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Students' use of online learning platforms to support blended Learning at Cameroonian University

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Abstract

Cameroonian Higher Education Institutions (HEIs), in the surge of the COVID-19 pandemic, have taken aggressive action to provide effective teaching and learning experiences to address the needs of learners. Teachers have widely adopted web 2.0 technologies in Cameroonian Universities. This research provides insight into Cameroonian students' perceptions and attitudes toward par¬ticipating in learning through an online learning platform. Also, the author discusses the implications of and potential uses for an online learning platform. Three hundred and eighty students from a public university in Cameroon participated in this study. A twenty-item quantitative questionnaire using a 5-point Likert scale was used in this study. The results showed that Students have a high perception of using online learning platforms for blended Learning in Cameroonian Universities.

1. Introduction

Blended learning through the use of Web 2.0 technologies has been adopted in Cameroonian Higher Education since the outbreak of COVID-19 to reduce the spread of the virus. Blended learning is defined as an amalgamation of online and face-to-face learning (Williams, 2002). It is also viewed as a method of redesigning how courses are designed, developed, programmed, and delivered in higher education through face-to-face and virtual instruction (Bleed, 2001). Although a few drawbacks, such as lack of interaction, blended learning's popularity is proliferating because of its efficient feature of the flexibility of time and place for both the teachers and learners, personalised learner-centred approach and elimination of geographical barriers (Larysa & Nataliia, 2021; Myravyova *et al.*, 2021). With the outbreak of COVID 19, Cameroonian Higher Education had redesigned courses joining the best features of in-class teaching and learning with the best features of online learning to promote active and self-directed learning opportunities for students with added flexibility while respecting the barriers to reducing the spread of COVID 19.

The use of modern technologies accompanying traditional classroom strategies of teaching, according to researchers Akbarov *et al.* (2018), Ja'ashan (2015), and Zhang & Zhu (2018), make blended learning an efficient method of teaching and learning. It provides the learners with an effective learning environment where they become active participants (Abbacan-Tuguic, 2021) and effectively enhances skills acquisition. The blended learning approach allows a smooth transition in teaching methodology for teachers and learners. Using a blended learning approach is not just the integration of technology in the classroom; but also a change in teachers' pedagogical practices (O'Byrne & Kristine, 2015).

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Web 2.0 technologies help to; facilitate communication among students and between students and instructors; facilitate online and blended learning; provide access to educational materials; facilitate communication among students and between students and instructors; and motivate students (Callaghan & Bower, 2012; Irwin, Ball, Desbrow, & Leveritt 2012; Wang, Woo, Quek, Yang, & Liu, 2012). The increasing use of Web 2.0 technologies by teachers and learners has increased the demand for integrating them into education and calls for updated pedagogy approaches (Lockyer & Patterson, 2008; Mazman & Usluel, 2010; McLoughlin & Lee, 2007). Moreover, this has a significant impact on student learning styles.

The use of Web 2.0 technologies has a great prospect in education because of their availability and affordability. These technologies are used to encourage the development of 21st Century skills where students are encouraged to collaborate, communicate, and develop creativity and critical thinking skills. The application of Web 2.0 technologies into education has improved students' overall interest in learning (Buzzetto-More, 2012; Jones & Shao, 2011; Liou & Peng, 2009; Shih, 2011). The positive outcomes from the previous studies have led more teachers to explore new ways of utilising Web 2.0 technologies to improve their teaching methods and advance student learning (Lockyer & Patterson, 2008).

One type of Web 2.0 technology that has potential in higher education to support teaching and blended learning is Google Classroom. Google Classroom is part of Google Workspace developed by Google for schools in 2014 and has grown exponentially to become one of the most popular educational apps in the World. The main purpose of creating Google Classroom is to simplify sharing files between teachers and students.

Online learning platforms like Google Classroom integrate Calendar, Document, Gmail, Sheets, and Slides into a cohesive platform to manage student and teacher communication. Teachers can create, distribute and mark assignments within the Google environment. Tasks and due dates can be added to Google calendar; each task can belong to a particular topic. Teachers can monitor each student's progress by reviewing their revision history of the students. Teachers can help grade and can return students' work along with comments.

In this study, the author planned to advance the use of Web 2.0 technologies for teaching and learning. The main objective was to determine learners' attitudes toward the ease of use, educational use and instructional use of online learning platforms in Higher Education.

