



# Utilization of Social Networks for Enhanced Collaborative Learning by Library and Information Science Students of Federal Universities in Southeast, Nigeria.

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## ABSTRACT

The study investigated the utilization of social networks for enhanced collaborative learning among library and information science students of federal universities in Southeast Nigeria. A descriptive survey was adopted for the study. The study adopted a multi-stage sampling technique. First is the purposive sampling technique. This enabled the researcher to sample the universities that were used for the research. The second is the proportionate stratified technique method to ensure greater representativeness of the sample relative to the population. Three federal universities offering library and information science in Southeast Nigeria were purposively sampled and 348 was the sample size. Six research questions were formulated in line with the purpose of the study. A questionnaire was used in the collection of data from 348 respondents, out of which 339 was properly filled and returned. Data obtained from the study were analyzed using mean and simple percentages and this formed the basis of the detailed analysis, recommendations and conclusions. The findings revealed that social networks like Facebook, WhatsApp, LinkedIn, etc are required for collaborative learning. The study also revealed that there is a high extent of utilization of social networks for collaborative learning practices and that social network contributes immensely to collaborative learning practice. The study recommended that, since social networks are becoming a trending learning environment and more common in interaction among students, educators and academic authorities should be intentional in designing the tasks involved in making it a tool for collaborative learning among undergraduate students.

## INTRODUCTION

The internet as opined by Sadiku, Omotoso, and Musa (2019) has rapidly evolved from being merely an

information-sharing platform to a social networking platform used by individuals to share content, opinions, and information. Edosomwan et al. (2011) posited that these social networks are a global phenomenon that has revolutionized how people interact with each other. Its spark affects completely every aspect of our life: communication, employment, politics, healthcare, social relationships, personal productivity, businesses and most importantly, education and learning (Sadiku, Omotoso, and Musa, 2019). This dispensation as opined by Mojaye (2015) is also witnessing how technology changes the way formal learning takes place with laptops in the classroom, iPhone applications, and online course offerings. It can no longer be argued that these technologies do not exist or that they are not widely used. However, as cited by Mojaye (2015) questions that remain unanswered are: do these technologies actually enhance learning and do students believe that they are appropriate forms of communication for use in a university setting?

Boulton, and Lucas, (2008) opined that the highly interactive social setting and operational freedom of universities have stimulated creativity that has made them one of the great entrepreneurial centers of the modern world. They are one of the fundamental agents that have made that world possible. According to Alemu (2018), university is a higher learning institution that brings men and women to a high level of intellectual development in the arts and science, and the traditional professional disciplines, and promotes high-level research. It also signifies a community of persons engaged in study and research. As a result, all relevant stakeholders involved in higher education have made tremendous efforts to ensure the adoption of ICT in their university education system. According to a report published by the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (2013), governments and university managements globally have heavily invested in adopting information technology in their education systems. The advancement in ICT led to the emergence of Social Networking Sites (SNS) on which social networks are built on. These technologies which social networks are a leading facet have introduced new techniques of teaching and conducting research and have enhanced research and online learning collaboration. This is because its attribute reflects a highly connected, collective and creative application that is flexible and suitable for learning. Social networks are currently being used regularly by millions of students in universities.

With the rapid growth of the internet and ease of access to internet facilities, it is obvious that there is consistent evolution and dominance of the use of social networks by younger people which the greater percentage of them fall among students of higher education. It has become a habit among students to always access social networks since a majority of them have an account in more than one social network. Social networks (SNs) are created in such a way that people can interact, collaborate on a virtual platform. This was

emphasized in Castro-Remero's (2015) work. The researcher posited that social media emerged with the potential of "social software" to increase dialogue, collaboration, networking, and help establish social relationships based on common goals and interests. He went further to list some essential characteristics of social media which include participation, openness, conversation, community and connectedness. Among the several characteristics of social networking platforms listed above, participatory culture plays a prominent role in collaborative learning. Giaccardi (2012) opined that the widespread presence of social networks provides a platform for information exchange both in the public and closed domain, as well as development of peer activities which promote and legitimize participation.

The demand to think and work together on issues is on the increase. There is a shift of emphasis from individual efforts to group work, from independence to community. Certainly, it is remarkable to state the obvious that human beings are wired to demand joint effort in their quest to achieve greater goals. According to Hernández-Sellés, González-Sanmamed and Muñoz-Carril (2014) it is evident that human beings join communities in an attempt to reach certain goals or ideas. Hernández-Sellés, González-Sanmamed and Muñoz-Carril opined that the relationships that make the group stay together are established to a large extent by the interaction required to pursue common goals. In the case of learning communities, it is to achieve the learning objectives. The progressive nature of learning requires connectivity and cooperation to gain the most of it. Laal and Laal (2012) opined that collaboration has become a twenty-first-century trend. Though learning has been formalized, it still retains its collaborative aspect.

Collaborative learning has received much attention from researchers and scholars. For example, Laal and Laal (2012) posited that collaborative learning represents a significant shift away from the typical teacher-centered or lecture-centered milieu in classrooms. In collaborative classrooms, the lecturing/listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based on students' discussion and active work with the course material. Junco (2012) opined that the interest in higher education has shifted from the concentration on knowledge skills to highlighting long learning in terms of skills. According to Junco team learning process allows individual participants to engage in discussion, take responsibility for their learning, and thus become critical thinkers. Proponents of collaborative learning as cited by Laal and Laal (2012) claim that the active exchange of ideas within small groups not only increases interest among the participants but also promotes critical thinking. That process of thinking, talking and sharing ideas on a particular concept is when the actual learning happens.

In simple terms as posited by Chandra (2015), collaborative learning is an educational approach to teaching and learning that involves groups of learners

working together to solve a problem, complete a task, or create a product. The main characteristics of collaborative learning as opined by Chandra (2015) are a common task or activity, small group learning, cooperative behavior, interdependence, and individual responsibility and accountability.

Students use social networks for several reasons which include interaction, socialization, selling and buying, and entertainment purposes but, research has proven that most students of tertiary education also use social networks for generating and sharing knowledge, collaborative learning and other academic works. Arjun and Juna (2015) said that social networks have helped many students to acquire and share knowledge from one another over the internet without necessarily having to meet physically. Musiał and Kazienko P. (2012) opined that since 1967, social networks have become one of the research areas where scientists from different fields are looking for inspiration. Through the use of social networks in the context of learning, Al-Rahmi and Zeki (2016) believe that higher school students will have positive tendencies to appreciate creative work, support toward peer alumni, and have mutual support with the school.

