Social Media in Higher Education: A Review of Their Uses, Benefits and Limitations

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Abstract. As a prevalent type of internet technology for social interaction and collaboration, social media have been increasingly used for educational purposes. This paper presents a review of the research work on their uses, benefits and limitations for teaching and learning in higher education contexts. It covers a total of 77 articles published from 2010 to 2019 which were collected from Scopus and Google Scholar. The uses of social media revolved around two major areas—as a learning management system and a means to enhance students' engagement. The benefits of using social media covered students' satisfying experience in collaborative learning, engagement in learning activities, real-time communication, and knowledge sharing, as well as communities of practice; and such benefits have been shown to have a relationship with the improvement of learning outcomes. The limitations covered concerns about blurring boundaries between public and private life and between teachers and students; the effectiveness for the construction of knowledge; a lack of pedagogical and technical skills; and compatibility with instructional design. The studies also reveal the changing role of teachers and their need to innovate teaching practices with effectively utilised features of social media. Finally, the results suggest future work to be done for promoting the educational use of social media and enhancing their effectiveness, such as support from institutional policies on technology-enhanced learning and the promotion of teaching innovations.

Keywords: Social media · Web 2.0 · Higher education · Engagement · Interaction · Learning outcomes

1 Introduction

Social media, also called Web 2.0 and social software, are the types of internet technology that provide a channel for social interaction and collaboration (Dabbagh and Kitsantas [7]). They allow users to engage in and share content in a digital environment. The use of social media has become increasingly prevalent. For example, the Pew Research Centre [32] found that, in 2019, more than 70% of adults in the United States used at least one type of social media, and 90% of those aged between 18 and 29 did so.

Along with the popularity of social media, there has been a growing interest in its use for teaching and learning purposes. For example, social media have been used by educational institutions as a kind of learning management system (LMS). Skype has

been employed to allow students to join first-hand interviews with domain experts; and WordPress has been adopted by students to develop their e-portfolios for performance-based assessment (Dabbagh and Reo [8]).

The various initiatives on social media have demonstrated its potential to support active and informal learning so as to strengthen students' interaction and engagement inside and outside classes. A key feature of social media is the production of user-generated content. Rennie and Morrison [35] claimed that promoting learners' generation of educational content with the aid of social media enables them to actively construct their knowledge instead of passively absorbing information provided by teachers. More importantly, the virtual community space on social media supports learners' communication with others with similar learning preferences from around the world, which motivates them to learn and persist.

However, there are also limitations in the educational use of social media. For instance, it is challenging to strike a balance between the informal and academic use of social media. Manca and Ranierit [22] found that the pedagogical affordances of Facebook have not been fully realised and obstacles such as cultural issues can deter people from adopting it as an effective learning environment. How to overcome the barriers in order to realise the pedagogical potential of social media remains an important issue to be addressed.

This paper aims to give a comprehensive and systemic review of the research work on this area in order to provide an overview of the use of social media in higher education. It focuses on the ways social media have been used in teaching and learning, as well as the benefits and limitations.

2 Related Studies

The increasing significance of social media—particularly among young people—has resulted in the proliferation of related studies. For example, Balakrishnan and Gan [4] analysed its usage for learning in relation to university students' learning styles. They revealed a range of factors influencing students' intention to use social media for learning, such as their self-efficacy and perceived usefulness, as well as the communication functionalities of social media. Also, Manca and Ranieri [23, 24] examined the patterns of higher education scholars on using social media in academic practices, and identified the key variables affecting the frequency of use, such as the scientific discipline, age and seniority of the scholars.

As regards the benefits of social media use, Hung and Yuen [14] found that students could develop social connectedness and increase engagement when social networking sites were used as supplementary tools for learning. In addition, Gikas and Grant [13] traced students' use of social media together with mobile devices in the courses of three universities for two semesters, and showed that the students demonstrated enhanced collaboration and interaction, as well as engagement in content creation, when they used social media.

