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Integrating Social Media in Teaching and Learning in Higher Education: A Quest for Collaborative Learning in Botswana

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Abstract: ***Social media is a widespread phenomenon affecting many areas of life. The phenomenon has not only transformed the way institutions, communities, and individuals interact but has also changed the way people learn, share information and create new ideas. The spread of the Web 2.0 technology transformed the social space expeditiously simplifying communication between individuals. In the context of Botswana, majority of students and teachers widely use smart phones, iPads and other portable devices to interface mainly through social media. Paradoxically these groups of social media users remain uncertain about its application to the classroom despite the growing integration of the same in their personal and professional lives. These tools have potential to provide blended learning to institutions and leaners. Given the foregoing, this study aims at investigating the extent of social media usage as well as its impact on teaching and learning at tertiary institutions in the City of Francistown, Botswana. The methodological approach adopted is a survey research strategy and quantitative approach for both data collection analysis. The understanding of teacher's and students' attitudes and expectations regarding utilizing social media technology to support quality teaching and learning could help policy makers and instructors to conceive tailor-made solutions to leaning challenges.***

Keywords: Social media, Web 2.0, Collaborative learning, Blended learning, Social Software

1. Introduction

In the modern era, social media and social networks drastically influence the student community, and such technology is progressively becoming an everyday part of every individual's life in modern society (Abbas, Aman, Nurunnabi & Bano, 2019). Pedagogical techniques have evolved over the years with more contemporary one including online programmes from universities and colleges that seek to increase their enrolment and facilitate acquisition of qualifications without necessarily making physical contact with the respective institution. The learning process has thus transformed from being provided solely in the classroom to distance education which now embodies online learning. Within classrooms, contemporary teaching techniques now involve alternative modes of delivery that promote technology enhanced learning such as the use of multimedia presentations (Tham & Werner, 2005). These include the use of a PowerPoint presentation, pictures, videos and other virtual illustrations presented with the assistance of a projector. Social media has equally been integrated into this mode of delivery as some of the information required is valuable of these platforms.

Interaction and information technology have reshaped most people's lives resulting in teachers and students being exposed to massive use of smart phones, iPads, tablets and other portable devices. Installed within these smart and portable devices are social media applications such as Facebook, Twitter, LinkedIn, Instagram, YouTube and WhatsApp among others. These are part of Social Web 2.0, best characterized by the notions of social interaction, content sharing, and collective intelligence. Social networks are not only used for communication but are used in education as well (Alabdulkareem, 2015). Since its inception, social media networking has been employed in tertiary institutions for an array of activities, including growing the general university experience (Espejo, 2009), growing educational possibilities (Banaria, 2004), making admission choices (Brown & Adler, 2008), library services, counselling students after tragedies (Anderson, 2009), performing courses in second life (Connell, 2009), and recruitment (Shelton, 2009). Typically, intuitions, colleges, and universities are taking action by providing suitable materials, locations (classrooms, labs, and lecture halls) and people who can teach their students (Liccardi, Ounnas, Pau, Massey, Kinnunen, Lewthwaite, Midy & Sarkar, 2007). All activities can be 'face-to-face,' but many also are mediated by social networking technologies, including peer assessment, discussions, and collaborative work (Liccardi, *et. al.*, 2007).

If tapped-on well, the role of emerging social media may offer enormous opportunities to enhance the teaching and learning experiences. Studies also show that social networking tools support educational activities by making interaction, collaboration, active participation, information and resource sharing, and critical thinking possible (Mazman & Usluel, 2010). Additionally, students are more motivated and disposed in the use of social media and it is an opportunity in influencing their ability to engage in interactive learning amongst themselves and with their teachers (Zepke and Leach, 2010). The same notion is echoed Jovanovic, Chiong & Weise, 2012) who observe that

students spent most of their time on cell phones, computers as well as the internet.

This study observes that students and teachers do not fully utilise collaborative technological platforms such as Blackboard, You-tube, Moodle, Skype and other similar platforms. Teaching and learning can be blended by the use of such technology. Teachers and students may not appreciate how best social media can be embraced in teaching and learning to promote deep learning and student centred education. One barrier for the adoption of social media as a learning tool is continued uncertainty about effective practices and successful use cases. The focus of social media users tends to be placed more on the need to satisfy their social life interests than knowledge seeking that which would translate into improved academic performance. It is against this background that this study investigates the use of social media in teaching and learning in higher education as a collaborative tool, and the impact of the same on teachers and students.