The utilization of social networks by students has been extensively increasing and they have caught the attention of academics globally. Manjunatha (2013) opined that social networks are now being investigated by numerous social science researchers and an increasing number of social scientists are developing an interest in studying the use of social networks because of their impact on the learning process and academic performance of students and the society as a whole. Users can share thoughts, curate content, upload photos and videos, form groups based on interests, and participate in lively discussions. Interactive social networks play a significant role in peer interaction among students which if properly harnessed into collaborative learning can lead to better academic achievement. Most of the platforms are built around the user and everything important to their area of interest.

A lot of criticism has been leveled at social networks and the effect it has on the way students process and retain information, as well as how distracting they can be. According to Sadiku, Omotoso, and Musa (2019), their study has shown that the use of social networks among students, particularly in Africa, constitutes distractions because students tend to spend a good deal of time on the networks. In the past, some regarded social networking as a distraction which offered no educational benefit for students at all levels. However, Ekeh, Omekwu and Odoh (2014) opined that social network offers plenty of opportunities for learning and interacting, and if you take a moment to think about it, it is not too hard to see how students benefit from using social networks. According to Bright Quest Team (2013) as younger generations use such technology in learning, they remake the educational landscape. Students are experiencing the world through more than just books and assignments; they are learning and

adapting to the world using a relatively new form of communication known as social networks (Ekeh, Omekwu and Odoh 2014). In a world where connections are important, graduates are coming into the workplace with a lot to offer. According to Lockyer and Patterson (2008), social networks are created for students, striving at improving both collaborative study and social interactions. Their research uncovers that creating social networking tools as part of traditional learning tools will attract students and may motivate their participation within the learning process. In other similar studies, a social bookmark posting tool, a blogging service, or wiki software are acquainted with engaging students in collaborative projects and encourage creating, editing, and speaking about content.

Today, students are highly influenced by social networks. A student can have multiple profile accounts on different social networks. They also create or join online social network groups that meet their specific interests or needs of theirs. In most cases, members of a class create a group where the entire members will have access to information related to their class or their academic works. Some also create a special group where selected members meet to discuss academic works like assignments, projects, course works and even proposals and project defense. For instance, the researcher interacted with some Library and Information Science students of the University of Nigeria, Nsukka (UNN) while carrying out the research. The researcher discovered that most of the students form groups among themselves and create a social network group, especially a group WhatsApp page where they interact, collaborate in solving assignments, share materials, discuss past lectures and materials, etc. According to them, it has benefited them so much. They can easily share and access materials, interact and discuss questions raised in the group, build friendship, carry out group works and assignments.

Educators also create these groups online where several academic activities including assessments are conducted. For instance, lecturers create Google classrooms, WhatsApp groups and other related social networks for their students. This help lecturers communicate and organize academic activities to their students online for enhanced collaborative learning.

### **Statement of the Problem**

The growth and popularity of social networks have generated concerns among university authorities, communication experts and researchers about its influence, benefits and potential risk facing undergraduates as they engage in online social networks in catering for their social and information needs. In the current technological environment as opined by Alshammari, Ali, and Rosli, (2015) with huge innovation taking place, a new comprehensive learning method is essential for students to support the rapid

development phase and improvise the existing method. Social networks are widely known for their socializing aspects. However, its ability as a learning tool in an innovative, modernized and collaborative approach is not widely known.

With the rate of information explosion, a conventional classroom setting might not be able to supply students with all the necessary information needed. If nothing is done, there will be a gap between existing information and what the students learn, therefore the need for alternative means of sourcing information and learning as well. In social networking, collaborative learning and information sharing happen without much restriction when properly harnessed.

Therefore, the finding and results of this study will be used in improving the utilization of different types of social networks in enhancing collaborative learning among Library and Information Science students in Southeast Nigeria.

### **Purpose of the Study**

The main aim of the study is to investigate the utilization of social networks for enhanced collaborative learning among Library and Information Science (LIS) students in Federal Universities in Southeast Nigeria. Specifically, the study will:

1. Determine the different social networks required by LIS students for enhanced collaborative learning.
2. Identify the collaborative learning activities practiced by Library and Information Science students.
3. Examine the extent to which LIS students of federal universities in Southeast Nigeria use the different categories of social networks for enhanced collaborative learning.
4. Determine the extent to which these social networks used by Library and Information Science students of federal universities in Southeast Nigeria contributes to enhance collaborative learning.
5. Identify the challenges associated with the utilization of social networks among Library and Information Science students in federal universities in Southeast Nigeria.
6. Find out strategies for ameliorating the challenges encountered in the utilization of social networks by LIS students of federal universities in Southeast Nigeria.

### **Research questions**

The following research questions were formulated to guide the research. They are as follows:

1. What are the different social networks required by LIS students for collaborative learning?
2. What are the collaborative learning activities LIS students' practices?

3. What is the extent of utilization of social networks for enhanced collaborative learning by LIS students of federal universities in Southeast Nigeria?
4. To what extent do social networks contribute to enhancing collaborative learning among LIS students of federal universities in Southeast Nigeria?
5. What are the challenges associated with the utilization of social networks for collaborative learning by LIS students of federal universities in Southeast Nigeria?
6. What are the strategies to improve the use of social networks for enhanced collaborative learning among LIS students of federal universities in Southeast Nigeria?

### **Significance of the Study**

This research work is expected to be beneficial to university administrators, students of tertiary institutions, library and information science schools/departments and students, library institutions, researchers, and distant learning institutions. University administrators will benefit from the results of this study as the study would reveal students' use of social networks and how it contributes to enhancing collaborative learning among university students. This can boost their academic performance and encourage teamwork in the learning process. This will help the university administrators to strategize on how to include social networking sites as a learning tool in universities. The study will also serve as a working tool in harnessing the potential of social networks for quick, seamless and reliable information delivery. Also, this work will be of immense benefit to researchers as it will be an addition to existing works of literature and shall add to the available academic kinds of literature on social networking sites. Distant learners will find this work useful as it will enlighten them on the benefits of social networks in connecting with their mates for collaborative learning purposes. From their diverse locations, they can be connected to carry out academic activities without restriction.

### **REVIEW OF LITERATURE**

The utilization of social networks as opined by Valdez, Cayaban, et al. (2020) has greatly shown an unlimited influence on a student's general lifestyle. Social networks are widely used among college students and are beneficial to them because as Robins-Bell (2008) opined, that they can gather students from all over the world to mingle in one virtual world. A similar study by Karpinski and Duberstein (2009) agreed that students spend, on average, 1–2h a day on social networks for educational purposes. In this respect, a study on social networks and learning by Greenhow (2011) stated that students listed learning as a top priority when utilizing social networks.

