

## **Exploring Awareness and Use of Web 2.0 Tools by Students at BA ISAGO University, Botswana**

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### **ABSTRACT**

This paper investigated the awareness and use of Web 2.0 tools by students at BA ISAGO University, Botswana. Structured questionnaires were used to collect data from the targeted respondents. The results revealed that students are quite familiar with most Web 2.0 tools, such as Facebook, Twitter, media sharing tools, Google Drive, and instant messaging. Even though students are very familiar with and aware of the identified tools, the study found that most students hardly used them. Some of the reasons given by the students include inadequate numbers of computers available to be used by the students in the computer laboratories and limited access to Internet services as well as power failures. Based on these findings, the study recommended integrating a large part of using Web 2.0 tools in the curricula and improving the university infrastructures to facilitate higher uptake and improvement in student skills and the drive to use the tools.

**Keywords:** *Web 2.0 Tools; Blogs; Facebook; WhatsApp, Twitter.*

### **INTRODUCTION**

“As the world becomes increasingly interconnected, both economically and socially, technology adoption remains one of the defining factors in human progress” (Poushter 2016, para.1). Inevitably, the Internet has become one of the fastest-growing tools in the development and adoption of new technologies. In almost everything we do for our daily tasks and duties; we make use of the Internet and almost everyone uses the Internet. A recent study has shown that more than half of the people in the world today are using the Internet (Kumar 2022). Ping & Issa (2011) contended that the Internet has been used for various purposes, including research, education, marketing, information, and entertainment. Hidalgo, Molero, & Penas (2010) also noted that through the services that come with the Internet, it is utilized for various purposes to meet their needs and requirements as well as to ensure efficiency in the delivery of tasks and duties. A good example of these Internet services is Web 2.0 tools which are becoming popular.

Web 2.0 technologies are so popular that they have dominated the everyday personal and professional lives of millions of users (Eze, 2016). This popularity is affecting all aspects of academic life including teaching and learning environments. Faboya & Adamu (2017) attested that the incorporation of Web 2.0 tools into the educational system in developed societies attracted some significantly positive reviews. With the features that Web 2.0 tools have, they can enhance the interaction between teacher-learner and learner-learner in the education processes by providing richer environments (Asiksoy, 2018). Furthermore, teaching and learning settings have undergone a significant transformation. Teaching activities have moved from a purely traditional model which is more passive and objective, to a more dynamic technologically driven system which has been found to be more active and subjective (Fry, Ketteridge, & Marshall, 2009). Consequently, the use of Web 2.0 tools has made teaching and learning environments more interactive, productive, and contextual than ever before.

Bingimlas (2017) asserted that Web 2.0 applications have the potential benefit of enhancing the teaching and learning environment by offering online and remote interaction. Alhassan (2017) in the same vein confirmed that these tools facilitate interaction and discussion among students inside and outside classrooms. Generally, Web 2.0 tools are thought to be exceptionally prominent in facilitating ease of learning and teaching proceedings. Despite the potential and known benefits of Web 2.0 applications which include facilitating information creation, sharing, and collaboration amongst various users in the education sector, not much is known about the level of awareness and usage of Web 2.0 tools for learning in higher learning institutions in Botswana. Among the few existing studies in this area, Motshegwe (2018) focused on the use of information and communication technologies (ICT) to enhance teaching, while Mafuraga & Moremi (2017) analysed the integration of ICT infrastructure in teaching at secondary schools. Arising from this discovery, the current study investigated the awareness and use of new technologies in teaching and learning in higher learning institutions. Specifically, the study sought to explore the level of awareness of Web 2.0 tools as desirable for learning among students at BA ISAGO University. The study intends to discover the extent to which students are familiar with specific Web 2.0 tools, find the reasons for using Web 2.0 tools by students, identify the rate at which students use Web 2.0 tools, determine the challenges to using Web 2.0 tools by students, and propose strategies to promote the use of Web 2.0 tools in the university.

## LITERATURE REVIEW

In recent years, the diffusion of Web 2.0 in education has been increasing (Palaigeorgiou, 2016). Earlier research has noted that it has become increasingly apparent that the application of Web 2.0 tools in the learning environment is almost unavoidable at all levels of education (Albion, 2008). The potential of Web 2.0 tools has been recognized and documented in the education sector (Doung-In, 2018). Ping & Issa (2011) surmised that Web 2.0 is a revolution in education with its promotion of contribution, collaboration, and creativity principles. A typical 21<sup>st</sup>-century university is easily judged on its level of uptake and use of Web 2.0 technologies. The use of Web 2.0 is almost identifiable with and fashionable within progressive universities the world over. Usage in this study captures all instances where students demonstrate appropriate and effective utilization of Web 2.0 technologies. There are several ways Web 2.0 tools can become an essential part of the learning process and have an influence on teaching and learning in universities. The use of these technologies by students has an impact on learning in one way or the other.

### Definition of Web 2.0 Tools

As noted by Kenton (2022), Web 2.0 describes the current state of the Internet which has more user-generated content and usability for end-users compared to its earlier incarnation, Web 1.0. Baro, et al. (2013) loosely defined the term Web 2.0 as the second generation of web-based platforms. For their part, Mtega, Dulle, Malekani, & Chailla (2014) defined Web 2.0 as the second generation of the World Wide Web to facilitate communication with the use of digital technologies (see also Yadav & Patwardhan, 2016). Along the same line, Majid & Verma (2018) stated that Web 2.0 is the second generation of the web which started in 2006. The term Web 2.0 was first coined in 2003 by Dale Dougherty, the founder of O'Reilly Media, to describe the shift in focus from static web pages to dynamic, user-generated content (Toledano, 2013). Since then, the term has evolved to describe a whole range of web-based technologies and services that facilitate user participation and collaboration.

Web 2.0 tools are a set of web-based applications and services that enable users to create, share, collaborate, and interact with content online. Okonedo, Azubuike & Adeyoyin (2013), defined Web 2.0 technologies as a collection of web-based technologies like blogs, wikis, audio-podcasting, Really Simple Syndication (RSS) feeds, social bookmarking and tagging, social networking, and multimedia sharing. Web 2.0 tools are characterized by their user-centered design and interactivity,

which allow users to share content, opinions, and ideas. According to O'Reilly (2023, p.5), some of the key characteristics of Web 2.0 include:

- (1) *The ability for users to create and share content: Web 2.0 tools enable users to easily create and share content, such as blog posts, videos, and photos.*
- (2) *User participation and collaboration: Web 2.0 tools allow users to collaborate and share their knowledge with each other, creating a more interactive and social web experience.*
- (3) *Rich, dynamic interfaces: Web 2.0 tools are characterized by their rich, dynamic interfaces that enable users to interact with content in new and innovative ways.*
- (4) *Personalization: Web 2.0 tools allows users to customize their experience, tailoring content and features to their specific needs and interests.*
- (5) *Integration with other Web 2.0 tools: Web 2.0 tools are often designed to work together, enabling users to easily share content and collaborate across platforms.*

Web 2.0 tools have revolutionized the way we communicate, collaborate, and learn online, and have become an integral part of our daily lives. Those tools normally allow two-way interactions and collaborations among users on the World Wide Web (Abeid, 2016). Some of the most popular Web 2.0 tools will be discussed in this paper.

