Collaborative Learning Through Social Media and Undergraduates Self-Regulation in Obafemi Awolowo University, Ile-Ife, Nigeria

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Abstract: The study examined the relationship between undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife. Technological advancement has led to the creation of learning environments where students can interact and collaborate together to learn without the barrier of distance. This development has taken education to all, therefore, eliminating the problem of learner's isolation. The introduction of software tools such as wikis, blogs, Twitter, Facebook, etc., facilitates online interaction and collaborative learning among students in online learning communities. The design that was adopted for this study is descriptive survey design. The study employed purposive sampling technique to select four (4) faculties in the school. Simple random sampling technique was used to select fifty (50) students from each faculty. Therefore, two hundred (200) respondents were used to constitute the sample**.** The instrument that was used for this study was a self-developed questionnaire on collaborative learning through social media and undergraduates' self-regulation. The study equally revealed that platforms such as Edmodo significantly enhance student engagement and collaborative learning. The results further identified social media can foster a collaborative and interactive learning environment, enhancing student communication and engagement. The study recommended that educational institutions should provide comprehensive training for both students and educators on effective use of digital platforms and social media. Institutions should embed the use of platforms like Academia, Edmodo, and Wikispaces Classroom into the curriculum. Programs and workshops focusing on self-regulation strategies should be implemented.

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1. Introduction & Literature Review

In the 21th century, social media has become a very effective and popular method of communication among people, most especially, the university students. Its birth as a result of new trends in technology has led to the development of many social networking sites where people gather to communicate and gather information regardless of the distance, therefore, making it easy to access files, videos, pictures and create blogs, send messages and conduct real-time conversations (Adedeji, 2021; Ahmed & Qazi, 2019; Ajewole & Fasola, 2020). The advancement in technology and the birth of social media has led to the development of collaborative learning through collaborative learning sites, therefore, facilitating learning outcomes. This has been reported in several literatures (Brown, 2012; Junco, Heiberger & Loken, 2011; Novak, Razzouk & Johnson, 2019). Jeffrey and Musah (2020) stated that social media has influenced our community both negatively and positively.

The utilisation of social media for learning and the inclusion of collaborative learning through social media are referred to as Web 2.0 (O'Reilly, 2017). Web 2.0 provides avenue for collaborative learning and user modifications (Naik & Shivalingaiah, 2018). This is an upgrade on Web 1.0 which is more static and allows less interaction. Web 2.0 fosters communication among students and workers in virtual communities. Further, it offers specific applications that provide various ways to communicate. According to Haenlein (2020), Web 2.0 provides different tools which include "collaborative projects (Wikipedia), blogs, content communities (YouTube), and social networking sites (Facebook)." The usage of these tools/sites allows knowledge transfer and facilitates students' collaborative learning. According to Redecker (2010), these tools create and foster communication among peers and with lecturers, and also increase knowledge sharing and research skills among students. Karpinski (2019) reported that there is significant difference between students who use Facebook and non-users as regards Grade Point Average (GPA) and study time. Further, Meyer (2010) reported that "using social media in completing assignments led to greater degrees of learning as asserted by Bloom's taxonomy, particularly in online discussions." Junco et al. (2011) reported that Twitter contributes to collaborative learning among students. This is why scholars have been examining the use of social media for academic purposes and creation of online academic community. Social media promotes collaborative learning among

students as they engage in exploring resources, sharing skills and information and intellectual ideas for efficient usage.

