



Social Network Sites (SNS) Utilization in Learning Landscape – Systematic Literature Review

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Abstract. Social network sites (SNS) have been widely used around the world to facilitate communication and engagement in the education landscape. The availability of various SNS types and their different functions have provided instructors and students with options in adding value to their learning process. However, there still lack of guidance on how to choose and strategize SNS utilization in learning. This paper explores SNS utilization by instructors and students in supporting the learning environment. The resources of the data are taken from four digital databases and analyzed using thematic analysis. The findings show the current types of SNS most used for learning purposes are Facebook, Twitter, YouTube and WhatsApp. The main uses of these SNS are identified as being for communication, collaboration, sharing information, enhancing learning and social connection.

Keywords: Social network sites · Education · Thematic analysis

1 Introduction

Social network sites (SNS) also known as social media, have been widely used for communication among people regardless of distance or time constraints. SNS defined as a platform for sharing information that can be expressed through text, video, images, documents and music [1]. SNS can create the sense of engagement [2] in educational settings where they provide a sense of presence even with distance constraints. A study by See et al. [2], found that instructors use SNS as tools of communication, collaboration and encouraging students to make friend with each other. In addition, many educational institutes adopt SNS platforms to extend the limits and benefits of learning. SNS as an educational platform has also been proven to contributes to improvement of academic performance [3–5] and to have a positive impact on students' academic experience. The functions include an interface that records the overall activities carried out by the user and provides ability to upload and download any media, share, copy and forward text or media to others as well as the ability to generate comfortable informal conversation. All of these functions provide vital advantages to the instructors and students for the purpose of learning [6].

SNS is generally well-accepted in education shown by both instructors and students as a platform for learning [7], thus leading to encouragement of further development in

utilizing new approach for learning. The ease of access of SNS using internet connections motivates [5] and enhances effective communication [8] which can facilitate distance learning using different course and materials design and teaching methods [9]. However, the use of SNS may lead to a situation which is uncomfortable for some learners because not all students can adapt SNS to a new learning platform. In addition, there may be a lack of appropriate training provided [10], as different types of SNS provides different functions of learning, thus this research aims to explore the different types of SNS utilization in learning contexts.

1.1 Research Aims

This research aims to identify the types of SNS and their utilization for learning purposes. The outcome of this study will assist instructors and students to choose the most suitable SNS for their learning purpose because as they might have different perceptions or preference depends on the SNS functions. Its contribution will be concerning the development of educational platforms and to both instructors and students, in providing valuable learning sessions that are suitable for their learning purpose.

2 Methods

2.1 Data Collection

This research started with a review of literature contributed by prior studies regarding the use of SNS platforms. To find the types of SNS used for learning purposes, the first step in this research process was to collect papers from selected databases, which were Scopus, Web of Science, Emerald and Ebscohost. All the publications published in these databases were filtered based on the period year 2006 (average number of SNS released to market) until year 2018. All the publications, including journals and conference proceedings were filtered based on “social media” and “social network” and categorized based on educational perspectives only. All publications were carefully identified, read and examined to ensure all are in the scope of education perspectives.

2.2 Data Analysis

All the selected texts were sorted based on the requirements needed for using NVIVO software, by applying the thematic analysis technique. This technique focuses on identifying themes to uncover meanings [11]. This part of the research aimed to uncover the justification given in other research regarding the use of a specific SNS types according to their specific function, thus systematic literature review (SLR) was essential to review all the studies easily and analyzed the data in a manageable way with the use of a thematic analysis technique. All the attributes were coded with first-level coding based on five categories (types of social network, reasons for use of social network, patterns based on year, gaps and issues) to easily understand the patterns of topics. The first-level coding showed the overall statements that related to the categories and contained a brief

explanation regarding the topic of the paper. The statements were then reviewed to develop the themes to next level of detail, referred to as second-level coding [12, 13]. The categories represented the points of the results to be further discussed in the next section. After filtration through the first and second-levels of coding, 33 publications in all were found to be suitable accepted for this research. Figure 1 below shows the steps of thematic analysis applied in this research.

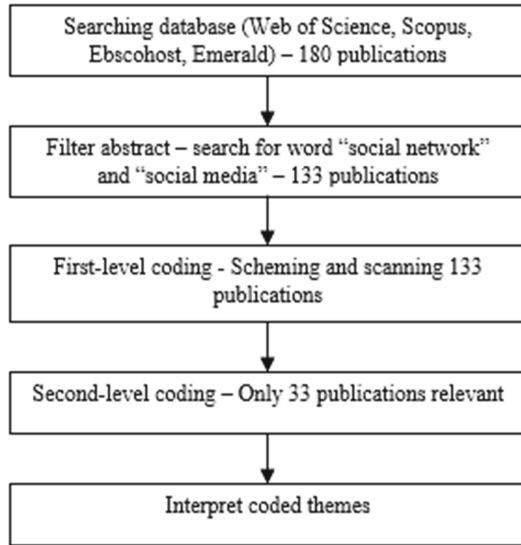


Fig. 1. Steps of thematic analysis

3 Findings and Discussions

3.1 Types of Social Network Sites (SNS)

Many types of SNS were found to have been studied and validated as being used as learning platforms. This study aims to identify the current SNS that have been highlighted in many publications as learning platforms.