**Blogs** are one of the popular types of Web 2.0 tools that enable users to create and share content online. According to Shana & Abulibdeh (2015), a Blog refers to an online platform where an individual, or several people, can easily upload text, photos, videos, and other multimedia content, and share it with an unlimited amount of Internet users. Blogs are online journals or personal websites where users can write and publish their thoughts, opinions, and ideas on a wide range of topics. In the educational context, Alhassan (2017) viewed a blog as a means by which students and teachers must interact. It has been argued that educational blogs allow students to express their views and observations on the scientific material provided by their teacher (Ibid). Students have the platform to share whatever is in their minds without fear of being shy. Some students do not feel comfortable participating while the instructor is in front of the class but prefer to do so online. Hence, Shana & Abulibdeh (2015) discovered that the use of blogs can enhance students' competency and develop interactions between them.

Worth noting is the fact that educational blogs can support students' learning irrespective of where they are being used. Yadav & Patwardhan (2016) noted that student learning supported with blog use can extend beyond the class time and classroom walls and can be expanded and enriched to involve relevant issues and resources not considered in the initial curriculum design of a course. However, it is important to note that educational blogging should be done thoughtfully and intentionally, to maintain professionalism and academic integrity.

**Wiki** is another popular type of example of a Web 2.0 tool that enables users to create and share content online. They are collaborative websites that allow multiple users to contribute and edit content. Moshahid & Abdunnazar (2017) and Alhassan (2017) defined a Wiki as a type of web page that allows users to share, add and edit content without many restrictions. On the same note Camacho, Carrion, Chayah & Campos, (2016) defined a Wiki as a website where a group of users can create, write, delete, or change the content of a web page with easy and rapid interactivity. Wikipedia is perhaps the most well-known example of a Wiki, but there are many other Wikis that cover a wide range of topics, from cooking to technology. In the educational realm, Kirkham (2014) observed that Wikis are a means to help students with their reading and writing, to develop their learning networks, and to learn collaboration skills. Wichadee (2010) noted that Wikis are effective learning tools that may contribute to the improvement of students' writing skills. Benson, Brack, & Samarwickrema (2012) noted that Wikis provide an online space where students can write, edit, and construct knowledge together, taking greater responsibility for and control of their learning. A

key advantage here is that Wikis allow students to have an open collaboration and exchange of ideas on an editable website. While Duffy (2008) concluded that Wikis allow teachers and learners to see the evolution of a written task, and to continually comment on it, rather than offering comments only on the final draft. Moreover, Bhaskar (2013, para.3) enumerated on advantages of wikis in education as follows:

*Most of the Wiki hosting platforms are free. Anyone can access as well as manage Wikis from anywhere with an Internet connection. Students and educators from all around the world can collaborate and work on the same document. As Wikis can be modified by anyone, students always get instantaneous information through them. Non-technical users can also create and publish content with ease. Some people have great expertise in a particular area of interest, but they can't showcase their skills due to a lack of technical knowledge. Wiki encourages all such users and widens their Web usage. Wiki is a combination of Web pages linked together. Educators can provide students with as many resources as they can. It helps them learn in a detailed way.*

Essentially, Wikis are one of the many Web 2.0 components that can be used to enhance the learning process (Parker & Chao, 2007).

**Facebook** is another popular networking tool that is used for communication, exchanging knowledge, and sharing information, with special features such as being able to chat with different people all around the world (Al-Mukhaini, Al-Qayoudhi, & Al-Badi, 2014; Bicen & Uzunboylu, 2013). Bicen & Uzunboylu (2013) noted that even though there are many social networking websites such as Twitter, MySpace, and Friendster, Facebook is more often used for educational reasons by students in higher education. As a learning tool, Facebook was said to be the most intensively used tool in comparison to other platforms and communication tools (Pimmer, Linxen, & Grohbiel, 2008). Mae (2021) added that Facebook for education is an integral part of student's lives in the new normal due to the COVID-19 pandemic. Even though users can use Facebook for several other purposes, educationalists benefit from it as an educational tool. Shaw (2017, pg.4) specified that:

*A variety of studies on the use of Facebook, however, indicates that there are a wide number of potential benefits to using Facebook as an educational tool. Four inter-related potential benefits include: (1) creating a sense of community and promoting collaboration, (2) enhancing communication between instructors and students, (3) developing computer literacy and language skills, and (4) incorporating current student culture into the learning environment are explored.*

Furthermore, Means (2019) explained that Facebook allows students to access technology that provides the opportunity for interaction outside of class time, including online collaboration and multitasking by engaging in more than one class or topic concurrently. For their part, Perez, Araiza, & Doerfer (2013) mentioned that Facebook enables students to virtually meet with other students or even engage in conversations with former colleagues or learners with similar interests outside their universities. In general, just like many other Web 2.0 tools used in the learning process, Facebook provides a favourable platform for learners to express themselves and enhance learning.

One other popular type of Web 2.0 tool that has become an integral part of the Web 2.0 landscape is the **Podcast**. Podcasts allow users to create and share audio content such as interviews and commentary. Levinson, Levinson, & Levinson (2007) defined the podcast as the distribution of audio or video files, such as radio programs or music videos, over the Internet, using either Really Simple Syndication (RSS) or Atom syndication for listening on mobile devices, personal computer, or any portable media player. Tarmawan, Rusdiyana, Salim, & Ulpah (2021) observed that podcasts can be played on computers or mobile devices that can play digital audio files, including smartphones, iPods, and other MP3 players. Baro, Idiodi, & Godfrey (2013) earlier noted that

podcasts allow the user to listen to recorded intellectual outputs online without any additional software and to download the same for later use. Subsequently, Yadav & Patwardhan (2016) asserted that podcasts have become significantly popular as a means of communication and information sharing. People are listening to what they want, anytime they want, and however often they want (Goldman, 2018). As an educational tool, the use of podcasts in the classroom is like other computer-based technologies (Beamish & Brown). The technology for a podcast is readily available, easy to use, and inexpensive, making it an attractive option for providing additional flexible learning resources for students (Ramli, 2017). They permit students to access educational materials at home, while traveling, at the university or work, or doing any activity they choose (Nataatmadja & Dyson, 2008).

Essentially, podcasts can be a useful tool for learning, providing accessibility, engagement, personalized learning, and lifelong learning opportunities. As with any educational resource, it is important for educators to carefully select and curate podcasts that align with their learning goals and ensure that the information presented is accurate and reliable.