2. ICT Policy and Legislation in Botswana

Governments all over the world recognise the significance of Information and Communication Technology (ICT) in all sectors of the economy. Likewise, the government of Botswana (GoB) has embraced the need for ITC in the country's development. In 2004, the GoB developed Maitlamo, a national ICT Policy which facilitated attainment of Vision 2016 simultaneously positioning Botswana for sustained growth in the digital age (Republic of Botswana, 2004, 1). ICT was a key component of the first Vision 2016 goals, which was to have 'an educated and informed nation' (Isaacs, 2007, 5). The objectives of the Botswana ICT Policy (Republic of Botswana, 2007, 2) include the following: a) creation of an enabling environment for the growth of an ICT industry in the country; b) provision of universal service and access to information and communication facilities in the country; and c) making Botswana a Regional ICT Hub so as to empower Batswana and to make the country's service sector globally competitive.

One of the key areas examined by Maitlamo policy was ICTs in Learning. According to Garegae and Moalosi (2011, 15-16) ICTs have enhanced effectiveness and efficiency in the work of school administrators and managers, the educational sector can use ICT to impart digital literacy, the integration of ICT makes a cost effective inclusive education achievable and ICT can be used as a pedagogical tool. Under the Maitlamo policy, ThutoNet, a programme primarily focusing on the promotion of e-learning in schools was developed and its objectives included: improvement of access to computers in schools including vocational and tertiary level, improving of internet connection, and capacity building on ICT skills for teachers. The Botswana National E-Government strategy 2011-2016 (Republic of Botswana, 2012) indicates that 'Information and Communications Technologies have the ability to dramatically increase access to, and availability of life enriching information and services'. The integration of social media in teaching and learning in higher education as such, can improve the learning environment. Further to this, ICT can be used an effective tool to deliver or ameliorate learning in the tertiary institutions in Botswana (Matyokurehwa, 2013, 708). Implementation of the ICT policy in Botswana has not gen without criticism as the GoB has often been criticised for leaving the ICT policy to 'gather dust' due to lack of implementation (Botswana Guardian, July 2014).

3. Technology, Social Media and Learning in Botswana

The evolving learning environment accords leaners an opportunity to study anytime and anywhere (Wetzel, 2010). Educational research demonstrates convincingly that immediate and frequent feedback improves learning (Hodder, Rivington, Calcutt & Hart, 1989; Dihoff, Brosvic and Epstein 2003; Dihoff, Brosvic and Epstein, 2004; Dubner and Levitt 2006; Hattie and Timperley, 2007; King and Sen, 2013). The wave of information, communication and technological revolution sweeping the world has ushered in a new meaning to telecommunications in Botswana. The existence of cellular phone network providers in Botswana can be traced back to 1998, when two firms Mascom Wireless and Vista Cellular (now Orange Botswana) began operating. The two network operators pioneered the wireless telecommunications industry in Botswana that was for many years, dominated by a fixed landline telephone service under the monopoly of the Botswana Telecommunication Corporation (BTC) (Botswana Telecommunications Authority, 2010).

By 2005, the mobile technology had grown tremendously, spreading to all aspects of life including educational institutions. In Africa, Botswana is surpassed by Nigeria, South Africa and Ghana on the percentage of the population who use mobile phones (International Telecommunication Union, 2011). A study by the Botswana Telecommunications Authority (BTA, 2010) indicates that Botswana mobile phone subscription rate rose from 33% in 2005 to 131% in 2010, reaching a total of about 2,363,411 subscribers among a population of about two million people. A recent report by Nielsen Company ranked Botswana as one of the top three countries in Africa in terms of the internet accessibility (Nielsen, 2016). Among the Social Network Sites (SNSs), Facebook is the most popular site in Botswana. With the escalation of internet accessibility, hundreds of thousands of people in Botswana have created Facebook accounts. As of November 2015, Botswana had 620,000 registered Facebook users (Faimau & Behrens, 2016) with some reports recording the country as having the highest rates of Facebook use in Africa (Nielsen, 2016). Given the high rate of Facebook use, Botswana has resultantly become a highly socially active society (Nielsen, 2016). The high usage rate of SNSs in Botswana is an opportunity for embracing social media in teaching and learning. Social media education does not only provide learning opportunities for both off-campus and on-campus; it also presents a virtual platform to the traditional-oriented study. In principle, social media advocates for blended learning, combining both online and on-campus elements.