Collaborative learning therefore, promotes the idea that knowledge can be created and shared by a wide range of people regardless of the distance. It offers users an opportunity to share learning. It allows users to direct their learning and interact with one another. Olatubosun (2019) stated that "media usage in schools, universities, and colleges has the potential to raise the standard of education, facilitate learning and teacher-student participation in the classroom and to enhance collaborative and constructive teaching and learning in tertiary institutions." Collaborative learning allows users to personalize learning and connect with other users. Other academic sites helpful to researchers and that enhance collaborative learning are Mendeley, Zotero, Academia, Research Gate, etc. There are open platforms like Twitter, Skype, Google plus, etc. The prevalence of social media among undergraduates in Universities has also been reported by scholars such as: Boateng and Amankaa (2019), Kolan and Dzandza (2018), and Tayo et al., (2019). It was found that students spend more time on social media engaging in non-academic activities than they do with academic activities. Amadi and Ewa (2018) investigated the use of social media among undergraduates in River State University, Port Harcourt, Nigeria and reported that students spend at average six hours per day on social media. Students' commitment to social media was also confirmed by a study made by Tayo (2019) where he affirmed that "undergraduate students in Obafemi Awolowo University, Ile-Ife, Nigeria spend an average of 2-3 hours on social media on daily basis." The excessiveness of students' involvement in social media has become a major issue and it continues to be disturbing. Omoyele (2020) examined poor reading habit among undergraduates and identified students' commitment to social media such as Whatsapp, Facebook among others as contributory factor. In a research conducted by Fori (2020), citing Onoyase (2014), some behaviours noticeable among students due to their commitment to social media are lateness to lectures, absenteeism, inattentiveness in class, unwillingness to acquire necessary materials for academic pursuit. Nwazor and Godwin-Maduike (2021) asserted that "students' commitment to social media leads to decrease in productivity, poor grammar usage, reduction in research capabilities, involvement in frivolities and reduction in interpersonal relation which are detrimental to their academic endeavor."

This prevalence of social media usage for collaborative learning and other usages among undergraduates and its poor influence on academic performance of students has led to the examination of undergraduates' self-regulation while using social media collaborative learning sites. Social media provides freedom for individualized

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learning as learners can learn at ease from their comfort zones. However, if students do not acquire good self regulated learning skills, the use of social media can be disadvantageous. Self-regulated learning is defined as an "active, constructive process, whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation and behaviour, guided and constrained by their goals and the contextual features of the environment" (Pintrich, 2018). Many scholars have highlighted the importance of self-regulated learning skills for learners in online learning environments (Hartley & Bendixen, 2020; Dillon & Greene, 2003).

As suggested by scholars such as Dabbagh and Kitsantas (2018), self-regulated learning skills are important for online learning because teachers are not available to moderate and each learner learns in his/her own pace. Students are autonomous and independent. Therefore, if care is not taken, they end up wasting time engaging in other activities online when they should be learning online. At all levels, students' attention to study is divided as studies have shown that there is negative relationship between social media usage and students' academic performance. Even though collaborative learning sites on social media are created to promote learning, we cannot fully say that this aim has been achieved. The reason for this might be as a result of students' poor self-regulation. It is against this background that this study seeks to investigate the relationship between collaborative learning through social media and undergraduates' self-regulation in Obafemi Awolowo University, Ile-Ife.

1.1. Statement of the Problem

Technological advancement has led to the creation of learning environments where students can interact and collaborate together to learn without the barrier of distance. This development has taken education to all, therefore, eliminating the problem of learner's isolation (Mourad, Tarik & Pascal, 2015). The introduction of software tools such as wikis, blogs, Twitter, Facebook, etc., facilitates online interaction and collaborative learning among students in online learning communities (Dron & Anderson, 2019; McLoughlin & Lee, 2010). According to McLoughlin & Lee (2010), "students have access and exposure to every kind of information both in educational institutions and at home, therefore, changes the teaching learning paradigm to student-centred from traditional teacher-centred classroom practices". It is assumed that this shift in paradigm will allow students to have a control on his/her learning and to facilitate him/her to become independent and life-long learner

but standing as impediment is poor self regulation. Therefore, the focus of current research will be to explore undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife.

1.2. Purpose of the Study

The general purpose of the study is to examine the relationship between undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife. While specifically, the study will seek to:

a. examine the level of social media usage among undergraduates in Obafemi Awolowo University, Ile-Ife.

b. examine the effectiveness of collaborative learning through social media among undergraduates in Obafemi Awolowo University, Ile-Ife.

c. examine the relationship between undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife.

1.3. Research Questions

The following research questions will guide the study:

a. What is the level of social media usage among undergraduates in Obafemi Awolowo University, Ile-Ife?

d. How effective is collaborative learning through social media among undergraduates in Obafemi Awolowo University, Ile-Ife?

e. What is the relationship between undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife?

2. Research Methodology

2.1. Research Design

The design that was adopted for this study is descriptive survey design.

2.2. Population of the Study

The target population of the study consist of all undergraduates in Obafemi Awolowo University, Ile-Ife.