**WhatsApp** is one of the platforms that can be beneficial to students in their learning processes. Mbukusa (2018) noted that WhatsApp is a cross-platform application that works mainly on smartphones and Android tablets. For their part, Abualrob & Nazzal (2019) observed that it is an application that enables school students to connect with their classmates or teachers at any convenient time to exchange information and instructions via either instant messaging, phone calls, or even video calls. According to Eberechukwu & Queendarline (2018), teaching through social media platforms that enable such exercises as group discussions helps to improve students' academic performances is a quality that makes WhatsApp a very useful tool.

### **Awareness of Web 2.0 Tools**

The use of Web 2.0 tools by university students has become increasingly prevalent in higher education in recent years. As such it is important to understand the level of awareness that university students have regarding these tools. Several studies have examined the level of awareness of Web 2.0 tools among university students. Research indicates that university students are generally aware of Web 2.0 tools. For example, a study by Kirschner & Karpinski (2010) found that the majority of students were familiar with Facebook and other social networking sites and that many had used these tools for academic purposes, such as forming study groups and sharing resources. Similarly, a survey of undergraduate students by Manca & Ranieri (2016) found that most were aware of social media and had used it for academic purposes. Even though university students are familiar with most Web 2.0 tools, a study by Eberechukwu & Queendarline (2018) revealed that the Library and Information Science students at the University of Nigeria, Nsukka are not familiar with Web 2.0 tools such as RSS feeds, podcasts, and social bookmarks. Similarly, Doung-In (2018) found that students at Walaikak University, Thailand were not familiar with other Web 2.0 tools such as RSS feeds, Flickr, and Podcast.

Subsequently, the level of awareness and familiarity with specific Web 2.0 tools can vary depending on the discipline and the individual student. For example, a study by Chen, et al. (2021) found that engineering students were less familiar with social media than students in other disciplines, and were less likely to use it for academic purposes. Contrary to that, a study by Baytekin & Su-Bergil (2021) has shown that the majority of the students were aware of Web 2.0 tools in language learning and they believed that these tools helped them in learning English.

While the students may be aware of Web 2.0 tools, the literature suggests that there is a gap between awareness and the actual use of these tools for academic purposes. For example, a study by Sarwar, et al., (2019) found that while students were aware of the potential benefits of social media for learning, such as increased engagement and collaboration, they often did not use these tools for academic purposes. Similarly, an earlier study by An & Williams (2010) found that while

students were aware of the potential benefits of blogs and wikis for collaborative learning, they often did not use these tools in practice.

The literature suggests that several factors may contribute to this gap between awareness and the use of Web 2.0 tools for academic purposes. One significant factor is the lack of guidance and training on how to use these tools effectively. A study by Manca & Ranieri (2016) found that while students were aware of the potential benefits of social media for academic purposes, they often lacked the necessary skills to use these tools effectively. Similarly, a study by Selwyn (2010) found that students often lacked the necessary digital literacy skills to use Web 2.0 tools for academic purposes. Other factors that may contribute to the gap between awareness and use of Web 2.0 tools for academic purposes include concerns around privacy and security, as well as a lack of incentive or motivation to use these tools. For example, a study by Kirschner & Karpinski (2010) found that concerns around privacy and security were significant barriers to the use of social media for academic purposes.

While university students generally have a good level of awareness of Web 2.0 tools, there is often a gap between awareness and the actual use of these tools for academic purposes. This suggests that there is a need for increased guidance and training for students to help them use these tools effectively for academic purposes, as well as address concerns around privacy and security.

### **Benefits of Web 2.0 tools**

Ortiz-Ospina (2019) emphasized that Web 2.0 applications offer several services like social networking that allows users to build relationships and share information, ideas, career interest, and other forms of expression on an online platform to a list of friends or social interest groups. In the education environment, it has generally been observed that Web 2.0 tools can enhance students learning, enabling them to take a more active role in their learning process (Tautkeviciene & Dubosas, 2014). Bingimlas (2017) added that Web 2.0 applications can potentially enhance the teaching and learning environment by offering online and remote interaction. With Web 2.0 tools, learners can create, share, and exchange ideas and information easily. Web 2.0 tools have become a critical enabler of learning in the 21<sup>st</sup> century. These tools enable students to communicate, collaborate, and form teams which are necessary for the learning environment. A huge part of knowledge and skills is acquired while communicating with other individuals in university settings, in real life, and on the Internet (Ibid).

Moreover, Abeid (2016, p.267) highlighted the advantages of Web 2.0 tools as follows:

*Most of the tools and features of Web 2.0 tools for supporting teaching and learning are easy to use and so they do not require one to be a computer/information and communication technology (ICT) expert. Only a moderate knowledge of ICT is sufficient for one to use the different Web 2.0 tools. It can increase students' content production, increase access to classroom resources at any time, it also increases students' motivation and confidence. It enables and increases student-to-student support and collaboration, increases student engagement, and stimulates collaborative learning. The most important advantage of Web 2.0 tools is that they encourage two-way interactions among students and lecturers beyond classroom hours.*

Doung-In (2018) continued to emphasize that users of Web 2.0 applications express their ideas and knowledge with others in an online community without necessarily having any specialized technical expertise in the creation of the tools. To this end, Web 2.0 tools are thought to have given rise to a radical shift from the monopolistic use of the Internet to a more proactive platform of participation, collaboration, and interactions. These tools enable users to create and share content, connect, and build communities around shared and interest goals. Whether you are a business

owner looking to engage with customers, or a student looking to connect with like-minded individuals and build relationships online, Web 2.0 tool becomes a pillar of the activity being undertaken.

### **Barriers to the use of Web 2.0 tools**

While the foregoing is generally true, some observers have raised skepticism regarding the efficacy of these tools. Some concerns have been raised with the view to avoiding blind and wholesale acceptance of the tools which may lead to unintended consequences. One significant barrier to the use of Web 2.0 tools for academic purposes is the lack of guidance and training on how to use these tools effectively. Many students may be aware of the potential benefits of these tools but lack the necessary skills and knowledge to use them. For example, a study by Manca & Ranieri (2016) found that while students were aware of the potential benefits of social media for academic purposes, they often lacked the necessary skills to use these tools effectively. Similarly, Hassan, et al., (2021) indicated that some students faced challenges due to insufficient knowledge of Web-based learning tools and technical factors.

Another barrier to the use of Web 2.0 tools for academic purposes is the concern around privacy and security. Students may be hesitant to use these tools for academic purposes due to concerns about their personal information being shared publicly, or about their online activities being monitored by instructors or others. For example, the results from the study by Aymerich-Franch & Fedele (2019) revealed that although students generally accepted using social media in the instructional arena, privacy concerns can easily emerge. Similarly, an earlier study by Moran et al., (2011) found that the two most common concerns of faculty members were privacy and integrity.

In addition to these barriers, one other factor that may hinder the adoption and use of Web 2.0 tools for academic purposes is the lack of incentive or motivation to use these tools, as well as concerns about the reliability and accuracy of information obtained with these tools.