Facebook. The use of Facebook as a learning platform has received attention from many researchers and used widely to test and validate the purpose [2, 14], impacts [15] and benefits for students and instructors. There are many perspectives in choosing Facebook in terms of usage, many studies showed that Facebook was the highest ranked choice SNS for instance, in a study regarding the roles of SNS, which involved 489 students, 84.7% reported using Facebook for learning purposes [16]. Other study by Bialy involving with 160 students, 59.8% of the students stated that they chose Facebook to connect with other students to learn [17]. In a study comparing Facebook and Twitter, the highest ranked choice by students with 93.8% was Facebook [18]. This shows the high popularity of Facebook, which can be adapted as platform to communicate and for

learning as well. In a study related to the uses of SNS in higher education, which included three institutions and involved 138 students, 93.48% of the students rated Facebook as their main preference for intellectual social interaction [19].

Twitter. This platform created with a limited number of characters and words that the user can write and update [18]. It has a simple interface with the special function of ‘retweet’, which provides ability for users to copy any status from other tweets and share it in their Twitter wall for information sharing purposes [20]. Other than ‘retweet’, this platform also famous for its hashtag function, which contributes to easier searching for trending topics discussed by the Twitter community round the world [20], thus providing an interactive feature that attracts students to utilize this platform [21]. Twitter has been included as a research topics to understand its function and impacts for learning purposes [17] because of its functionality to support learning sessions [4, 22]. In addition, the functionality and interface are highly suitable for mobile technology, enabling instructors to adopt the use of mobiles for learning with this Twitter platform [18]. However, in most studies related to the types of SNS used for learning, it has been found that Twitter cannot rival with Facebook in ranking. A study by Fasaie and Adegbilero-Iwari [19] found that Twitter only receives 47.83% of attention for learning purpose compare to Facebook.

YouTube. This platform consists of video which easy to understand and learn from and can provide support in learning materials [23]. Recent studies concerning the use of YouTube for learning purposes shown that YouTube is one of the best teaching tools [24] allows social relationships based on the uploaded video, through finding and sharing information [25]. As well as its interactive function, it also provides brief information based on various types of video that contain the graphical information or real life examples from individuals themselves [21, 26]. In a study regarding the impact of YouTube particularly as learning platform, 78% of students reported using YouTube as their main source of learning [27]. However, a study showed that YouTube cannot outrank Facebook, only gaining 43.6% of users [16].

WhatsApp. This SNS basically focuses on instant messaging applications which are very familiar nowadays [28]. WhatsApp has already been part of a recent study regarding its use of it as a learning platform [5]. The most important findings are that this application can improve academic performance [8, 10] as well as assisting students for assessment preparation [29]. A recent study regarding the impact of using WhatsApp found that 57% of students chose WhatsApp for learning purposes [28]. In another recent study regarding the use of Twitter and WhatsApp, 89.9% of the students reported using both applications frequently in their daily communication [30]. In addition, the study also showed that all participants said that they were comfortable in using WhatsApp for communication and sending images or media. In a study regarding the use of instant messages for dental education, WhatsApp was ranked higher compared to Facebook instant message as a communication strategy among students [31], because of its effectiveness and its feature of the ability to check whether the recipients have received the message.

3.2 Uses of SNS for Learning Purpose

Facebook, Twitter, YouTube and WhatsApp are the most currently used platforms and require further study regarding their uses as learning platform. The reasons for using SNS as learning platforms can be categorized into communication, collaboration, sharing information, enhancing learning and social connection.

Communication. Each learning sessions necessarily starts with communication. A study regarding Facebook, YouTube and Twitter showed that these SNS provide the ability to connect with members through communication by receiving and sending messages [25] while another study found that Facebook and Twitter are considered to provide ease of interaction and to be user friendly [17]. This findings is supported by Dafoulas and Shokri [32], who found that the features of Facebook that support social interaction can enrich group discussion sessions. In addition, it has been pointed out that the first function of these platforms when they were created was for communication purposes, before they turned into social networks applying the concept of sharing information to the public [33]. YouTube is focused on sharing information with video, however, it is observed that lack of mention of the communication purpose of YouTube in existing studies. This observation supported by Saw et al. [23], who found that most students use YouTube as a channel for support materials in learning sessions. However, the WhatsApp application focuses on instant message which are specifically directed to communication functions [10], and thus, provide easy access in the form of a communication structure [30].