A 2017 online social networking and academic performance study by Tsholetso, Maunganidze & Faimau (2017) concluded that the majority of the SNSs student users sought social media to satisfy their socializing, entertainment and self-status seeking needs than knowledge seeking that would translate into improved academic performance. From the study the students did not directly link their academic performance to SNS participation. It also came out from the study that social network sites can have both positive and negative outcomes. Overall these sites affected one's academic performance negatively particularly when excessively used because this often competed with scheduled academic activities and responsibilities (Tsholetso, *et. al.*, 2017). The need for blended learning is a fundamental phenomenon nowadays as it promotes deep learning through student centred approaches in teaching. Social media educational technology is an opportunity that can be embraced by today's teacher given the growth in the use of social media. Usage of these emerging technologies is growing rapidly among the present generation of students. The current generation of students have grown up with Web 2.0 social media technologies and these tools have tremendous popularity in students' social lives. The majority of students and teachers in Botswana have unlimited access to smart phones, iPads, other portable devices and the internet. This situation is no different in the case of Botho University which serves a case study for this article.

4. Theoretical Framework

The theoretical framework underpinning this study is the uses and gratifications theory (UGT). The uses and gratifications theory assert that people use media to gratify specific wants and needs. Unlike many media theories that view media users as passive, uses and gratifications sees users as active agents who have control over their media consumption. The uses and gratifications theory refer to an approach that helps to understand the logic behind why and how individuals actively seek out specific social networking and media outlets for the satisfaction of their particular, personal needs (Huang & Zhou, 2018). Thus, several driving questions arise with respect to UGT: Why do people utilize social media? What does people's usage of new media mean? There are several needs and gratification for people in using social networking and media. They are categorized into cognitive needs, affective needs, personal integrative needs, social integrative needs and tension free needs (Abbas, Aman, Nurunnabi & Bano, 2019). Cognitive needs explain that people use media for acquiring knowledge, information and facts. Affective needs include all kinds of emotions, pleasure and moods of the people. People use social networking and media to satisfy their emotional needs. Personal integrative needs are the self-esteem needs.

People use media to reassure their status, gain credibility and stabilize. Social integrative needs encompass the need to socialize with family, friends and relations in society. For social interaction nowadays, people do not seem to gather socially during weekends instead they have turned to social networking sites on the internet such as Facebook and Twitter to satisfy their needs. Tension free needs involve the use of social media as a means to escape from the real world and to relieve from tension and stress. For example, people tend to relax while surfing the internet and on social networks. In fact, social media has the power to grab audience mind since it makes them feel connected with the situation and characters emotionally (Berezan, Krishen, Agarwal & Kachroo, 2018). In essence, UGT is a human-centred approach focusing on new media, and it assumes that users have several alternatives from which to choose, allowing them to select the option that best meets their particular needs. Thus, UGT suggests that digital or social media users play an active role, and they know what alternative option to choose in order to satisfy their required needs. Thus, this theory of UGT describes the ways in which social media users deliberately prefer media platforms that will satisfy their given desires and permit them to enhance their desired areas of interest, such as knowledge, relaxation, friendship, information sharing, ideas, social interactions, entertainment, and escape.

5. The positive and negative effects of social media

Social media is increasingly becoming a critical element of human society by changing our social norms, values, and culture (Chukwuere & Chukwuere, 2017; Al-Sharqi, Hashim & Kutbi, 2015). Information sharing and the distribution of content are becoming important social desires Wolf, Wenskovitch & Anton, 2015). Social media has changed how people, including university students communicate, interact, and socialize over the course of their learning processes at educational institutions. This new form of media is playing a vital role in content sharing among universities students and the rest of society (Terzi, Bulut & Kaya, 2019). Students now have the opportunity to participate in social discussion by sharing images and pictures, posting their comments, disseminating ideas, and so on. Today, social media generally impacts youths' daily lives and universities students in particular. Digital media and social networking are revolutionizing methods of everyday communication, collaboration, information sharing, and information consumption (Suseno, Laurell & Sick, 2018).