Yeboah & Ewur (2014) argued that sometimes the use of these tools may take much of the students' time, resulting in procrastination and other related problems such as failure to meet task submission deadlines. Similarly, An & Williams (2010, pg.44) revealed the following major barriers from their study:

- 1) *Uneasiness with openness - Several participants noted that the open nature of Web 2.0 technologies is still new to many students. They reported that some students are very uncomfortable with the openness and are reluctant to participate in class activities that utilize Web 2.0.*
- 2) *Technical problems - Some participants reported that students who have older computers have technical issues when using Web 2.0 tools. It was also noted that some Web 2.0 tools are still a little primitive, have technical glitches, and might not work well with current course management systems.*
- 3) *Time - While Web 2.0 tools are relatively easy-to-use, it still takes time to learn and manage new technologies. Several participants reported that learning new technologies takes time away from learning subject matter content.*

Furthermore, the use of these tools has been seen to negatively affect students' spelling and grammatical construction of sentences owing to the propensity to use shorthand by users. Other disadvantages may include poor concentration during lectures, as a direct result of an inability to balance online activities and academic preparation by students. Neatly tied to this would be the failure to adhere to private study timetables as well as the inability to complete given assignments.

## METHODOLOGY

### Study Aim and Research Questions

This study explored the level of awareness and use of Web 2.0 tools by students at a university. A descriptive quantitative data collection method was adopted in this study, focusing on five research questions as follows:

1. To what extent are the students familiar with Web 2.0 tools?
2. What are the uses of Web 2.0 tools by students?
3. How often do students use Web 2.0 tools?
4. What are the barriers to the use of Web 2.0 tools?
5. What are the possible solutions to promote the use of Web 2.0 tools in the university?

### Instrument

A questionnaire was used as an instrument to collect the data from the students. It aimed to determine the level of awareness and use of Web 2.0 tools by students at BA ISAGO University. The questionnaire was split into two parts. The first section of the questionnaire consisted of demographic variables with the items: faculty, age, and gender of the participants. The second section of the questionnaire consisted of four items. The first item was evaluated with "I know", "I don't know" or "Only heard". The second item was rated on a "Yes" or "No" response. The third item was rated using a five-point Likert scale from "Never" (1), "Rarely" (2), "Occasionally" (3), "Frequently" (4), or "Very Frequently" (5). The last item was rated on a "Yes" or "No" response.

### Data Analysis

A descriptive analysis of the data collected for the awareness and use of Web 2.0 tools by students was carried out, and frequency counts and percentages of the questionnaire responses were calculated.

## RESULTS

### Demographic data of respondents

A total of 200 questionnaire forms were printed out and distributed to the students at BA ISAGO University during their lecture sessions. After removing abandoned attempts and incomplete forms, a total of 140 fully completed questionnaire forms were available for analysis, with a final 70% response rate. The following demographics comprised the study:

Out of 140 participants, 60.7% of respondents were females, 37.9% were males and 1.4% of respondents did not indicate their gender. This showed that female respondents of this study were more represented than male respondents.

A total of 65 (46.4%) of the respondents were studying at the Faculty of Commerce, 19 (13.6%) in Education, 3 (2.1%) in the Faculty of Law & Paralegal Studies, and 53 (37.9%) in the area of Built Environment, Arts and Science. This showed that the respondents to the study were mainly from the Faculty of Commerce and very few from the Faculty of Law & Paralegal Studies.

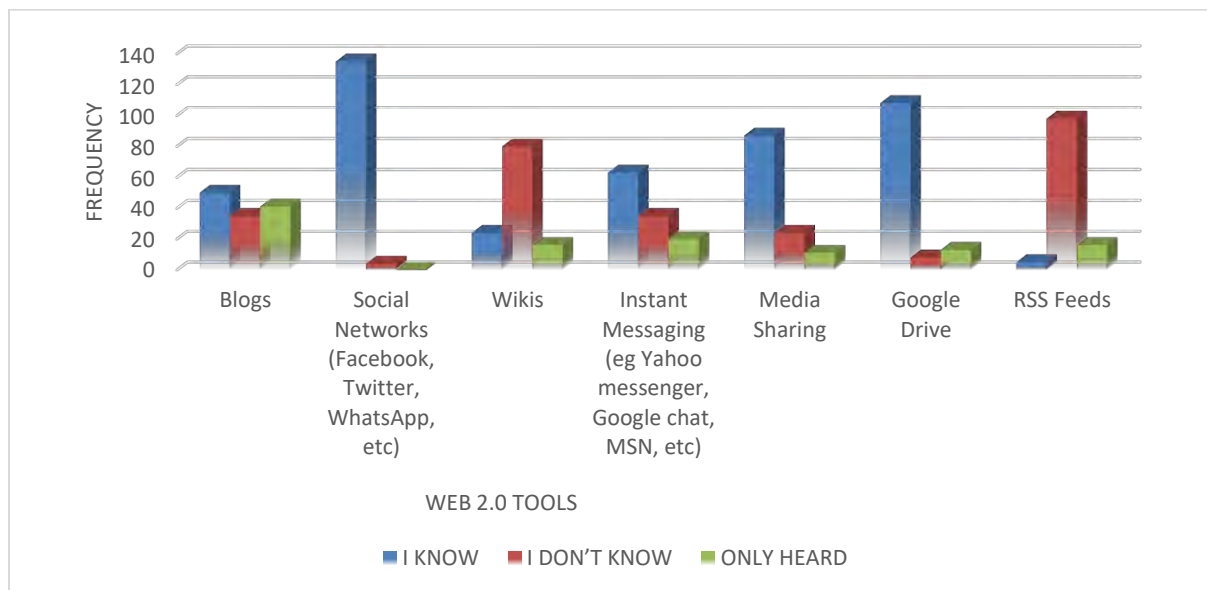
According to the age distribution of respondents, there was only 1 student (0.7%) under the age of 18; 128 (91.4%) in the range 18-24; 6 (4.3%) in the range 25-34; 3 (2.1%) in the range 35-44; and 2 (1.4%) were 45 and above. Most of the respondents of this study are in the range of 18-24 years and very few are above 45 years.



The respondents consisted of 95 (67.9%) in level one of their studies, 16 (11.4%) in level two, 28 (20%) in level 3, and only 1 student (0.7%) in level four. This showed that most of the respondents of this study were in level one of their programme.