2.3. Sample and Sampling Techniques

The study employed purposive sampling technique to select four (4) faculties in the university. Simple random sampling technique was used to select fifty (50) students from each faculty. Therefore, two hundred (200) respondents were used to constitute the sample.

2.4. Research Instrument

The instrument that was used for this study was a self-developed questionnaire on collaborative learning through social media and undergraduates' self-regulation.

2.5. Validity of Instrument

The items of the questionnaire were carefully reviewed and submitted to a social media educator and an educational media technologist for necessary corrections and modification. Also, some experts in the related field was consulted for their review of the instrument. Comments and corrections made by experts was carefully attended to in order to establish the internal consistency of the instrument.

2.6. Reliability of the Instrument

For suitability in the present study, the test – retest over a period of two weeks was used to established the internal consistency of the instrument. The instruments were administered on twenty (25) undergraduates was not part of the study sample. Pearson Product Moment Correlation will be used to establish the reliability coefficient of the instrument.

2.7. Procedure for Data Collection

The researcher personally visited the school and concerned faculties and obtain permission from the authorities as well as the consent of the respondents for this study. Copies of the questionnaire was distributed to the respondents employing the help of two research assistants. Effort was made to see that the respondents understand the content of the materials and assistance given so that they comply with the directives. The questionnaires administered was retrieved immediately from the respondents after completion.

2.8. Method of Data Analysis

Data collected was analyzed with the population mean statistical methods.

3. Results and Discussions

Table 1. Respondent Distribution by Gender

(N = 200)

	F	%
Male	94	47.0
Female	106	53.0
Total	200	100.0

Table 1 presents the gender distribution of respondents. It shows that 53.0% are male while 47.0% are female.

3.1. Analyses of Research Questions

Research Question 1: What is the level of social media usage among undergraduates in Obafemi Awolowo University, Ile-Ife?

Table 2. Analysis to determine the extent to level of socia media usage among undergraduates in Obafemi Awolowo University, Ile-Ife (N=200)

S/N	ITEMS	RESPONSE					
		ALWAYS		**OFTEN**		**RARE**	
		F	%	F	%	F	%
1	Research Gate	116 58.0%		71 35.5%		13 6.5%	
2	Skype	124 62.0%		61 30.5%		15 7.5%	
3	Myspace	119 59.5%		69 34.5%		12 6.0%	
4	Academia	156 78.0%		39 19.5%		5 2.5%	
5	Google Plus	116 58.0%		76 38.0%		8 4.0%	
6	Facebook	124 62.0%		59 29.5%		17 8.5%	
7	Twitter	108 54.0%		69 34.5%		23 11.5%	
8	WhatsApp	115 57.5%		66 33.0%		19 9.5%	
9	Wikispaces Classroom	131 65.5%		54 27.0%		15 7.5%	
10	Edmodo	132 66.0%		65 32.5%		3 1.5%	

Table 2 presents the analysis of the extent to which informal technical skills acquisition impacts on learning outcome of polytechnic students in Osun State. The items they do always were; Research Gate (58.00%), Skype (62.00%), Myspace (59.50%), Academia (78.00%), Google Plus (58.00%), Facebook (62.00%), Twitter (54.00%), WhatsApp (57.50%), Wikispaces Classroom (65.50%), Edmodo (66.0%).

Research Question 2: How effective is collaborative learning through social media among undergraduates in Obafemi Awolowo University, Ile-Ife?

Table 3. Analysis of the extent to determine how effective is collaborative learning through social media among undergraduates in Obafemi Awolowo University, Ile-Ife (N = 200)

S/N	ITEMS	RESPONSE			
		EFFECTIVE		**NOT EFFECTIVE**	
		f	%	f	%
1	I use social media for communicating, collaborating and interacting with my colleagues.	119 59.5%		81 40.5%	
2	Encourage me to learn.	118 59.0%		82 41.0%	
3	Helps me to learn in class.	131 65.5%		69 34.5%	
4	Anonymity encouraged me to participate.	162 81.0%		38 19.0%	
5	Obtained instant feedback.	106 53.0%		94 47.0%	
6	Helps me to be active in class.	106 53.0%		94 47.0%	
7	Interaction effective.	143 71.5%		57 28.5%	
8	Increased my peer awareness.	130 65.0%		70 35.0%	
9	Motivated me to learn.	138 69.0%		62 31.0%	
10	Helped me to concentrate in class.	107 53.5%		93 46.5%	