However, the relevant literature has also raised problems when implementing social media in teaching and learning. For instance, Brooks and Pomerantz [6] surveyed students' feedback on social media use and showed that nearly half of them preferred less

use of social media by instructors as a learning tool. They pointed out that students may be less enthusiastic about engaging in learning activities involving social media which require them to "use their private devices and accounts or produce content for the consumption of others", "unless faculty clearly and openly state the pedagogical benefits … to enhance content, context, and learning expectations" (p. 24). Also, Moran, Seaman and Tinti-Kane [29] presented the barriers to widespread adoption of social media for teaching as perceived by faculty staff where the top concerns lay in privacy issues and the integrity of student submissions.

The literature reviews in this area, however, have not yet presented a comprehensive summary of relevant findings. They have only provided an overview of how different researchers have approached the topic, or their general views on the educational potential of social media (Evans [11]; Manca and Ranierit [22]). This paper aims to address the literature gap through analysing the academic practices on social media.

3   Methodology

This study aims to investigate the case studies of higher education institutions involving teaching and learning practices on social media, as well as the benefits and limitations as revealed from the practices. Relevant cases studies were collected from Scopus and Google Scholar, using the key terms ("social media," "higher education" and "teaching"). The period of the publications was 2010 to 2019. The articles collected were further checked by filtering out the duplicated ones, as well as those not written in English. In addition, the following inclusion criteria were applied for selecting relevant case studies:

i. They reported one or more empirical practice involving the use of social media in a higher education institution.
ii. They contained the details of social media use, such as the purpose, detailed description of implementation, outcomes, and evaluation.

A total of 77 case studies were selected following the above criteria. They were analysed in terms of the characteristics of the social media use. The benefits and limitations were also identified and categorised from the case studies according to the outcomes or evaluation results reported.

4   Results

4.1   Use of Social Media

The use of social media as reported in the case studies revolved around two major areas—as a learning management system and a means to enhance students' engagement.

As a Learning Management System
Some institutions used social media as an alternative to learning management systems (LMS) such as Moodle or Blackboard, with the aim of enhancing the involvement of students outside the class. The social media sites served as a platform to display

course announcements, manage course materials, and collect assignments. Their use was intended to address the unfavourable attitude of students towards the design of traditional LMSs, which were then used mainly in campuses as a consequence (Deng and Tavares [10]). In contrast, the community-building and sharing functions of social media would be more attractive for students and motivate them to access the social media sites outside the campus. For example, Albayrak and Yildirim [2] reported the practice in a university in Turkey where instructors made use of Facebook to share course information, make announcements, provide learning activities, and conduct discussion.

As a Means to Enhance Students' Engagement

It is also common for institutions to make use of social media to conduct learning activities as a means to enhance students' engagement in both formal and informal contexts. The activities may cover those conducted in class or students' self-directed course-related activities outside the classroom, such as interaction among peers. For example, Menkhoff, Chay, Benggtsson, Woodard, and Gan [28] used Twitter for students to express views and ask questions during class time. Also, McCarthy [25] reported a practice in the University of Adelaide where students were required to upload their work to Facebook and comment on peers' submissions. In this regard, Irwin, Ball and Desbrow [15] said that social media offer a new space for developing academic connections, communication and collaboration.

4.2 Benefits

Figure 1 shows the benefits of social media use and the percentages of case studies which reported them. Overall, the benefits covered students' experience in collaborative learning, engagement in learning activities, real-time communication, and knowledge sharing, as well as communities of practice.

Fig. 1. Percentages of case studies which report the benefits of social media use

Offering Students a Satisfying Collaborative Learning Experience
Social media are perceived to have the potential to foster collaborative learning. Through its use, students are able to interact with their peers on problem-solving, and co-construct and share knowledge. Given the more satisfying learning experience, they may also pay more attention in the class and be eager to discuss course-related issues after class.