**Research question 1:** To what extent are you familiar with the following Web 2.0 tools?

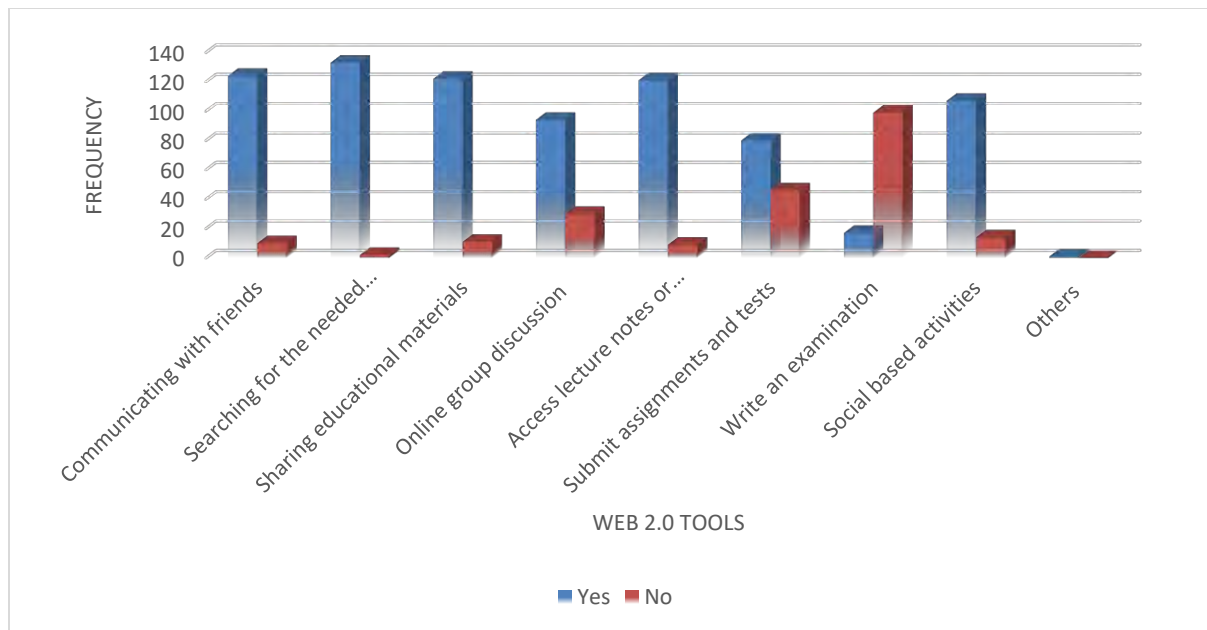
The students were asked to rate their level of familiarity with the specified Web 2.0 tools shown in Figure 1. The study revealed that a high number of students know social networks including Facebook, Twitter, and WhatsApp, accounting for 96.4%. The other Web 2.0 tools known by students are Google Drive at 77.1%, media sharing tools at 62.1%, and instant messaging (for example, Yahoo Messenger, Google chat, and MSN) at 45%. However, several students do not know RSS feeds and Wikis, both accounting for 5% and 24% respectively. This finding implies that students know several Web 2.0 tools and there are few that they do not know.



**Figure 1:** Familiarity with Web 2.0 tools

**Research question 2:** What do you use Web 2.0 tools for?

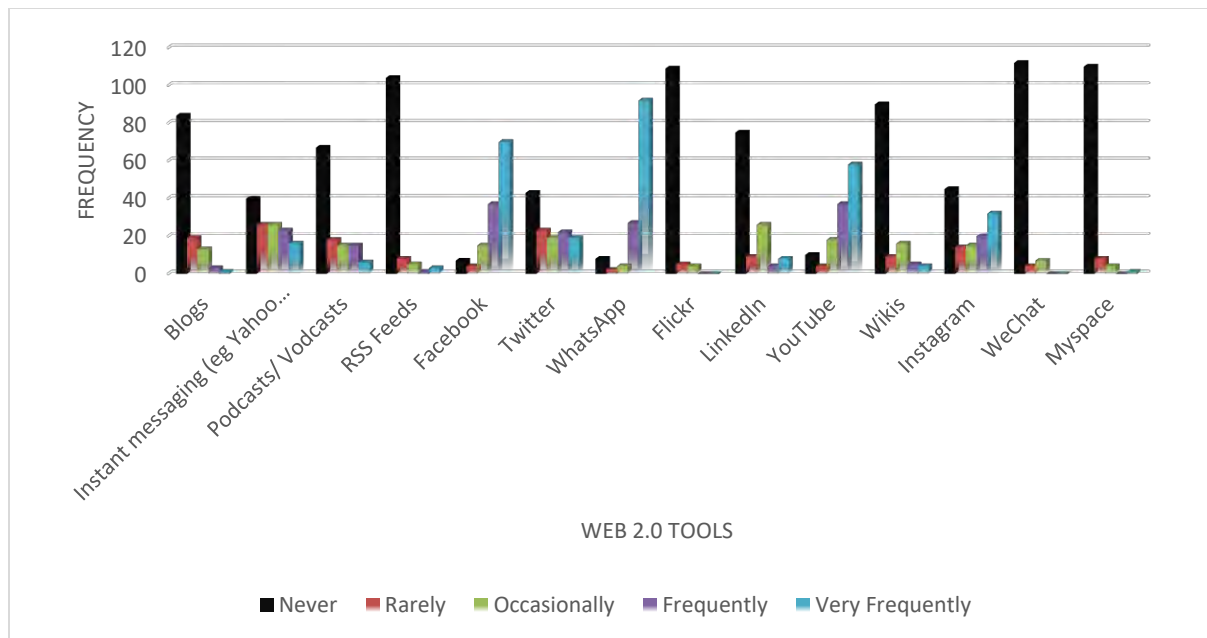
The respondents of this study were asked to identify the uses of Web 2.0 tools by students. The results are represented in Figure 2. The results show that searching for needed information and communicating with friends were the top motives both accounting for 95% and 88.6% of the responses respectively. Other uses as agreed by many students, are sharing educational materials at 87.1%, accessing lecture notes and materials at 86.4%, carrying out social-based activities at 76.4%, and forming online group discussions at 67.1%. The least of their uses of Web 2.0 tools are writing an examination using Web 2.0 tools at 2.1% and submitting assignments and tests at 57.1%. On the other uses of Web 2.0 tools, some students specified access to the learning management system of the university. It is important to note that this finding shows that most students acknowledged the benefits that come with the use of Web 2.0 tools.