On the reason why library and information science students make use of social networks, Al-Mukhaini, Al-Qayoudhi and Al-Badi (2014) found out in their research work titled *Adoption of Social Networking in Education: A Study of the Use of Social Networks by Higher Education Students in Oman*, that majority of students tend to visit social networks for entertainment which is how they enjoy their time after class. In addition, they tend to use these platforms because they provide an effective and comfortable way of learning and for the flexibility of being able to spend time on these websites. However, Al-Mukhaini, Al-Qayoudhi and Al-Badi (2014) discovered that some of the students believe that visiting social networks is important because they build connections between students and professionals. Another reason as observed by Al-Mukhaini, Al-Qayoudhi and Al-Badi (2014) is that traditional styles of learning provide very little information on the study topics, which forces students to shift to social networking tools to meet their educational needs. Lastly, a few students responded that their reason for using social networks was because their classmates were using them. They reported that 78% of the students believe that the way of teaching should change to online learning by using different social network tools.

Valdez et al (2020) researched to find out the utilization of social networks, their perceived benefits and their potential for improving the study habits of nursing students in five countries. The result showed that the percentage distribution of the extent to which social networks were utilized as a means of communication for educational purposes among nursing students in the five countries showed that the majority of nursing students slightly utilized SNs in terms of their accessibility (61.3%) and moderately utilized them in terms of usability (60.2%). The distribution also showed that most of them moderately utilized SNs in terms of their efficiency (45.2%) and reliability (46.8%). From their findings, it can be deduced that there is a significant positive correlation between students' study habits and the extent of social network utilization. This means that the more students devote themselves to their study habits, the higher the level of social network utilization. Furthermore, Valdez et al (2020) in their study also identified that the students moderately perceived the utilization and benefits of social networks, taking into account accessibility, usability, efficiency and reliability

A similar study carried out by Adebayo (2015) to discover the Awareness and Usage of Social Network by Students of Library and Information Science revealed that LIS students have various purposes for using social networks. Among 228 of 240 respondents which formed 95% of their total population, the highest percentage of the students, 214 (93.8%) use social networks to connect with friends. This was followed by another significant percentage of respondents, 173 (75.9%) who use social networks for academic and research purposes. 112 (49.1%) respondents claimed to use social networking sites for leisure/entertainment. They concluded that the library and information science

students have knowledge of social networks and they make use of social networks to maintain social contacts with friends/relatives and for academic purposes.

On the level of utilization of social networks, Ansari and Nazim (2016) revealed the satisfaction level of library and information science students. According to their research, 43% of their respondents effectively utilized social networks for the search of content on social networking tools. It was further seen that 40% of respondents used them very effectively, while 34 (10%) respondents were neutral in their remarks.

Devi (2020) researched on the use of social networks by LIS research scholars of Gauhati University. The total population used for the research was 25 LIS students. Out of 25 LIS scholars, 60% use social networks daily. On the purpose LIS students use social networks, the research revealed that 25 LIS scholars disseminate academic information through social networks, 21 use it for chatting, 17 scholars use it to disseminate general information, 20 use it for entertainment and 11 use social networks for other reasons. The research findings revealed that social networks can be used by LIS students as an effective way of accessing information and knowledge for their research and academic purpose.

A survey on adoption of social network in education: *A Study of the Use of Social Networks by Higher Education Students in Oman* carried out by Al-Mukhaini, Al-Qayoudhi and Al-Badi (2014) showed that the flexibility and availability of social networks had a positive impact on 84% of the LIS students used as their respondent, and 63% of them improved their communication skills by using social networks. Moreover, Al-Mukhaini, Al-Qayoudhi and Al-Badi (2014) opined that the highest percentage of students (88%), stated that they had gained more technological skills that relate to the profession of library and information science through the use of SNs. Most of the students agreed that there were many other positive impacts of social networks in education, such as confident interaction between members, encouraging group work, and sharing many ideas and beliefs.

Moreover, Ajibade, Shamsuddin and Ahmad (2017) conducted an Analysis of Social Networks in Collaborative Learning on Knowledge Construction and Social Interaction of Students. Their study revealed that 53.5% of their correspondents accept that social network increases knowledge sharing while 13.3% said that it improves information exchange. Yet another 13.3% mentioned that social network improves learning outcomes and another 13.3% agreed that it facilitates social interaction while 6.7% said that social network facilitates discussion via discussion forums. Moreover, Ajibade, Shamsuddin and Ahmad (2017) study further revealed that 13.3% of the respondents said the perceived advantage of using the social network for collaborative learning is that it enhances the exchange of information and another 13.3% said that it facilitates collaborative learning. 33.3% of the respondents agreed

that it improves social interaction while 40% of them said it enhances discussions in discussion forums.

Sarwar, Zulfiqar, Aziz, (2018) carried out a research to find out the usage of social network tools for collaborative learning: The Effect on Learning Success with the Moderating Role of Cyberbullying. Their findings indicate that perceived usefulness, perceived ease of use, and perceived enjoyment have a significant positive relationship with social media usage. Sarwar, Zulfiqar, Aziz, (2018) results show that social media has gained popularity among people because of its convenience and worldwide usage. Students also enjoy social media and use it for community building, resource sharing, and collaborative work. Similarly, in Sarwar, Zulfiqar, Aziz, (2018) there was found a significant positive relationship between perceived usefulness and collaborative learning; social media usage and collaborative learning; social media usage and learner performance; and collaborative learning and learner performance. The results of their study indicate that social media or social networking site serves as a dynamic tool to facilitate the development of learning environments by encouraging collaboration and articulation among students. Using communication media enables the students to enhance healthy class discussions, student engagement, and peer-integration.

A study by Stollak, Vandenberg, Burklund and Weiss (2011) demonstrates that students' grades can be affected negatively by using social networking tools and visiting lots of sites. A questionnaire was used in this study to verify this. It revealed that 63% of students get high grades because they spend less time using the web. Thus, spending more time on social networks appears to result in the lowering of student grades.

In another empirical investigation on the use of social networks in four universities in the UK involving 76 questionnaire participants and 14 interviews with students, Jones, Blackey, Fitzgibbon, and Chew (2010) found out that five challenges of social software for learning are: separation of life and studying; originality and copyright issues; a sense of information flooded; time constraint, and lecturers are not up-to-date and may not know how to integrate and make use of social software.