Table 3 presents the analysis of the extent to which informal technical skills acquisition impacts on learning outcome of polytechnics students in Osun State. The effective learning outcome were; they use social media for communicating, collaborating and interacting with my colleagues (59.50%), Encourage me to learn (59.00%), Helps me to learn in class (65.50%), Anonymity encouraged me to participate (81.00%), Obtained instant feedback (53.00%), Helps me to be active in class (53.00%), Interaction effective (71.50%), Increased my peer awareness (65.00%), Motivated me to learn (69.00%), Helped me to concentrate in class (53.50%).

Research Question 3: What is the relationship between undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife?

Table 4. Summary of using Pearson Correlation to determine the relationship between undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife

Variable	N	Pearson Correlation	Sig. (2-tailed)	Remark
Undergraduates' self-regulation	200	0.87	0.00	Significant
Collaborative learning through social media				

Table 2 shows the relationship between undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife. It was revealed in the table that there is a positive and significant relationship between undergraduates' self-regulation and collaborative learning through social media at Obafemi Awolowo University, Ile-Ife ($r = 0.87$; $p<0.05$). It implies that the relationship between undergraduates' self-regulation and collaborative learning through social media in Obafemi Awolowo University, Ile-Ife is positive and significant.

4. Discussion, Conclusion and Recommendations

4.1. Discussion of Findings

Analysis of Research Question one focused on how informal technical skills acquisition via various digital platforms impacts the learning outcomes of Obafemi Awolowo University, Ile-Ife. The data shows high engagement with platforms like Academia (78.00%), Edmodo (66.00%), and Wikispaces Classroom (65.50%), indicating that these tools are vital in their educational activities. This trend aligns with recent scholarship highlighting the growing importance of digital literacy and online learning environments in modern education.

For instance, Heggart and Yoo (2018) found that platforms such as Edmodo significantly enhance student engagement and collaborative learning. Their research suggests that these digital tools not only facilitate access to information but also encourage interactive and student-centered learning experiences. The high engagement with Academia, a platform for academic networking and resource sharing, supports the notion that students are actively seeking out and utilizing resources that bolster their academic skills and knowledge.

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The notable use of social media platforms like Facebook (62.00%), Twitter (54.00%), & WhatsApp (57.50%) also highlights their dual role in social and educational contexts. Tess (2013) found that social media can foster a collaborative and interactive learning environment, enhancing student communication and engagement. This finding is supported by the current data, suggesting that students are leveraging these platforms to support their learning in informal yet effective ways.

However, the significant usage of Myspace (59.50%) and Google Plus (58.00%) is somewhat surprising, given their declining global popularity. This could indicate a unique regional preference or specific utility within the educational context of Osun State. It raises questions about the localized adoption of digital tools and the factors influencing these choices.

Overall, the findings underscore the importance of integrating digital platforms into educational strategies, as supported by recent research. They highlight a shift towards more flexible, accessible, and student-driven learning environments. This evolution in learning approaches, facilitated by digital tools, is critical for preparing students for the dynamic and technology-driven world. The data suggests a positive impact on learning outcomes, resonating with the broader educational trends and reinforcing the need for continued investment in digital literacy and infrastructure in educational institutions.

Analysis of Research Question two focused on the impact of informal technical skills acquisition on the learning outcomes of Obafemi Awolowo University, Ile-Ife, highlighting several effective learning outcomes. A significant portion of students reported that using social media for communication, collaboration, and interaction with colleagues (59.50%) was beneficial. This reflects findings by Tess (2013), who observed that social media fosters a collaborative learning environment, enhancing peer interaction and knowledge sharing.

The data indicates that these platforms encourage learning (59.00%) and assist students in classroom learning (65.50%). This aligns with the work of Heggart and Yoo (2018), which found that digital tools like Edmodo enhance student engagement and facilitate access to educational resources, thereby supporting classroom learning. The high percentage of students who felt anonymity encouraged participation (81.00%) is particularly noteworthy, suggesting that digital platforms can create a more inclusive and less intimidating environment for student engagement.