This benefit has been most commonly reported in the case studies. For example, Laborda and Litzler [17] presented students' feedback on Web 2.0 tools, with 90% of them agreeing that the tools could promote cooperation among classmates.

Attracting Students to Visit Them and Engage in Learning Activities
Compared with traditional LMSs, students have tended to visit social media more frequently. This benefit has been widely reported as measured by the numbers of comments, views, and 'likes' for the social media sites. Lieberman [20] showed the popularity of Facebook among students—it was checked by about 60% of students several times a day, while Blackboard was checked only once a day by a similar proportion of students.

The more frequent use of social media can also help to promote students' engagement in learning activities. In general, students were more active in social media in terms of participating in discussion, asking questions, joining activities, and reading others' posts (Hung and Yuen [14]). Also, McCarthy [26] reported students' feedback that in online discussion they felt more comfortable in expressing themselves and commenting on others' work or ideas.

Enabling Two-Way Communication in Real Time
Social media feature real-time communication and serve as channels for close interaction between instructors and students that allows individual mentorship. Relevant case studies have shown students' preference for communicating and discussing course-related materials with fellow students via social media. For example, Ahern, Feller and Nagle [1] reported students' comments that communication on Facebook was efficient because members of Facebook groups shared a relevant background and information. O'Boyle [31] also presented students' positive perception of Facebook and Twitter which allow users to interact and receive responses efficiently. They also promoted face-to-face interactions between students and instructors, as students would feel more comfortable approaching in person instructors who have already interacted with them via the social media (O'Boyle [31]).

*Enhancing Knowledge Sharing Among Users*
Social media have been shown to be effective platforms for requesting and sharing subject-related materials. Their ease of use and immediate communication are two main factors which make its use attractive for sharing information. Studies such as Neier and Zayer [30] and Sobaih and Moustafa [37] presented students with social media sites to share course materials, and the students reported their positive attitude and experience where they could do so without anxiety.

Fostering Communities of Practice
The enhancement of communication among different learners and teachers on social media sites has promoted a community of inquiry and community of practices, as well as fostering a close relationship among them. For example, Feliz, Ricoy and Feliz [12] found learners' high degree of commitment to Twitter, which helped them to create a sense of belonging to the community.

4.3   Limitations

Figure 2 shows the limitations of social media use and the percentages of case studies which reported them. The limitations cover concerns about blurring boundaries between public and private life and between teachers and students; the effectiveness for the construction of knowledge; a lack of pedagogical and technical skills; and compatibility with instructional design.
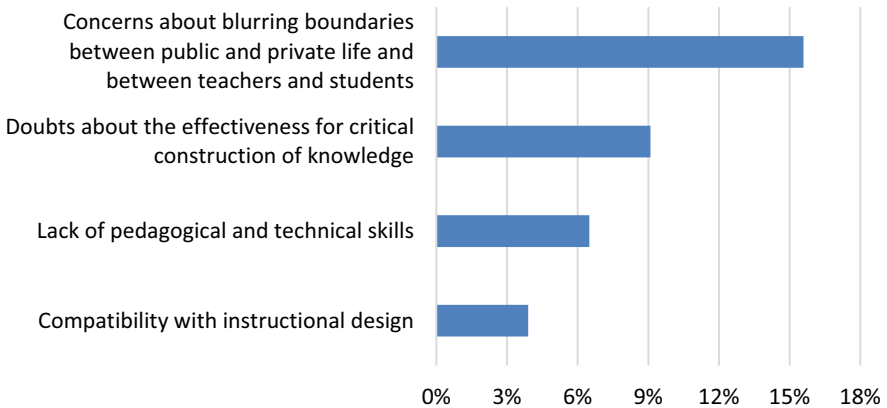
Fig. 2. Percentages of case studies which report the limitations of social media use

Concerns About Blurring Boundaries Between Public and Private Life and Between Teachers and Students
Despite the effectiveness of social media in promoting interaction, students may have reservations about accepting teachers and classmates as their "friends" on social media. Some students hope that their academic discussion is kept private, instead of being viewed by all of their friends on social media. For example, Megele [27] raised the issue of how to balance individual privacy and the ease of disseminating learning materials as an important ethical consideration for institutions.