Al-Rahmi, Othman, and Yusuf (2015) carried out research on the Role of Social Network for Collaborative Learning to Improve Academic Performance of Students and Researchers. Al-Rahmi, Othman, and Yusuf (2015) findings revealed that collaborative learning is positively and significantly related to the academic performance of students and researchers and thus supporting their hypothesis (H9) that proposed a significant relationship between collaborative learning and academic performance of students and researchers. Nevertheless, Scager, et al (2016) opined that empirical research on small group and project-enhanced learning has shown that there are many problems in the promotion of high-level learning processes in collaborative projects. It has been found, for example, that individual learners may not share the responsibility for joint goals. Notwithstanding,

in their findings on the use of social networks for knowledge construction, Ajibade, Shamsuddin and Ahmad (2017) discovered that 6.7% of their respondent use YouTube to enhance collaborative learning while 26.7% said they use email to enhance collaborative learning. 40% mentioned that they use Facebook while 13.3% of the respondents said they used blogposts. Another 13.3% claimed that they use Google+. This indicates that different categories of social networking sites serve as a necessary tool for student enhanced collaborative learning.

A study involving the quality of student's involvement in collaborative learning in a group of college educational psychology students carried out by Peterson and Miller (2004) as cited by Ching (2013) suggest that the overall quality of the experience was greater during collaborative learning than the conventional teacher-student learning method. Ching went further to say that benefits occurred specifically for thinking on task, student engagement, perceptions of task importance, and optimal levels of challenge and skill.

Moran, Seaman, and Tinti-Kane (2011) in their work titled Teaching, Learning, and Sharing: How Today's Higher Education Faculty Use Social Media found out that many are concerned with social network privacy and integrity. Research, as carried out by Ching and Lee (2012), shows that 80% of users reported a lack of integrity of students' submissions while, over 70% say privacy concerns are very important barriers. Ultimately, social networks facilitate information sharing, knowledge management, and foster collaboration within and between organizations. However, careful monitoring is needed.

## RESEARCH METHODOLOGY

The study adopted a descriptive survey because it is employed in studies designed to investigate the pattern characteristic of a population. According to Nworgu (2015), descriptive studies are those studies that aim at collecting data on and describing systematically the characteristics, features or facts about a given population. The population consists of the undergraduate students and academic staff of the Department of Library and Information Science in federal universities in Southeast Nigeria. This is for accurate and effective sample and sampling. First is the purposive sampling technique. This enables the researcher to sample the universities that were used for this research.

Among five federal universities in Southeast Nigeria, three were chosen. The reason is that only three of the five universities offer Library and Information Science and according to Nworgu (2015), purposive sampling is used when specific elements which satisfy some predetermined criteria are selected. In this case, federal universities in Southeast Nigeria that are offering Library and Information Science. The three universities are as follows: University of Nigeria Nsukka

(UNN), in Enugu State, Nnamdi Azikiwe University (NAU), in Awka, Anambra State, Michael Okpara University of Agriculture (MOUA), in Umudike, Abia State.

Furthermore, the research also adopted a proportionate stratified technique method. According to Nworgu (2015), proportionate stratified random sampling ensures greater representativeness of the sample relative to the population and guarantees that minority constituents of the population are represented in the sample. The sample size was proportionately stratified thus: UNN 48% which is equal to 167 respondents, MOUA 27% which is equal to 94 respondents, and NAU 25% which is equal to 87 respondents. The sample size was 399 lecturers and students, which is made up of 348 undergraduates and 51 lecturers of the Department of Library and Information Science in the three federal universities in Southeast, Nigeria. The sample of 348 undergraduates corresponds with the sample size recommendations by Mole (2019). However, the entire lecturers were studied since the population size is small and accessible. This is also in accordance with the recommendation of Mole (2019).

A questionnaire was used for data collection in this study. The questionnaire was structured to reflect the research questions based on the review of related literature. It was titled Utilizations of Social Network for

Enhanced Collaborative Learning Questionnaire (USONECOLQ). The instrument was self-developed and structured. The instrument was in two sections: section A was used to gather information on the demographic characteristics of the participants while section B was for the research proper. It was divided into seven clusters with regard to questions raised in the research questions of the study, and it had about 115 items.

The data generated from the questionnaire were analyzed using simple percentages and mean. The opinions gathered through the literature review were used to validate the opinions in the questionnaire. A rating scale was used to determine the mean scores of the respondents in section B, clusters 3, 4, 5, 6, and 7 of the questionnaires and the real limit of numbers was used in taking decisions. The percentage was used in deciding the research question 1 and 2(a). The frequencies were converted to percentages for clear understanding. Data collected from the questionnaires were analyzed together for the three universities. A total number of 348 copies of questionnaires were distributed to the undergraduates but 339 were properly filled and returned. 51 were distributed to the lecturers but 42 were returned.

#### Data Analysis

**Table 1: Responses on the required social networks for collaborative learning activities**

S/N	Items	Required	Percentage %	Not Required	Percentage %
1	Facebook	40	95.2	2	4.8
2	Messenger	40	95.2	2	4.8
3	Vimeo	11	26.2	31	73.8
4	Myspace	39	92.9	3	7.1
5	Instagram	39	92.9	3	7.1
6	Viber	16	38.1	26	61.9
7	Telegram	40	95.2	2	4.8
8	Zoom	42	100.0	-	-
9	Pinterest	23	54.8	19	45.2
10	Snapchat	21	50.0	21	50.0
11	Imagur	39	92.9	3	7.1
12	Google+	39	92.9	3	7.1
13	Twitter	42	100.0	-	-
14	Skype	40	95.2	2	4.8
15	YouTube	42	100.0	-	-
16	WhatsApp	42	100.0	-	-
17	LinkedIn	42	100.0	-	-
18	Academia.edu	42	100.0	-	-
19	ResearchGate	42	100.0	-	-
20	Reddit	5	11.9	37	88.1
21	Quora	25	59.5	17	40.5
22	Wikis	16	38.1	26	61.9
23	Doodle	23	54.8	19	45.2
24	Flickr	27	64.3	15	35.7
25	SlideShare	42	100.0	-	-
26	Google Docs	21	50.0	21	50.0

**Table 1** is a response on the social networks required for collaborative learning among library and information science students as responded by academic staff of the same department. From the responses obtained, the majority of social networks were accepted as required for collaborative learning. For instance, YouTube, WhatsApp, LinkedIn, Academia.edu, ResearchGate and

Zoom have 100% acceptance as social networks required for collaborative learning. Others like Facebook, Messenger and Telegram also have a high percentage acceptance as required social networks needed for collaborative learning. From the responses, it is obvious that the majority of social networks are required for collaborative learning among LIS students.