**Figure 2:** Uses of Web 2.0 tools by students

**Research question 3:** How often do you use the following Web 2.0 tools?

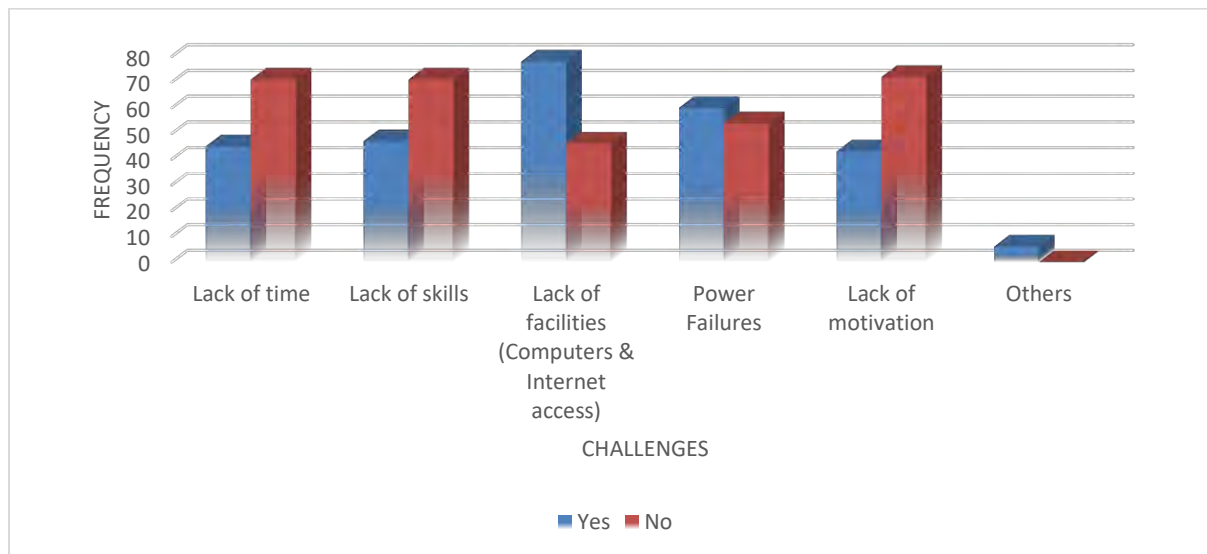
The study sought to determine the frequency at which students are using the given Web 2.0 tools as shown in Figure 3. The findings indicated that many students most frequently use WhatsApp, Facebook, and YouTube tools accounting for 71.2%, 47.5%, and 40.7% respectively. In addition, Instagram (57.6%), Twitter (23.4%), and Instant messaging tools are occasionally used by students. Twitter is occasionally used by students with 23.4% indicating use. Many respondents never or rarely use MySpace at 91.2%, followed by Flickr at 84.5%, RSS Feeds at 81%, WeChat at 75.7%, LinkedIn at 62.7% and Skype at 57.6%.



**Figure 3:** Frequency of using Web 2.0 Tools

**Research Question 4:** What challenges do you face in using Web 2.0 tools?

The respondents were asked about the challenges they face in using Web 2.0 tools. Their responses are represented in Figure 4. Lack of facilities (computers and Internet access) within the university is the most challenging factor experienced by most students at 55.7% and power failure accounts for 42.9%. The least of their challenges to using Web 2.0 tools are lack of skills, lack of time, and lack of motivation. In the Others category, data security, no knowledge of Web 2.0 tools, lack of interest, and slow or weak Internet access are some of the challenges identified by some students.



**Figure 4:** Challenges of using Web 2.0 Tools

## DISCUSSION OF FINDINGS

On the familiarity with the specified Web 2.0 tools, the findings of this study showed that most students know social networks including Facebook, Twitter and WhatsApp, Google Drive, media sharing tools, and instant messaging. These findings are closely aligned with the findings of previous studies such as Eberechukwu & Queendarline (2018) which noted that LIS students at the University of Nigeria, Nsukka were quite familiar with some Web 2.0 tools such as social networking sites and instant messaging. However, it can be noted that the study also revealed that students are less aware of Blogs, Wikis, and RSS feeds. This finding is contradictory to a study by Abirami & Kavitha (2019) that most respondents have a high awareness level of Wikis when compared to others. It is noted that students at BA ISAGO University are familiar with and aware of Web 2.0 tools as noted in many previous studies such as Abeid (2016) and Asiksoy (2018). Abeid (2016) revealed that both the students and the lecturers were very much aware of the different Web 2.0 tools and Asiksoy (2018) found out that the students were aware of the existence of Web 2.0 tools used in Learning English.

On the uses of Web 2.0 tools, the findings indicate that many students use Web 2.0 tools to search for needed information, communicate with friends for academic purposes, share educational materials with the lecturers, access lecture notes and materials, and some carry out social-based activities. Similarly, the findings of the study concur with those of Chawinga & Zinn (2016) that students use Web 2.0 technologies to search for information and to communicate with friends on academic work. On the other uses specified by students, they access the learning management system of the university with some of the Web 2.0 tools. However, the results of the study also revealed that many students disagreed that they use Web 2.0 tools for writing an examination, submitting assignments and tests, and forming online group discussions. This is supported by the findings of Abeid (2016) who found out that the academic use of Web 2.0 tools was still very limited as opposed to developed nations. This calls for leveraging these tools effectively so the students can enhance their learning experience and develop valuable digital skills that will be useful in their future careers.

Regarding the rate at which students use specified Web 2.0 tools, the study revealed that WhatsApp, Facebook, and Youtube are the most frequently used Web 2.0 tools. This aligns with the findings by Chawinga & Zinn (2016) that WhatsApp and YouTube were the Web 2.0 tools most used by students. Furthermore, Bicen & Uzunboylu (2013) noted that even though there were many social networking websites such as Twitter, MySpace, and Friendster, Facebook was more often used for educational reasons by students in higher education. This study also revealed that WeChat, MySpace, Flickr, RSS feeds, blogs, Wikis, LinkedIn, and Podcasts/Vodcasts are not used by many students. The reason for a lower rate of use of these tools could be supported by the findings of Chawinga & Zinn (2016) that most students felt that they were not able to use blogs. In addition, the study revealed that Instagram, Twitter, and Instant messaging tools are rarely or occasionally used by students. This may be due to the lack of motivation and skills mentioned by students on the challenges of using Web 2.0 tools.

On the challenges faced by students in using Web 2.0 tools, the study revealed that lack of facilities (computers and Internet access) and power failures within the university are the most challenging factors experienced by most students. This implies that most of the students do not have computers for ease of access to Internet services. The least of their challenges to using Web 2.0 tools are lack of skills, lack of time, and lack of motivation. Data security, no knowledge of Web 2.0 tools, lack of interest, and slow or weak Internet are some of the challenges identified by some students. This suggested that the issue of privacy is a concern for some students when using Web 2.0 tools.

## RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. The university should re-design its school curricula to incorporate a course on Web 2.0 tools at all levels to enable them to prepare future students for the new challenges ahead.
2. The university management should provide the necessary facilities to the students, such as computers with constant and reliable Internet access to be able to use Web 2.0 tools within the university.
3. Capacity-building workshops should be organized regularly on Web 2.0 tools used to enable lecturers to integrate these tools into classroom practices which will boost the interest among students for better learning. These could be embedded in either assignments or tests as part of the students' continuous assessment.
4. Future research is also necessary to identify the most effective methods of using Web 2.0 tools to improve learning productivity and to better support active, social, and learning environments.

## CONCLUSION

Web 2.0 is a pillar to enhance and support learning processes. Educational institutions need to embrace Web 2.0 tools for effective service delivery in this digital era. The paper discussed various Web 2.0 tools that can be helpful for the learners to boost their learning processes. These kinds of tools if used diligently, can help to create a better learning environment for students.