Collaboration. Communication among communities creates social interactions that enhance collaboration among students via Facebook and Twitter [15]. This is because most SNS involve a community with large numbers. Such collaboration among students may provide advantages to them for sharing knowledge purposes. A recent study by Denker et al. [34], shows that Twitter can provide collaborative learning through comments and questions [35], which specifically known as ‘threads’, and provide direct feedback based on replies to the respective comments [34]. In addition, Facebook and WhatsApp, particularly provide the facility for creation of groups. A recent study by Khatoon et al. [31] demonstrated the suitability for group work of Facebook and WhatsApp applications that provide functions for sharing files and information directly to all members in the group. It showed the benefits of collaboration, which makes work easier and efficient. WhatsApp has been noted as an application that provides an effective platform for socialization [36] while providing a mobile application of instant messaging that makes it easy to conduct discussions virtually, regardless of constraints of money, time and distance. However, there have been negative results regarding collaboration purposes in YouTube.

Sharing Information. Students tend to gather information through instructors or class members. As mentioned by Dafoulas and Shokri [32], students learn from each other in Facebook by sharing knowledge through tools provided such as video, photos and links to a website. Sharing information enhances teamwork and thus, increases work performance in a group, for instance, a study by Saw et al. [23], indicated that 60% of students

chose Facebook as their preferred medium for sharing information. WhatsApp in particular, can manage discussion sessions easily through brief conversation in instant message. Interestingly, it also easy for sharing other resources such as images, video, audio, website links, documents, contacts and location to other users which subsequently provides ease of communication and fosters collaboration [28]. YouTube provides wide access to knowledge through video and can easily use by student to seek information [9] and indicate their interests, as a way for them to gain knowledge [26]. For Twitter, which focuses on a daily and updated status, the functions of ‘retweet’ makes the shared information easy to spread among all virtual SNS friends or followers [20]. The user can choose either to disseminate all the information in private or publicly, based on the option of privacy provided.

Enhancing Learning. In general, most use of SNS for learning purposes has been found to enhance academic performance [7] because it improves students’ satisfaction and their gain of learning experiences. The use of Facebook has shown the enhancement of grades among students through the social interaction that brings about a gain in cognitive presence, which is ability to create their own understanding [32]. Further analysis regarding the use of Facebook has indicated that students tend to easily adapt to the educational setting via SNS by obtaining social support and the social presence of the instructors and class members [37]. Other studies indicated that YouTube provides benefits and enhances potential in classroom learning, which eventually assists students in their studies and improves understanding [23, 24]. Studies regarding Twitter shows fewer results regarding the enhancement of learning using this platform. However, a few studies mention about the ability of Twitter to develop ideas through sharing thoughts [35, 38]. This suggests that Twitter can be a platform to generate more ideas and thus, enhance critical thinking among students. Most studies that relate to Twitter concern engagement and social connection which is explained in the next point. WhatsApp has been used in practice to support students’ performance [10], where students gain ideas and knowledge through discussion. A study by Asiri et al. [30], found that most students use WhatsApp more than 5 h per day, and concluded that it was beneficial for students to gain access to each other frequently to communicate and discuss issues related with academic purposes. WhatsApp’s features provide the ability to gain learning experience, which eventually supports the development of students’ performance in the group created [36].

Social Connection. This point relates to the engagement of students with instructors and class members in SNS. Facebook in particular promotes the ability to find ‘friends’ and allow students to find their own friends that have same interests, to share ideas and knowledge [2]. A study by Mansour [25] revealed that Facebook, Twitter and YouTube help to connect participants on a student–teacher relationship for learning purposes, thus providing a sense of engagement. In addition, each member get to know the other members better and is able to collaborate more easily [39]. Engagement through social activities can leads to improvement of social skills and social presence in the SNS learning platform. The Twitter platform reveals social support through interaction between students [32]. Moreover, it can become a suitable platform for a conservative

community to express idea and make friends in connection with others without facing them physically [30]. WhatsApp also provides a platform for effective socialization [36] through group or private messages. Group members have the ability to put forward ideas and have easy to access members through the contacts list in the group. A study by Smit [29] showed this platform can assist students with preparing for assessments, through sharing documents and links in conversation groups. This suggest that WhatsApp provides an interactive platform which combines both easy instant conversation and the capacity for sharing materials.

4 Conclusions and Future Works

This study has established that SNS have been recently used as learning platforms to support learning purpose. Table 1 illustrates the different uses of SNS for learning purposes.

Table 1. The uses of SNS for learning purposes

	Facebook	Twitter	YouTube	WhatsApp
Communication	/	/		/
Collaboration	/	/		/
Sharing information	/	/	/	/
Enhancing learning	/	/	/	/
Social connection	/	/	/	/

Overall, each SNS has its own characteristics that contribute to different aspects of functions. However, instructors or students can choose the most suitable SNS platform that encompasses the learning objectives. Research concerning the main valuable uses of types of SNS for learning purpose is still vague, since this study has focused on a review of the literature, without specific experiments or observations. Moreover, every learning session will need to refer the guidelines or instruction from the instructor, thus, future work should focus on the role of instructor and his or her capacity to perform teaching through different types of SNS.

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