There has arisen a debate on the adverse impact of social media usage on people, particularly adolescents and student communities across the world. In this respect, digital media and social networking sites have received criticism, and there are many perspectives regarding the effect of social media in the context of students. Today, students are relying increasingly on information and data that is easily accessible on social networking sites and the internet (Balakrishnan & Gan, 2016). This is the reason why students' learning skills and research capabilities are decreasing in certain situations, as their engagement with these sites reduces their focus, which causes them to dedicate less time to their studies and results in a decline in their academic performance (Abbas, Aman, Nurunnabi & Bano, 2019). Typically, as students spend more time on social media, they spend less time socializing face to face or in person with other people, and these habits reduce their communication skills (le Roux & Parry, 2017). The wasting of students' time on social media

may also cause them to miss deadlines on occasion (Tella, 2014). As a result, students might not be able to communicate and socialize effectively in person, and it is well known that strong communication skills are a key to success (le Roux & Parry, 2017).

Moreover, excessive social media use affects students' mental and physical health (Kelly, Zilanawala, Booker, & Sacker, 2018). Students delay their meals and fail to rest properly; instead, they consume excessive amounts of tea or coffee to remain alert and active. This lifestyle has adverse effects on students' mental and physical health. Additionally, the daily overuse of social media is unhealthy, because it enables students to avoid creating face-to-face bonds with people (Ceranoglu, 2018). Parents are responsible for monitoring their children's use of social media, and they should be vigilant about whether their children use the internet for an appropriate amount of time. Ultimately, educators and peers are also responsible for helping students understand the adverse effects of social media on health, and they should make students aware of what they can lose in the real world when they spend excessive amounts of time on social media sites (Colliander, Marder, Falkman, Madestam, Modig, & Sagfossen, 2017).

6. Methodology

This study adopted a quantitative research approach and a survey strategy. Preference of this approach was motivated by its strength and ability to produce quantifiable, reliable data that are usually generalizable to a larger population. The choice of the Botho University was both convenient and purposive. Teachers and students who were targeted in the study for Botho University Francistown with a teaching staff complement of 18 and 580 students. The survey involved 16 teachers from all the faculties, out of 18 questionnaires that where administered representing 88.88% response rate. The survey involved 52 students out of 60 questionnaires that were administered representing 86.66% response rate.

The research instrument was a questionnaire which is generally acknowledged as the most popular data collection instrument for surveying the opinions and perceptions of individuals. The questionnaires were constructed to solicit information about the current use of social media in teaching and learning and the views about it. The instrument measured individual position in terms of the current use and views of usefulness of the social media and its effects on the teacher-student teaching and learning experiences. Basic questions regarding previous experiences and training in the use of ICT, possession of owning smart phones and similar devices, were also included. A pilot study was conducted with 15 students to test the instrument for validity and reliability. Data was analysed though the use of descriptive statistics comprising mainly percentages, frequency, and statistical averages.

7. Results and Discussion

The research instrument was designed based on the objectives of the study. The internal consistencies of the instrument was run using Cronbach's alpha and was at 0.80. This is acceptable and thus the instrument met the reliability requirement for the study. The teachers' and the students' responded to a 35-item Likert-scale questionnaire. Responses are presented in tables 1 to 5 as a comparison between teachers' views and students views. The first 4 questions enquired on biographic data. The other parts of the instrument comprised statements 5 to 24 with responses chosen from *Yes* or *No* positions. Statements 5 to 13 aimed to investigate the teachers' versus the students' smart phones and computer access and competency profile, while statements 14 to 24 targeted teachers' versus students' use of social websites. For questionnaire statements 25 to 35, the answers were chosen from '*a'* indicating strong agreement, '*b'* indicating agreement, '*c'* indicating disagreement, or 'd' indicating strong disagreement. The answers then were converted into numerical scores for calculating purposes with '*a'* being converted to 1, '*b'* to 2, '*c'* to 3, and '*d'* to 4. Questionnaire statements 25 to 31 investigate teachers' vs. students' views of the impact of social websites on education; lastly, statements 32 to 35 aimed to determine teachers' versus students' views of possible impact of official use of social media in teaching and learning.