In this study, student's awareness of the use of Web 2.0 tools was investigated. The findings of the study indicated that the responsiveness to the use of Web 2.0 tools for learning processes at BA ISAGO University is still at an infant stage. Students are lagging in knowing some of the commonly used tools. However, some students find these technologies have several benefits related to their learning. A large proportion of the students indicated familiarity with some tools like Facebook, and Twitter, and they make use of them in their learning environment. Also, factors that influence the use of these tools were explored. The results revealed that limited awareness of some of the important tools is the main determinant for low usage. Lack of resources at the university and power failures within the university are some of the challenges in using Web 2.0 tools by students.

## REFERENCES

- Abeid, A. H., 2016. Adoption of Web 2.0 Tools as Learning Instruments in Tanzania Higher Education. Where are WE? *International Journal of Computer Applications Technology and Research*, pp. 266-274.
- Abirami, V. M. & Kavitha, E., 2019. Awareness of Web 2.0 among the research scholars of Periyar University: A Study. *Library Philosophy and Practice (e-journal)*, Volume 2945.
- Abualrob, M. & Nazzal, S., 2019. Using WhatsApp in Teaching Chemistry and Biology to Tenth Graders. *Contemporary Educational Technology*, pp. 55-76.
- Albion, P. R., 2008. Web 2.0 in Teacher Education: Two Imperatives for Action. *Interdisciplinary Journal of Practice, Theory, and Applied*, pp. 181-198.
- Alhassan, R., 2017. Exploring the Relationship between Web 2.0 Tools Self-Efficacy and Teachers' Use of These Tools in Their Teaching. *Journal of Education and Learning*, pp. 217-228.

- Al-Mukhaini, E. M., Al-Qayoudhi, W. S. & Al-Badi, A. H., 2014. Adoption of Social Networking in Education: A Study Of The Use Of Social Networks By Higher Education Students In Oman. *Journal of International Education Research*, pp. 143-154.
- An, Y. J. & Williams, K., 2010. Teaching with Web 2.0 Technologies: Benefits, Barriers, and Lessons Learned. *International Journal of Instructional Technology and Distance Learning*.
- Asiksoy, G., 2018. ELT students' attitudes and awareness towards the use of Web 2.0 technologies for language learning. *Journal of Language and Linguistic Studies*, pp. 240-251.
- Aymerich-Franch, L. & Fedele, M., 2019. Student's Privacy Concerns on the Use of Social Media in Higher Education. In: *Cyber Law, Privacy and Security*. s.l.:Pearson, pp. 1109-1132.
- Baro, E. E., Idiodi, E. O. & Godfrey, V. Z., 2013. Awareness and use of Web 2.0 tools by librarians in university libraries in Nigeria. *Emerald Group Publishing Limited*, pp. 170-188.
- Batane, T., 2013. Internet Access and Use among Young People in Botswana. *International Journal of Information and Education Technology*, pp. 117-119.
- BAYTEKIN, M. E. & SU-BERGIL, A., 2021. The Role of Web 2.0 and Social Media Tools in Foreign Language Learning. *The Turkish Online Journal of Educational Technology*, vol.20, no. 2, pp. 104-115.
- Beamish, P. & Brown, J., n.d. Podcasting in the classroom: A case study. *Teaching & Professional Practice*, pp. 21-23.
- Benson, R., Brack, C. & Samarwickrema, G., 2012. Teaching with wikis: improving staff development through action research. *Research in Learning Technology*.
- Bhaskar, S. K., 2013. *Wikis in Education - Uses, Advantages, and Practices*. [Online] Available at: <https://edtechreview.in/e-learning/582-wiki-in-education-advantages>
- Bicen, H. & Uzunboyulu, H., 2013. The Use of Social Networking Sites in Education: A Case Study of Facebook. *Journal of Universal Computer Science*, pp. 658-671.
- Bingimlas, K. A., 2017. Learning and Teaching with Web 2.0 Applications in Saudi K-12 Schools. *The Turkish Online Journal of Educational Technology*, pp. 100-115.
- Camacho, M. E., Carrion, M. D., Chayah, M. & Campos, J. M., 2016. The use of a wiki to promote students' learning in higher education (Degree in Pharmacy). *International Journal of Educational Technology in Higher Education*, pp. 1-8.
- Chawinga, W. & Zinn, S., 2016. Use of Web 2.0 by students in the Faculty of Information Science and Communications at Mzuzu University, Malawi. *South African Journal of Information Management*, pp. 1-12.
- Chen, Y., Sherren, K., Smit, M. & Lee, K. Y., 2021. Using social media images as data in social science research. *SAGE Journals*, vol. 25, no. 4, pp. 849-871.

- Doung-In, S., 2018. Exploring the Awareness and Use of Web 2.0 Tools by the First Year Information Science Students, Walailak University, Thailand. *International Journal of Information and Education Technology*, pp. 279-284.
- Duffy, P., 2008. Engaging the YouTube Google-Eyed Generation: Strategies for using Web 2.0 in Teaching and Learning. *Electronic Journal of e-Learning*, pp. 119-130.
- Eberechukwu, A. S. & Queendarline, N. N., 2018. WHATSAPP UTILIZATION AND ACADEMIC PERFORMANCE OF COMPUTER IN EDUCATION TRAINEE TEACHERS UNIVERSITY OF PORT-HARCOURT. *European Centre for Research Training and Development UK*, pp. 15-25.
- Eze, E. M., 2016. Awareness and use of Web 2.0 tools by LIS Students at the University of Nigeria. *Library Philosophy and Practice (e-journal)*.
- Faboya, O. T. & Adamu, B. J., 2017. Integrating Web 2.0 Tools into Teaching and Learning Process through Mobile Device Technology in Nigerian Schools: Current Status and Future Directions. *International Journal of Education and Research*, pp. 113-124.
- Fry, H., Ketteridge, S. & Marshall, S., 2009. *A Handbook for Teaching and Learning in Higher Education*. New York: Routledge.
- Goldman, T., 2018. The Impact of Podcasts in Education. *Scholar Commons*, pp. 1-15.
- Hassan, I., Gamji, M. B., Nasidi, Q. Y. & Azmi, M. N. L., 2021. Challenges and Benefits of Web 2.0-based Learning among International Students of English during the Covid-19 Pandemic in Cyprus. *Arab World English Journal*, pp. 295-306.
- Hidalgo, A., Molero, J., & Penas, G. (2010). Technology and industrialization at the take-off of the Spanish economy: New evidence based on patents. *ELSEVIER*, vol. 32, no. 1, pp. 53-61.
- Kenton, W., 2022. *What is Web 2.0? Definition, Impact and Examples*, s.l.: Investopedia.
- Kirkham, D., 2014. *WIKIS IN EDUCATION*, Missouri: University of Central Missouri.
- Kirschner, P. A. & Karpinski, A. C., 2010. Facebook and academic performance. *Computers in behavior*, vol. 26, no. 6, pp. 1237-1245.
- Kumar, A., 2022. *Is Everyone In The World Using The Internet?*, s.l.: TechPluto.
- Levinson, J. C., Levinson, J. & Levinson, A., 2007. *Easy and Inexpensive Strategies for Making Big Profits from Your Small Business*. Boston New York: Houghton Mifflin Harcourt Trade and Reference Publisher.
- Mae, S., 2021. *Facebook for Educational Purposes: Two Important Features*. [Online] Available at: <https://simplyeducate.me/2021/05/13/facebook-for-education/>
- Mafuraga, M. & Moremi, M., 2017. Integrating Information and Communication Technology in English Language Teaching: A case study of Selected Junior Secondary Schools in Botswana. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, pp. 142 - 152.
- Majid, I. & Verma, S., 2018. Web 2.0 Technological Tools in Teaching and Learning. *International Journal of Education*, pp. 55-60.

