase interaction with students on Facebook and in real-life situations and facilitate learning, the role of teachers should be focussed on being an organiser, prompter, participant, counsellor and investigator rather than a controller, corrector and assessor (Aydin 2014).

To meet the diverse learning needs of students on Facebook and encourage involvement, Chen (2015) has suggested the designing of micro-assessments, creation of exemplary content and tagging students in posts. Some suggestions for creating and using a Facebook group have been summarised in Table 2.

The usage and understanding of Facebook should not be taken for granted and adequate training should be provided before its use in learning and teaching activities (Bahati 2015), in fact, training and guidance should be provided not just to students but to

Table 2 Tips for a Facebook group (Adapted from Dougherty and Andercheck 2014)

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- Make some content available upfront to students when they join the group to attract their interest
 - Make content available on a regular basis
 - Develop and post critical voting/polling and multiple choice questions
 - Post a question of the day or week
 - Add images and videos to meet diverse learning styles
 - Encourage students to add content to the group
 - Devise a reward mechanism to encourage engagement
 - Keep posting on a regular basis
-

staff too. This has been similarly echoed by Çevik et al. (2014) who have recommended that students should be guided through Facebook's features and there should be regular student-teacher interaction. Factors such as disability and technophobia, which may limit the usage of Facebook should be addressed through corrective training and/or adequate infrastructure (Wang et al. 2014) so that these limitations are reduced or removed.

6 Conclusion and recommendations

Rather than seeing Facebook in bad light, it can be seen as a compelling platform because of its widespread adoption globally by young adults and the numerous advantages it provides for higher education. It is evident through a review of the literature that the use of Facebook for learning and teaching activities can be seen as a strategic shift to enhance pedagogical outcomes and engagement. As the boundaries between face-to-face and online environment become blurred, educators can see Facebook as a complementary teaching and interaction platform. They could explore opportunities aimed to integrate social media into their teaching and interactions with students rather than shy away from it. Facebook should be seen as a gateway to learning and teaching rather than just a platform aimed at enhancing social interactions. In spite of the limitations, it is clearly evident that Facebook provides many benefits and it should be leveraged to improve educational outcomes by integrating it in higher learning environments. The use of Facebook was clear for different purposes – enhancing learning, increasing participation and engagement, content dissemination, improving pedagogy and information sharing. The widespread popularity and familiarity of Facebook make it an essential choice for its usage in learning and teaching ecosystems. Identifying the problems and limitations of Facebook should help to eliminate the risks that come with using Facebook.

Some of the identified problems need to be addressed to allow for an even greater adoption of Facebook. The display of passive behaviour by students needs to be corrected possibly by regular teacher encouragement on Facebook. Providing students adequate guidelines for the use of the required academic language on Facebook can help build the required standards. A lack of awareness of the various functions/options offered by Facebook was evident. It is reasonable to suggest that both students and teachers should be made more aware of the various functionality provided by Facebook so that usage is much higher.

To circumvent the problem of non-acceptance of friend requests by students and respect students' privacy, the use of Facebook groups is recommended where students and teachers can interact without being Facebook friends. In dealing with negative perceptions of Facebook (in spite of its widespread popularity) as a tool that supports learning, it is recommended to develop pedagogically sound learning activities that can use Facebook as a platform, such as electronic portfolios that can lead to research, collaboration, and discussion. To encourage participation and create enthusiasm amongst students, teachers should use some form of self-disclosure i.e. provide biographical information, photos, and public messages. Such self-disclosure may create a personal touch to an online face too.

It is also vital to choose a social media platform that works best for the educators and students (face-to-face and distance). The choice of social media platform should be student-centred with an aim to promote learning. However, if an educational institution supports a particular social media platform, then that should also be considered, but the popularity of Facebook may still make it the first choice for educators. As most higher education students are already using Facebook, this should make the adoption for learning and teaching activities easier. It is suggested that the creation and use of Facebook groups for learning and teaching would be the best recourse to some of the identified problems and will also provide the privacy that students and educators need. As Facebook is a third-party platform, higher education institutions will still need to consider issues relating to privacy, ownership of data and legal responsibility before adopting it.

The paper has attempted to clarify the ambivalence of using Facebook for learning and teaching in higher education. However, as this paper is based on a review of the literature, it lacks empirical evidence in substantiating the findings. As with any research, this study has its limitations. Research should be carried out that provides more compelling evidence. It is certainly possible that articles that were not available in the EBSCOhost database would have been omitted in the review. The main focus of this paper was on studies that involved higher education students. Future studies could look at different levels of learners.

The paper has endeavoured to provide a seminal insight into the use of social media for education, and the highlighted issues can help in further integrating social media into education. It is clearly evident that there is a growing interest towards Facebook for teaching and learning as it forays into being a useful educational tool. If used correctly, Facebook can capture a niche in the higher education sector. As the boundaries between online communication between educators and students become blurred in virtual space, it is vital that educators consider different ways of using Facebook to reach out to their students. The usage of social media becomes particularly more important in today's connected online social landscape as students continue to use it in large numbers. Facebook is a useful tool for engaging and retention however the integration of Facebook into education remains challenging, and integration needs to be clearly charted. The review indicates that Facebook is providing pedagogical, social and technological benefits although the debate on its ability to provide educational value continues. The integration of Facebook, originally intended for informal communication, into formal education on a large scale remains to be seen although it is definitely on the rise. Facebook has the potential to be used widely in higher education.

The use of Facebook for pedagogical purposes is a delicate see-saw to balance with research weighing in on both sides. Going forward, this paper should help to clarify some of the inhibitions and provide a more thoughtful approach towards the integration of social media, particularly Facebook, in higher education.

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