**Table 2: Percentage frequency of collaborative learning activities practiced by LIS students**

S/N	ITEMS	Yes	Percentage %	No	Percentage %
1	Group discussions	294	86.7	45	13.3
2	Completing shared tasks in a group	308	90.9	31	9.1
3	Group seminar preparation	323	95.3	16	4.7
4	Information exchange activities	308	90.9	31	9.1
5	Working on shared tasks like class assignments, workshops, etc.	324	95.6	15	4.4
6	Evaluation of lectures	293	86.4	46	13.6
7	Carrying out group research	320	94.4	19	5.6
8	Group reading	278	82.0	61	18.0
9	Group meetings	295	87.0	44	13.0

**Table 2** shows the percentage frequency of the responses made by LIS students of federal universities in Southeast Nigeria on the collaborative learning activities they practiced. From the table, a greater percentage of LIS students indicate that they practice all the collaborative learning activities listed by the researcher. Group seminar preparation with 95.3% was

indicated by LIS students as the highest learning activities practiced, followed by carrying out group research with 94.4%, information exchange activities with 90.9, and completing shared tasks in group with 90.9%. This indicates that LIS students of federal universities in Southeast Nigeria engage in most of the learning activities as listed by the researcher.

**Table 3: Mean and standard deviation responses on the extent LIS students of federal universities in Southeast Nigeria practice collaborative learning activities**

S/N	ITEMS	MP	P	LP	NP	Mean	St. D	Rank	Decision
1	Evaluation of lectures	332	7	-	-	3.97	.14	1 <sup>st</sup>	Practiced
2	Carrying out group research	325	14	-	-	3.95	.19	2 <sup>nd</sup>	Practiced
3	Group meetings	265	50	20	4	3.69	.63	3 <sup>rd</sup>	Practiced
4	Information exchange activities	202	134	3	-	3.58	.51	4 <sup>th</sup>	Practiced
5	Group reading	208	105	14	12	3.50	.73	5 <sup>th</sup>	Practiced
6	Working on shared tasks like class assignments, workshops, etc.	216	78	30	15	3.46	.83	6 <sup>th</sup>	Practiced
7	Group discussions	163	134	35	7	3.33	.74	7 <sup>th</sup>	Practiced
8	Completing shared tasks in a group	130	166	21	22	3.19	.81	8 <sup>th</sup>	Practiced
9	Group seminar preparation	119	160	47	13	3.13	.79	9 <sup>th</sup>	Practiced

From **Table 3**, it is observed that library and information science students practice all collaborative learning activities as listed by the research. The result shows that evaluating lectures with a mean score of 3.97 ranked the highest collaborative learning activities practiced by LIS students, followed by carrying out group research with

a mean score of 3.97, group meetings with a mean score of 3.69, information exchange activities with a mean score of 3.58 and group reading with a mean score of 3.50. This indicates that LIS students highly engage in collaborative learning activities in their academic programs.

**Table 4: Mean and standard deviation responses on the extent of utilization of social networks for collaborative learning activities**

S/N	ITEMS	VHU	HU	LU	NU	Mean	Std	Rank	Decision
1	WhatsApp	302	37	-	-	3.89	.31	1 <sup>st</sup>	Agreed
2	LinkedIn,	277	55	7	-	3.79	.45	2 <sup>nd</sup>	Agreed
3	Snapchat	274	58	7	-	3.78	.45	3 <sup>rd</sup>	Agreed
4	Messenger	271	54	7	7	3.73	.59	4 <sup>th</sup>	Agreed
5	ResearchGate	239	100	-	-	3.70	.45	5 <sup>th</sup>	Agreed
6	Skype	253	69	17	-	3.69	.55	6 <sup>th</sup>	Agreed
7	Imagur	240	82	17	-	3.65	.57	7 <sup>th</sup>	Agreed
8	Academia.edu	233	99	7	-	3.64	.59	8 <sup>th</sup>	Agreed
9	Twitter	229	93	17	-	3.62	.57	9 <sup>th</sup>	Agreed
10	SlideShare	213	119	7	-	3.60	.52	10 <sup>th</sup>	Agreed
11	Myspace	213	119	7	-	3.60	.52	10 <sup>th</sup>	Agreed
12	Zoom	211	112	16	-	3.57	.58	11 <sup>th</sup>	Agreed
13	Google+	203	123	13	-	3.56	.56	12 <sup>th</sup>	Agreed
14	Instagram	202	117	20	-	3.53	.60	13 <sup>th</sup>	Agreed
15	Telegram	192	126	21	-	3.50	.61	14 <sup>th</sup>	Agreed
16	Vimeo	133	186	20	-	3.48	.60	15 <sup>th</sup>	Agreed
17	Facebook	206	101	19	13	3.47	.77	16 <sup>th</sup>	Agreed
18	Wikis	158	161	17	3	3.39	.62	17 <sup>th</sup>	Agreed
19	Netvibes	146	169	20	4	3.34	.64	18 <sup>th</sup>	Agreed
20	Doodle	156	137	46	-	3.32	.70	19 <sup>th</sup>	Agreed
21	Google Docs	131	179	29	-	3.30	.61	20 <sup>th</sup>	Agreed
22	Flickr	161	128	43	7	3.30	.76	20 <sup>th</sup>	Agreed
23	Youtube	137	157	45	-	3.27	.68	21 <sup>th</sup>	Agreed
24	Quora	142	150	33	14	3.23	.79	22 <sup>th</sup>	Agreed
25	Viber	131	146	52	10	3.17	.79	23 <sup>st</sup>	Agreed
26	Pinterest	127	151	48	13	3.15	.80	24 <sup>nd</sup>	Agreed
27	Reddit	109	179	31	20	3.11	.79	25 <sup>rd</sup>	Agreed
28	Diigo	149	81	91	18	3.06	.95	25 <sup>th</sup>	Agreed

**Table 4** shows the mean and standard deviation responses on the extent of utilization of social networks for enhanced collaborative learning among library and information science students. From the table, WhatsApp ranked the highest utilized social network for collaborative learning with a mean score of 3.89. LinkedIn is the next highly utilized with a mean score of 3.79 followed by Snapchat with a 3.78 mean score. This

indicates that these students use social networks as a tool for collaborative learning. Messenger with a mean score of 3.73, ResearchGate with a mean score of 3.70 and Skype with a mean score of 3.63 are also utilized at a high rate for collaborative learning activities. This indicates that library and information science students utilize social networks to enhance collaborative learning activities.