Also, while the distance between teachers and students has been decreased through their interaction on social media, studies have also pointed out users' concerns about blurring the boundaries between their relationships that would affect the effectiveness of teaching and learning. Shelton [36] surveyed faculty staff's feedback on this and revealed the limitation of Facebook as a social learning space.

Doubts About the Effectiveness for Critical Construction of Knowledge
While social media are effective in promoting students' engagement, their effectiveness in enhancing learning outcomes remains doubtful. For instance, Rambe [33] illustrated the difficulties in facilitating quality academic discussions on social media sites which may foster students' learning at the conceptual level. Some students may just read the messages and share course-related information on social platforms but seldom respond to questions (Lin, Hoffman, and Borengasser [21]). Besides, the length limit of each

message imposed by some social media may also hinder reflective thinking and in-depth discussion (Kassens-Noor [16]).

Lack of Pedagogical and Technical Skills
The effective use of social media also depends on teachers' pedagogical and technological skills. Studies have revealed that some teachers lack sufficient skills and may question the potential pedagogical benefits of social media, or follow the traditional ways of using LMS (Veletsianos, Kimmons, and French [38]). Students may also encounter technical difficulties during the classes that are instructed with social media. For example, Demirbilek [9] found that, despite their familiarity with the general use of social media sites, students may not be familiar with learning activities (e.g. wiki-based learning) carried out on them.

Compatibility with Instructional Design
The use of social media alone may not lead to desirable pedagogical outcomes. Some studies have suggested that the effective pedagogical use of social media should be combined with suitable instructional design, where little integration between them may deter the effectiveness of practices (Rambe and Nel [34]).

5   Discussion and Conclusion

The results of this study show the use of social media sites by higher education institutions for educational purposes. They have been widely adopted as channels to enrich students' learning engagement. The features of social media on community- building and easy sharing of information have been shown to promote learning as an alternative to or replacement of traditional LMS. This suggests the importance of social interaction as an essential part of students' online learning experience, which has been verified in relevant studies (Li, Lee, Wong, Yau, and Wong [18]).

The benefits of social media as shown in the case studies cover mainly the enhancement of visibility and accessibility of course materials as well as learners' participation in online discussion and collaboration. These advantages are highly attributed to the popularity of social media among students—nearly all of them have at least one account and tend to be active on the sites, and so can check and reply to posts frequently. The benefits have also been shown to have a relationship with the improvement of learning outcomes, such as academic performance (Al-rahmi, Othman, Yusof and Musa [3]) and skills (e.g. critical thinking, summarising and collaborating skills) (Demirbilek [9]).

The limitations of social media use reveal the concerns of learners and teachers about adopting this channel for educational purposes, such as blurring the boundaries between public and private life as well as between students and teachers, and the changing role and practice of teachers in the classroom. While teachers' involvement is vital for the educational use of social media, the social media themselves should also be accompanied by a clear pedagogical objective (Brooks and Pomerantz [6]) and existing instructional practices may not be as effective on this channel as those in traditional learning environments (Manca and Ranieri [23, 24]).

Such limitations and concerns suggest future work to be done for promoting the educational use of social media and enhancing their effectiveness. For example, Bennett,

Bishop, Dalgarno, Waycott, and Kennedy [5] proposed early the integration of traditional LMS with Web 2.0 tools to extend their functions for improving interaction with students using the ways popular among them. Institutional policies should also include support in technological and pedagogical aspects for students and teachers on the educational use of social media to address the limitations. This would involve the refinement of relevant frameworks for institutional policies on technology-enhanced learning (Wong, Wong and Pang [40]), the promotion of teaching innovations among teachers (Wong [39]), and the exploration of means to incorporate the features of social media into personalised learning approaches (Li and Wong [19]).

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