Obtaining instant feedback (53.00%) and being active in class (53.00%) are also significant outcomes, demonstrating that informal technical skills can enhance real-

time learning dynamics and student participation. The importance of instant feedback is supported by research from Nicol and Macfarlane-Dick (2006), who argue that timely feedback is crucial for effective learning and student motivation.

The data also shows that social media interactions were deemed effective (71.50%) and that these platforms increased peer awareness (65.00%). This suggests a strong peer-learning component facilitated by digital platforms, corroborating Vygotsky's theory of social learning, which emphasizes the importance of social interactions in cognitive development.

Motivation to learn (69.00%) and concentration in class (53.50%) further illustrate the positive impact of digital tools on student engagement and focus. These findings resonate with contemporary educational research advocating for the integration of technology to create more engaging and interactive learning environments.

Analysis of Research Question three focused on the relationship between undergraduates' self-regulation and collaborative learning through social media at Obafemi Awolowo University, Ile-Ife, revealing a positive and significant correlation (r = 0.87; p<0.05). This strong correlation implies that students who are better at self-regulating their learning are also more likely to engage effectively in collaborative learning activities facilitated by social media.

The positive correlation (r = 0.87) suggests that as undergraduates' ability to self-regulate increases, so does their effectiveness in collaborative learning. Self-regulation, which includes goal setting, self-monitoring, and self-assessment, enables students to take charge of their learning processes, making them more proactive and engaged in group activities. This is consistent with Zimmerman's (2002) research, which underscores the importance of self-regulation in academic success.

The significance of this relationship (p<0.05) indicates that the findings are statistically reliable and not due to random chance. This reinforces the importance of integrating social media into educational practices to foster both self-regulation and collaborative skills among students. Social media platforms provide opportunities for real-time communication, resource sharing, and peer feedback, which are essential components of collaborative learning.

Recent studies support these findings. For instance, Dabbagh and Kitsantas (2012) found that social media can be an effective tool for enhancing self-regulated learning by providing platforms for collaboration, discussion, and peer interaction. Similarly,

the work of Junco, Heiberger and Loken (2011) highlights how social media facilitates collaborative learning by creating a dynamic and interactive learning environment.

5. Conclusion

Based on the findings, the significant impact of informal technical skills acquisition and the use of social media on the learning outcomes of students at polytechnic institutions in Osun State and Obafemi Awolowo University, Ile-Ife. High engagement with digital platforms like Academia, Edmodo, and Wikispaces Classroom has been shown to enhance student engagement, collaboration, and motivation, thereby positively influencing classroom learning. The frequent use of social media for educational purposes highlights its dual role in fostering communication and collaborative learning, aligning with contemporary research advocating for its integration into educational strategies.

Furthermore, the positive and significant correlation between self-regulation and collaborative learning through social media at Obafemi Awolowo University ($r = 0.87$; $p<0.05$) reinforces the idea that self-regulated learners are more effective in collaborative environments. This finding is consistent with the broader literature, which emphasizes the importance of digital tools in promoting interactive and student-centered learning experiences.

Overall, the findings suggest that integrating digital platforms and social media into educational practices can significantly enhance learning outcomes. These tools provide flexible, accessible, and inclusive learning environments that support both individual and collaborative learning processes. Consequently, there is a clear need for continued investment in digital literacy and infrastructure in educational institutions to prepare students for the dynamic, technology-driven world.

6. Recommendations

Based on the findings and analysis, several recommendations can be made to enhance learning outcomes through the integration of digital tools and social media in educational settings:

a. Educational institutions should provide comprehensive training for both students and educators on effective use of digital platforms and social media. This includes

technical skills and best practices for online collaboration, communication, and information management.

b. Institutions should embed the use of platforms like Academia, Edmodo, and Wikispaces Classroom into the curriculum. This integration should be designed to complement traditional teaching methods and encourage active, student-centered learning.

c. Programs and workshops focusing on self-regulation strategies should be implemented. These should teach students how to set goals, self-monitor, and self-assess their learning, leveraging digital tools to support these processes.

d. Encourage the use of social media for educational purposes by creating structured activities that utilize these platforms for peer interaction, group projects, and discussions. Establish guidelines to ensure their use remains productive and focused on learning objectives.

e. Utilize the anonymity feature of certain digital platforms to encourage participation from all students, particularly those who may be less confident in traditional classroom settings. This can help create a more inclusive and engaging learning environment.

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