**Table 5: Mean and standard deviation responses on the extent social networks contribute to enhancing collaborative learning among Library and Information Science students**

S/N	ITEM STATEMENT	VHE	HE	LE	VLE	Mean	Std	Rank	Decision
1	It makes communication quicker	324	4	11	-	3.92	.36	1 <sup>st</sup>	Agreed
2	It drives motivation	316	12	11		3.89	.39	2 <sup>nd</sup>	Agreed
3	It enhances interactivity in learning	269	51	12	7	3.71	.63	3 <sup>rd</sup>	Agreed
4	It connects one to a professional in the field	264	60	9	6	3.71	.60	3 <sup>rd</sup>	Agreed
5	It enhances mastery of professional terms	270	41	20	8	3.69	.68	4 <sup>th</sup>	Agreed
6	It gives clarity of concepts	339	193	131	15	3.52	.58	5 <sup>th</sup>	Agreed
7	It gives room for creative critics	192	116	31		3.47	.65	6 <sup>th</sup>	Agreed
8	It enhances creative thinking	196	107	23	13	3.43	.78	7 <sup>th</sup>	Agreed
9	It engages every participant in a collaborative learning	173	134	26	6	3.39	.70	8 <sup>th</sup>	Agreed
10	It provides a wide range of resources in concepts	165	117	54	3	3.30	.76	9 <sup>th</sup>	Agreed
11	It helps process the understanding of concepts faster	184	92	36	27	3.27	.94	10 <sup>th</sup>	Agreed
12	It helps one to express oneself more than a physical gathering	159	123	46	11	3.26	.81	11 <sup>th</sup>	Agreed
13	It gives a pictorial description of an information	158	126	39	16	3.25	.84	12 <sup>th</sup>	Agreed
14	It enhances comprehension of a concept	113	185	25	16	3.16	.75	13 <sup>th</sup>	Agreed
15	It helps to store information longer	126	167	21	25	3.16	.83	13 <sup>th</sup>	Agreed
16	It provides one with numerous empirical research works in an area of study	130	134	57	18	3.10	.86	14 <sup>th</sup>	Agreed
17	It acts as simulators for emotion	104	166	52	17	3.05	.81	15 <sup>th</sup>	Agreed
18	It makes communication simpler	140	90	92	17	3.04	.94	16	Agreed

**Table 5** shows the mean and standard deviation responses on the extent utilization of social networks contribute to enhancing collaborative learning among LIS Students. The results indicate that social network contributes immensely to collaborative learning. All the item statements are accepted as contributions social networking platforms make in enhancing collaborative learning among the students. From the table, making

communication quicker is the highest contribution social networks make for enhanced collaborative learning with a mean score of 3.92 followed by driving motivation (3.89 mean score). Enhancing interactivity in learning and connects one to a professional in the field has a mean score of 3.71. Therefore, the role of social networks on students' collaborative learning practices is great.

**Table 6: Mean and standard deviation responses on the challenges associated with the utilization of social networks for collaborative learning**

SN	ITEM STATEMENT	SA	A	D	SD	Mean	Std	Rank	Decision
1	Misuse of tools during classes/instructional time	131	174	29	5	3.27	.67	7 <sup>th</sup>	Agreed
2.	Harmful stomping ground for cyber bullies	210	112	17	-	3.56	.58	3 <sup>rd</sup>	Agreed
3	Discourages face-to-face communication	157	120	39	23	3.21	.89	8 <sup>th</sup>	Agreed
4.	Unsolicited sharing of inappropriate content	127	162	13	37	3.11	.91	9 <sup>th</sup>	Agreed
5	Little or no copyright regulation (contents are shared without proper acknowledgement of the originator)	105	159	54	21	3.02	.84	10 <sup>th</sup>	Agreed
6	Security (there is no privacy, and personal details are prone to abuse)	200	127	12	-	3.55	.56	4 <sup>th</sup>	Agreed
7	Psychological disorders like anxiety, depression and antisocial behavior.	165	121	36	17	3.28	.84	6 <sup>th</sup>	Agreed
8	Information overload	323	4	12	-	3.91	.38	1 <sup>st</sup>	Agreed
9	Poor internet facilities	317	10	12	-	3.89	.40	2 <sup>nd</sup>	Agreed
10	Low battery capacity of devices	183	109	35	12	3.36	.80	5 <sup>th</sup>	Agreed

**Table 6** is the mean and standard deviation responses on the challenges associated with the use of social networks for collaborative learning. The result indicates that all the listed challenges affect the utilization of social networks for collaborative learning. The table further shows that social network causes information overload with a mean score of 3.91. Another highly agreed

challenge is poor internet facilities with a 3.89 mean score, harmful stomping ground for cyber bullies with a mean score of 3.56, and security with a mean score of 3.55. These factors pose a great challenge in the use of social networking platforms for collaborative learning activities by LIS students.

**Table 7: Mean and standard deviation responses on the strategies to improve the utilization of social networks for enhanced collaborative learning among LIS students**

S/N	ITEM STATEMENT	VA	A	FA	NA	Mean	Std	Rank	Decision
1	There should be proper regulation of the use of social networks in classes	256	47	30	6	3.63	.71	3 <sup>rd</sup>	Agreed
2	Creation of social media use monitoring app	160	117	62	-	3.28	.75	6 <sup>th</sup>	Agreed
3	Setting up of effective privacy guidelines by social networking site administrators	107	178	36	18	3.10	.79	9 <sup>th</sup>	Agreed
4	There should be proper regulation of content sharing on social media platforms	177	134	16	12	3.40	.74	5 <sup>th</sup>	Agreed
5	Always acknowledge the owner of the content you are using	264	51	12	12	3.67	.71	2 <sup>nd</sup>	Agreed
6	Proper implementation of privacy guidelines by social media administrators	197	109	33		3.48	.66	4 <sup>th</sup>	Agreed
7	Encourage positive social interaction on the group platforms	267	56	10	6	3.72	.60	1 <sup>st</sup>	Agreed
8	Careful selection of required information while making use of the platform	137	134	45	23	3.13	.89	8 <sup>th</sup>	Agreed
9	Improved internet connectivity within the school environs	153	85	81	20	3.09	.95	10 <sup>th</sup>	Agreed
10	Consistent power supply	162	113	45	18	3.23	.87	7 <sup>th</sup>	Agreed

**Table 7** shows the mean and standard deviation responses on the strategies to improve the use of social networks for enhanced collaborative learning among LIS students of federal universities in Southeast Nigeria. All the items listed by the researcher are accepted as strategies to improve the utilization of social networks for enhanced collaborative learning. Encouraging positive social interaction on the group platforms with a mean score of 3.72 is the highest most appropriate, followed by 'always

acknowledging the owner of the content you are using,' with 3.67 mean score, and then 'proper regulation of the use of social networks in classes' with a mean score of 3.63. This indicates that the enormous challenges associated with the utilization of social networks can be navigated if these measures listed in the table are put in place as required.