7.1 Smart Phones and Computer Access and Competency Profile

The study first question, which reads: What is the comparison usage of social media between teachers and students? was answered by responses to statements presented in Table 2.

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Table 2: Teachers vs. students use of social websites

	The use of social websites item.	Teachers (f)	(n=16) (%)	Students (f)	(n=52) (%)
Q14	Is registered in Facebook	14	85.50	50	96.15
Q15	Is registered in Twitter	7	43.75	21	40.38
Q16	Is registered in WhatsApp	14	87.50	48	92.30
Q17	Is registered in Instagram	4	25	30	57.69
Q18	Is registered in Skype	15	93.75	12	23.08
Q19	Published anything on YouTube	6	37.50	14	26.92
Q20	Have an active e-mail "Use e-mail frequently, more than once a week"	16	100	40	76.92

Source: Authors

Based on Table 2 above comparison of the ranking of the registration of social media applications for the teachers from the highest to the lowest is as follows: Skype 93.75%, WhatsApp 87.50%, Facebook 87.50%, Twitter 43.75%, Instagram 25%. It is clear that the teachers and the students use Facebook and WhatsApp as the main social media applications in their contact with others.

Regarding the Skype application, there are differences between the teachers and the students regarding its popularity with 93.75% for teachers versus 23.08% for the students which is about 4 fold difference. Twitter and Instagram applications use are low for both the teachers and the students, which make it difficult to adopt any of them for educational purposes. Both teachers and students tend to use social media applications that allow quick chatting and showing temporarily shots and photos like Facebook and WhatsApp. Having an active e-mail 'Use e-mail frequently, more than once a week' (Q20) has the highest percentage for the teachers, with 100%, comparing with 76.92% for the students. For Q19, regarding publishing anything on YouTube, 37.50% of the teachers answered yes, comparing with 26.92% of the students.

Table 3. Statements are related to the study first research question as well, which concerns the current use of social media by the teachers comparing with the students.

Table 3: Teachers vs. students' current use of the web

	The use of social websites item	Teacher (f)	(n=16) (%)	Students (f)	(n=52) (%)
Q21	Surfed YouTube frequently "more than once a week".	12	75	30	57.69
Q22	Use Google and Google Scholar regularly for studies.	15	93.75	46	88.46
Q23	Social media has had such an impact on enabling my interaction with students and teachers in issues not related to study.	23	81.25	44	84.62
Q24	I use my smart phone "or other portable devices" with my students/teacher to complete assignments.	11	68.75	42	80.77

Source: Authors

Overall, the teachers had higher participation on the use of YouTube, Google and Google Scholar applications compared with the students although students' participation is more than 50%. This is unlike student responses for Questions 23 and 24 whereby more than 80% of agreed that social media has such an impact in teacher-student interaction in issues not related to study and that they use their smartphones or other portable devices to complete assignments. However, teachers scored more than 65% for the two questions.

7.2 Teachers and Students Views of the Impact of Social Media on Education.

Table 4. Statements are related to the second research question, which reads as: How do teachers and students view the impact of social media on teaching and learning? The entire statistical means for the teachers and the students shows positions of agreements and strong agreements, which means that the teachers and the students see a positive impact of social media on education.

Table 4: Teachers and Students Views of the Impact of Social Media on Education

	The Impact of Social Websites Items	Mean Differences (Ss-Ts)	Teachers' Mean* (n=16)	Students' Mean* (n=52)
Q25	Increasing student motivation and engagement with course material.	-0.27	2.00	1.83
Q26	Increasing student-to-student collaboration.	0	1.50	1.50
Q27	Enhanced interaction between the student and the teacher.	-0.06	2.06	2.00
Q28	Accelerated data and information sharing.	-0.19	1.69	1.50
Q29	Removes barriers to self-expression and contribution.	0.02	1.81	1.83
Q30	Provides students with 21st Century skills which could aide their employability and increase levels of satisfaction.	-0.06	1.69	1.63
Q31	Increasing the possibilities of adapting inappropriate social behaviours.	0.54	1.81	2.35

Source: Authors

*** Strong disagree=1; agree=2; disagree=3; strongly disagree=4.**

Means differences between the teachers and the students responses are low in general, except for one question Q31 (Increases the possibility of adapting inappropriate social behaviour) had agreement to strong agreement by the teachers, with a mean of 1.81, while the students' mean was 2.35, which gives an agree to disagreement position, the mean differences was 0.54. This question has a special importance in education, where some educators are concerned about increasing the possibilities of adapting inappropriate social behaviours when using social media widely by students.