- Manca, S. & Ranieri, M., 2016. Facebook and the others. Potentials and Obstacles of Social Media for Teaching in higher education. *Computers & Education*, vol. 95, pp. 216-230.
- Mbukusa, N. R., 2018. Perceptions of Students on the Use of WhatsApp in Teaching Methods of English as Second Language at the University of Namibia. *Journal of Curriculum and Teaching*, pp. 112-119.
- Means, J., 2019. *The Impact of Facebook on the Curriculum*. [Online] Available at: <https://techandcurr2019.pressbooks.com/chapter/facebook-and-the-curriculum/>
- Moran, M., Seaman, J. & Tinti-Kane, H., 2011. Teaching, Learning, and Sharing: How Today's Higher Education Faculty Use Social Media. *Pearson*.
- Moshahid, M. & Abdunnazar, P., 2017. A study on awareness of web 2.0 resources in education among B.ed students. *International Journal of Academic Research and Development*, pp. 158-162.
- Motshegwe, M. M., 2018. THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS) FOR ENHANCED TEACHING: THE CHANGING ROLES OF INSTRUCTORS. *Mosenodi Journal*, pp. 28 - 43.
- Mtega, W. P., Dulle, F. W., Malekani, A. W. & Chailla, A. M., 2014. Awareness and use of Web 2.0 technologies in sharing of agricultural knowledge in Tanzania. *Knowledge Management & E-learning: An International Journal (KM&EL)*, pp. 188-202.
- Nataatmadja, I. & Dyson, L. E., 2008. The Role of Podcasts in Students' Learning. *International Journal of Interactive Mobile Technologies*, pp. 17-21.
- Okonedo, S., Azubuike, F. C. & Adeyoyin, S. O., 2013. A Survey of the Awareness and Use of Web 2.0 Technologies by Library and Information Professionals in Selected Libraries in South West Nigeria. *International Journal of Library Science*, pp. 61-68.
- O'Reilly, T., 2023. *O'Reilly Media, Inc.* [Online] Available at: <https://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html?page=5> [Accessed 30 March 2023].
- Ortiz-Ospina, E., 2019. *Our World in Data*. [Online] Available at: [https://en.wikipedia.org/wiki/Social\\_networking\\_service](https://en.wikipedia.org/wiki/Social_networking_service) [Accessed 09 December 2019].
- Palaigeorgiou, G., 2016. Benefits, Barriers, and Prerequisites for Web 2.0 Learning Activities in the Classroom: The View of Greek Pioneer Teachers. *Interactive Technology and Smart Education*, pp. 2-18.
- Parker, K. R. & Chao, J. T., 2007. Wiki as a Teaching Tool. *Interdisciplinary Journal of Knowledge and Learning Objects*, pp. 57-72.
- Perez, T., Araiza, M. D. J. & Doerfer, C., 2013. Using Facebook for learning: a case study on the perception of students in higher education. *Social and Behavioral Sciences*, pp. 3259-3267.



- Pimmer, C., Linxen, S. & Grohbiel, U., 2008. Facebook as a learning tool? A case study on the appropriation of social network sites from mobile phones in developing countries. *British Journal of Educational Technology*.
- Ping, C. C. S. & Issa, T., 2011. The Awareness of Knowledge of Web 2.0 Technologies in Education: An Australian Perspective. *THE INTERNATIONAL JOURNAL OF LEARNING*, pp. 121-132.
- Poushter, J., 2016. *Smartphone Ownership and Internet Usage Continues to Climb in Emerging Economies*, Washington: Pew Research Center.
- Ramli, A. M., 2017. The Use of Podcast to Improve Students' Listening and Speaking Skills for EFL Learners. *Atlantis Press*, pp. 189-194.
- Sarwar, B., Zulfiqar, S., Aziz, S. & Chandia, K. E., 2019. Usage of Social Media Tools for Collaborative Learning: The Effect on Learning Success With the Moderating Role of Cyberbullying. *Journal of Educational Computing Research*, vol. 57, no. 1, pp. 246-279.
- Selwyn, N., 2010. Degrees of Digital Division: Reconsidering Digital Inequalities and Contemporary Higher Education. *RUSC, Universities and Knowledge Society Journal*, vol. 7, no. 1, pp. 33-42.
- Shana, Z. A. & Abulibdeh, E. S., 2015. Engaging Students through Blogs: Using Blogs to Boost a Course Experience. *International Journal of Engineering and Technology*, pp. 30-38.
- Sharma, D. T. & Sharma, S., 2021. A study of YouTube as an effective educational tool. *International Journal of Contemporary Issues in Business and Government*, pp. 2686-2690.
- Shaw, C. M., 2017. Using Facebook as an Educational Resource in the Classroom. *International Studies Association and Oxford University Press*.
- Tarmawan, I., Rusdiyana, Salim, A. D. P. & Ulpah, A. P., 2021. The Role of Podcasts an an Alternative Media for Learning and Distribution of Audio Based Content. *International Journal of Research and Applied Technology*, pp. 1-8.
- Tautkeviciene, G. & Dubosas, M., 2014. The Purposes of Students' Use of Web 2.0 Tools for Learning at the University. *Journal of Emerging Trends in Computing and Information Sciences*, pp. 962-967.
- Toledano, C. A., 2013. *Web 2.0: the origin of the word that has changed the way we understand public relations*. Barcelona, Barcelona International PR Conference.
- Wichadee, S., 2010. Using Wikis To Develop Summary Writing Abilities of Students in an EFL Class. *Journal of College Teaching & Learning*, pp. 5-10.
- Yadav, A. K. & Patwardhan, A. A., 2016. Use and Impact of Web 2.0 Tools in Higher Education: A Literature Review. *Academic Libraries in Electronic Environment*, pp. 218-246.
- Yadav, A. K. S. & Vohra, N., 2016. Students' Usage and Experiences of Web 2.0 Technologies. *Library Herald*.

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Yeboah, J. & Ewur, G. D., 2014. The Impact of Whatsapp Messenger Usage on Students Performance in Tertiary Institutions in Ghana. *Journal of Education and Practice*, pp. 157-164.

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