## SUMMARY OF MAJOR FINDINGS

1. From the results, YouTube, WhatsApp, LinkedIn, Academia.edu, ResearchGate, Zoom, SlideShare, Facebook, Messenger, Telegram, Myspace, and others were indicated as social networks required for collaborative learning among library and information science students.
2. A high percentage of the students indicated that they practice all the collaborative learning activities listed. Evaluating of lectures, carrying out group research, group meeting, working on shared tasks like class assignments, workshops, completing shared task in a group, information exchange activities, group reading, among others were highly practiced by library and information science students.
3. The findings show that library and information science students of federal universities in Southeast Nigeria utilize the required social networks for enhanced collaborative learning.
4. The results showed that LIS students accepted that social networks contribute immensely to collaborative learning practice. According to the results, 'utilization of social networks makes communication quicker' was the highest contribution of social networks to collaborative learning, followed by 'driving motivation and connecting one to professionals in their field'.
5. All the suggested challenges were agreed to be associated with the utilization of social networking platforms for collaborative learning. From the results, information overload ranked the highest challenge associated with the use of social networks for collaborative learning activities, followed by poor internet facilities, harmful stomping ground for cyber bullies, and then insecurity.

All the suggested approaches to improve the utilization of social networking platforms for collaborative learning were accepted. 'Encouraging positive social interaction on the group platforms' ranked the highest strategy in improving the use of social networks, followed by 'acknowledging the owners of content when used', and 'proper regulation of the use of social network in classes'.

### Implications of the study

From the research findings, the social network has been proven to be a veritable source of direct response to the need of offering adequate information, communication, dissemination, discussing and mobilizing vast quality of information. According to Ansari, and Khan (2020) a social network in academic institutions allows students to interact with their mentors, access their course contents, customize and build students' communities. The use of social networks has

aided the interconnectivity of students. They are embodied with tools such as forums, wikis, and collaborative platforms that enable students to interact with each other.

This research has proved the inevitable contribution of social networks for enhanced collaborative learning among library and information science students. According to Selwyn (2012), social media and mobile devices allow the students to create, edit and share the course contents in textual, video or audio forms. These technological innovations give birth to a new kind of learning culture, learning based on the principles of collective exploration and interaction. Efforts should therefore be made to ensure the efficient use of it among the students.

Social networks are being embraced and adopted overwhelmingly by students and research scholars of academic institutions. According to Kolan and Dzandza (2018), the answers to the causes of flexible studies today across the globe might not be far-fetched from the great contribution that social media platforms are providing when used judiciously.

## RECOMMENDATIONS

1. From our major findings, social networks are required for collaborative learning among LIS students and are becoming a trending learning environment and more common in interaction among students. Educators and academic authorities should be intentional in designing the tasks involved in making it a tool for collaborative learning among undergraduate students.
2. Library and Information Science departments should direct the collaborative learning program by setting the purpose, identifying specific outcomes, and assigning various roles to the group members. Each member of a group should have a role to ensure that all students are actively engaged. The pairing and grouping of students should change continually to ensure that each student has the opportunity to work with all members of the class.
3. The use of online networks for collaborative learning, interaction with supervisors, lecturers, mentors and colleagues results in a more positive student's academic engagement which consequently affects academic performance. Therefore, higher education authorities should provide such a platform that can be included in their requirement in nurturing the student's intellectual and social skills.
4. Since Library and Information Science students have a favorable perception towards the use of social networks in higher education, more especially in collaborative learning, it is recommended that educators exploit social

media to the fullest to explore the varied opportunities and their prospects for a better library service. Therefore, the researcher recommends that social networks be added in the syllable and curriculum of Library and Information Science studies since it is becoming more popular among library and information science students as an academic tool.

- Institutions of higher learning should with urgency improve the availability and accessibility of school internet within the entire school environment. Social network creators and administrators should protect users from harm associated with the use of social networking platforms, without limiting their freedom of access to information. Privacy and content creation policies should be taken into cognizance.

## CONCLUSION

There is an increased exploration in the academic literature that the use of social networks and sites facilitate collaborative learning. Generally, it is assumed that social networks and technologies are designed for entertainment, chatting and friendship. Beyond those, social networks if given due consideration and attention can be productive in many things especially in building a positive academic performance. It is essential to acknowledge that most if not every university student nowadays adopts social networking platforms to interact with colleagues, lecturers and also be in touch with old friends. Social network also serves as a convenient source of transferring resources. In the present era, the majority of university students have diversified social media community groups like WhatsApp, and Facebook pages, following different academic web pages to upgrade their knowledge. The result of this investigation confirmed that the use of social media for collaborative learning purposes, interaction with peers, and teaching is highly accepted and affects academic performance positively. The implication of this is that at this moment, the implementation of such tools would bring revolutionary, drastic changes in higher education for intentional collaborative learning.