The least mean differences between the teachers and the students was for Q38 (Increased student-to-teacher collaboration), where the teachers mean was 1.50, and the students mean was also 1.50, with a zero statistical mean difference. This denotes that both teachers and students concur that use of social media in education enhances the collaboration between students and teachers.

7.5 Teachers and Students Views of Possible Impact of Official Use of Social Media On Teaching and Learning

The third study question (What is the perception of teachers and students on the official use of social media in enhancing teaching and learning?), were addressed by statements from 32 to 35. The results are represented in Table 5.

Table 5: Teachers' and Students' views on possible impact of official use of social media on teaching and learning

	The impact of official use of social media on teaching and learning items.	Mean Differences (Ss-Ts)	Teachers' Mean* (n=16)	Students' Mean* (n=52)
Q32	If used officially social media could have a major impact on my ability to access content, resources, and materials for my class.	-0.20	1.69	1.49
Q33	If used officially, social media could have a major impact on my ability to share ideas with my class "teachers and students".	-0.12	1.59	1.44
Q34	If used officially, I believe that my school will not cover the cost of devices and internet cost.	-0.25	2.38	2.13
Q35	If used officially, social media could have a major impact on parents, where they may not be able to cover the cost of devices and internet cost.	0.45	1.88	2.35

Source: Authors

***Strong disagree=1; agree=2; disagree=3; strongly disagree=4.**

Table 5. shows the teachers' and the students' views of possible impact of official use of social media in teaching and learning. The teachers' statistical means for all questions are greater than the means of the students for each question, except for Q35. The highest mean of 2.38 for the teachers was for Q34 (If used officially, I believe that my school will not cover the cost of devices and internet cost.), which indicates that majority of the teachers believe that the school will support the students with appropriate devices or covering the internet plans costs. The students mean for the same question was 2.13, which also represents the same believe but with a mean difference of -0.25.

Related to covering the cost of the official use of social media in education, the statement (If used officially, social media could have a major impact on parents, where they may not be able to cover the cost of devices and internet cost) in Q35 showed a concern form the teachers and the students, where the students mean of 2.35 versus the teachers mean of 1.88, with 0.47 mean difference, raise the notion that if the school or sponsor does not cover the cost of using social media officially, parents would not be able to cover the cost, therefore the project will collapse.

Q33 (If used officially, social media could have a major impact on my ability to share ideas with my class "teachers and students") represents the closest mean between the teachers and the students, with only -0.12 mean differences, which represents agreements between the teachers and the students.

Q42 that says (If used officially, social media could have a major impact on my ability to access content, resources, and materials for my class), has the majority agree to strongly agree responses and had 1.49, comparing with 1.69 for the teachers, with -0.20 mean differences. The findings point to the fact that teachers and students are in agreement on the usefulness of adopting social media as that would facilitate access of learning resources in teaching and learning.

8. Conclusion and Recommendation

From the study findings, it is apparent that smart phones are the best possible device to enhance the use of social media in education, where all teachers and almost four fifths of students have smart phones. Regarding access to internet, about 55% of the students have internet access plan in their phones against 81% of the teachers. In regards to the social media applications, it is discovered from the study that teachers and students use WhatsApp as a main tool, with 87.50% for the teachers, and almost 92.30% for the students. Furthermore, from the answers to questions 25, 26, 27, 28, 29 and 30, both the teachers and the students are willing to use social media in teaching and learning, and they believe that such use will enhance their experiences in teaching and learning, but the practice is significantly low.

While technological infrastructure and devices are available to majority of teachers and students, a comprehensive educational usage of these are way below expectations for both groups. This conclusion is supported by the fact that both the teachers and the students agree that they use social media for interaction with others, including other students and teachers, but for purposes other than education. This study recommends training for both teachers and the students preferably in the form of a series of sessions to review and evaluate their use of social media in the teaching and learning process. This will also be done to enhance their abilities to use available platforms more meaningfully. This will be the first step implementing effective use of social media in teaching and learning.

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