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## REFERENCES

- Ajibade, S. M., Shamsuddin, S. M. & Ahmad, N. B. (2017). Analysis of Social Network Collaborative Learning on Knowledge Construction and Social Interaction of Students. *ASIA International Multidisciplinary Conference*.
- Alemu, S. K. (2018) The meaning, idea and history of university/higher education in Africa: a brief literature review. *FIRE: Forum for International Research in Education*. 4(3); 210-227. <https://files.eric.ed.gov/fulltext/EJ1199154.pdf>
- Alshammari, S.H., Ali, M.B. and Rosli, M.S. (2015) The Effectiveness of Using Social Network Sites as Learning Tool for Students. *Research Journal of Applied Sciences, Engineering and Technology* 11(11): 1220-1226,
- Al-Mukhaini E. M., Al-Qayoudhi & Al-Badi, A. H. (2014). Adoption of social networking in education: A study of the use of social networks by higher education students. *Journal of International Education Research*, 10(2), 143-154.
- Al-Rahmi, W. M., & Zeki, A. M. (2016). A model of using social media for collaborative learning to enhance learners' performance on learning. *Journal of King Saud University—Computer and Information Sciences*, 29, 526–535.
- Arjun, M. & Juna, B. (2015). A study on the impact of social networking sites among higher secondary students. *International Journal of Social Science and Management*, 2(4), 339-342. <http://10.3126/ijssm.v2i4.13681>
- Ansari, J.A. & Khan N.A. (2020) Exploring the role of social media in collaborative learning the new domain of learning. *Smart learning environment*, 7(9). <https://slejournal.springeropen.com/articles/10.1186/s40561-020-00118-7>
- Boulton, G. and Lucas, C. (2008) what are universities for? League of European Universities LERU
- Bright Quest Team (2013) how students benefits from social media. <http://thebrightquest.com/how-students-benefits-from-social-media>
- Castro-Romero, O. (2015). Social media as learning tool in higher education: The case of Mexico and South Korea. *Sinectica Revista Electronica de Educacion*. <https://www.researchgate.net/publication/270761868>
- Chandra, R. (2015). Collaborative Learning for Educational Achievement. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 5(2), 1-4. <http://10.9790/7388-052XXXX>
- Ching, G. S. (2013). Collaborative Learning in Social Networking Sites: A Case Study on the use of Mahara. *Advance material research*, 717, 778-783. <http://10.4028/www.scientific.net/AMR.717.778>
- Ching, G.S & Lee S.C, (2012). Digital portfolios: Providing a New Learning Modality for EFL Students. *Proceedings of the 2012 Conference on Creative Education*. 420-423
- Devi, K. S., Gouthami, E. & Lakshmi, V. V. (2019). Role of Social Media in Teaching-Learning Process. *Emerging Technologies and Innovative Research*, 6(1), 96-103. [https://weldone-project.eu/assets/howtoget\\_weldone/ppts/O3\\_WELDONE\\_Ex\\_6\\_3.pdf](https://weldone-project.eu/assets/howtoget_weldone/ppts/O3_WELDONE_Ex_6_3.pdf).
- Edosomwan, S., Prakasan, S.K., Kouame, D. Watson, J., and Seymour, T. (2011) The History of Social

- Media and its Impact on Business. *The Journal of Applied Management and Entrepreneurship*. 16(3)
- Eke, H.N., Omekwu, C.O. , and Odoh, J.N. (2014) The Use of Social Networking Sites among the Undergraduate Students of University of Nigeria, Nsukka. *Library Philosophy and Practice* (e-journal). 1195. <http://digitalcommons.unl.edu/libphilprac/1195>
- Giaccardi, E. (2012). *Heritage and social media: Understanding heritage in a participatory culture*. London & New York: Routledge.
- Hernández-Sellés, N., González-Sanmamed, M. & Muñoz-Carril, P. (2014). Planning collaborative learning in virtual environments. *Media Education Research Journal*, 21(41), 25-32. <http://dx.doi.org/10.3916/C42-2014-02>
- Junco, R. (2012). Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior*, 28, 187–198
- Karpinski A.C.& Duberstein A.A. (2009). Description of Facebook use and academic performance among undergraduate and graduate students. San Diego: *Annual Meeting of the American Educational Research Association*; 5–10.
- Kolan, B. J & Dzandza, P.E. (2018). Effect of Social Media on Academic Performance of Students in Ghanaian Universities: A Case Study of the University of Ghana, Legon. *Library philosophy and practice* (online). <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=4687&context=libphilprac>
- Laal, M. & Laal, M. (2012). Collaborative learning: What is it? *Procedia - Social and Behavioral Sciences*, 31, 491 – 495. <https://doi:10.1016/j.sbspro.2011.12.092>
- Lockyer, L., & Patterson, J. (2008). Integrating social networking technologies in education: A case study of a formal learning environment. *Paper presented at the Eighth IEEE International Conference on Advanced Learning Technologies.*, 209-217
- Manjunatha, S. (2013). The usage of social networking sites among the college students in India. *International Research Journal of Social Sciences*, 2(5), 15-21. <http://www.isca.in/IJSS/Archive/v2/i5/3.ISCA-IRJSS-2013-065.pdf>.
- Mole, A.J.C (2019). *Practical Guide to Research in Library and Information Science*. Nsukka: University of Nigeria Press.
- Mojaye, E. M. (2015) Mobile phone usage among Nigerian University students and its impact on teaching and Learning. *Global Journal of Arts Humanities and Social Sciences*, 3(1), 29-38
- Musiał, K. & Kazienko, P. (2012). Social networks on the Internet. <http://10.1007/s11280-011-0155-z>
- Nworgu, B.G (2015). *Educational research. Basic issues & methodology* (3rd ed.). Nsukka: University Trust Publishers
- Robins-Bell S. (2008). Higher education as virtual conversation. *Educause Rev.* 43:24–6
- Sadiku, M.N.O., Omotoso, A.A. Musa, S. M. (2019). Social Networking. *International Journal of Trend in Scientific Research and Development (ijtsrd)*, 3 (3), 126-128. <http://www.ijtsrd.com/papers/ijtsrd21657.pdf>
- Sarwar, B., Zulfiqar, S. & Aziz, S. (2018). Usage of Social Media Tools for Collaborative Learning: The Effect on Learning Success with the Moderating Role of Cyberbullying. *Journal of Educational Computing Research*. 57(1) 246–279 <https://doi.org/10.1177/0735633117748415>
- Scager, K., Boonstra, J., Peeters, T., Vulperhorst, J. and Wiegant, F. (2016) Collaborative Learning in Higher Education: Evoking Positive Interdependence. *CBE Life Sci Educ.* 15(4)
- Selwyn, N. (2012). Making sense of young people, education and digital technology: The role of sociological theory. *Oxford Review of Education*, 38(1), 81–96.
- Stollak, M., Vandenberg, A., Burklund, A., & Weiss, S. (2011). Getting social: The impact of social networking usage on grades among college students. in *Proceedings from ASBBS Annual Conference*, 18(1), 859-865.
- UNESCO, (2014). *UNESCO Education Strategy 2014–2021*. United Nations Educational, Scientific and Cultural Organization, place de Fontenoy: France. <https://unesdoc.unesco.org/ark:/48223/pf0000231288>
- Valdez, G.F.D., Cayaban, A. R. R., Al-Fayyadh, S. M., Korkmaz, S., Obeid, C.L. A. Sanchez, Ajzoon, M. B., Fouly, H. & Cruz, J.P. (2020). The utilization of social networking sites, their perceived benefits and their potential for improving the study habits of nursing students in five countries. *BMC Nursing*. 19(52). Retrieved from <https://doi.org/10.1186/s12912-020-00447-5>