1.1. Background and Review of Literature

Social constructivism focus on an individual's learning that occurs through group interactions. The origin of this theory is generally attributed to the Russian psychologist Lev Vygotsky. According to Vygotsky (1978), the learner actively constructs knowledge through interactions rather than passively receiving information. The learning occurs in meaningful settings through collaborative elaboration in negotiation and collaboration with others (Bruner, 1999). It is suggested that Web 2.0 technologies support these collaborative contexts for learning more than ever before. The traditional Higher Education models of teaching focused on one-way passive transfers of information from teacher to students in the form of lectures, hand-outs and textbooks. Web 2.0 technologies provide a flexible space for the personalisation of learning and increased communication between teachers and students (Gamble & Wilkins, 2014). Moreover, learning can occur through active participation and collaboration in extended interactions that are unrestricted by time and space.

1.2. Web 2.0 technologies Integration in Education

Numerous studies on Web 2.0 technology integration in education environments have positively influenced student attitudes, engagement, and satisfaction.

Web 2.0 applications could improve the mastery of 21st-century skills such as collaboration skills, information access skills and online learning (Aminin et al., 2018; Ellis et al., 2020). Web 2.0 applications also can improve the mastery of 21st-century skills such as collaboration skills, information access skills

and online learning in a situation where face to face teaching and learning cannot be carried out (Khalili et al., 2021; Moksin et al., 2018; Mulyadi et al., 2022). In this regard, Web 2.0 is relevant to the education system, especially during the post-pandemic, which allows each student to gather, collect and display any existing or newly explored information to maximise the use of technology in teaching and learning activities in and out of the classroom.

Several studies (Akbari, Eghtesad, & Simmons, 2012; Eren, 2012; Gamble & Wilkins, 2014) have examined students' perceptions of Web 2.0 technologies and integration in learning and how these technologies integrated into traditional Higher Education settings have affected or changed student attitudes toward it. These researchers all reported an increase in positive learners' attitudes toward using Web 2.0 technologies and social networks. Specifically, Akbari, Eghtesad, and Simmons (2012) found that students considered social networks relevant and useful educational tools. The study by Eren (2012) surveyed student attitudes based on six variables and reported overall positive attitudes in all categories. In a similar study, Shih (2011) found that the use of social networks for peer-to-peer assessment resulted in increased students' engagement and interest.

Barhoumi (2015) found that the use of Web 2.0 technologies to facilitate blended learning had a positive and significant impact on students' attitudes toward blended learning and learning performance. Bansal and Joshi (2014) examined students' mobile learning experiences with Web 2.0 technologies. They found that the use of Web 2.0 technologies increased students' interactions with each other and with the instructor and facilitated collaborative learning. Besides, the authors found that students had positive attitudes toward using Web 2.0 technologies in learning.

Equally crucial as attitudes, sustaining students' engagement often depends on proper instruction, timely delivery of quality materials, and general student satisfaction (Gamble & Wilkins, 2014, Shaibou, 2018). Consequently, several studies mutually affirm that the inclusion of Web 2.0 technologies enhance student engagement and satisfaction (Harwood & Blackstone, 2012; Shaibou, 2018; Kabilan, Ahmad, & Abidin, 2010; Shih, 2011; Wang & Vasquez, 2012).

1.3. Studies on the use of Google Classroom

Google Classroom is considered one of the best platforms for enhancing teachers' workflow. Shaharanee, Jamil, and Rodzi (2016) used TAM (Technology Acceptance Model) to analyse Google classroom's active learning activities. Their results of 100 students revealed that the comparative performance of Google classroom was far better in communication, ease of use, interaction, perceived usefulness, and overall student satisfaction. Similarly, Liu and Chuang (2016) conducted action research in Taiwan in which they used Google classroom with the integration of peer tutoring mechanism for 6th-grade students. They found that students had a positive perception regarding the use of Google Classroom.

Basher (2017) conducted a study on the impact of Google classroom on the teaching efficiency of student teachers. The researcher followed the experimental approach in implementing the Google classroom on the research sample. The results showed statistically significant differences in the experimental and control group results when Google classroom was used. The teaching efficiency of student teachers in each level, i.e., planning, execution and evaluation, improved along with academic achievement in computers compared to the traditional teaching method. Also, Espinosa, Ester, and Ventayen (2017) researched to evaluate Google Classroom's functionality as a Learning Management System (LMS). They found that collaborative learning through assignments was a highly effective tool for enhancing student engagement.

Abid Azhar and Iqbal (2018) conducted a study to assess the teachers' perception of Google Classroom's effectiveness in Pakistan. The study was carried out using a qualitative research design. They found that teachers perceive the use of Google Classroom as only a facilitation tool used for document management and essential classroom management without significantly impacting teaching methodologies. The teachers' responses indicate that the lack of a user-friendly interface is the main reason for its inefficiency. Al-Maroof and Al-Emran (2018) examined the factors that affect the Students' Acceptance of Google Classroom. They

showed that both the perceived ease of use (PEOU) and perceived usefulness (P.U.) positively influenced the behavioural intention, which influenced the actual usage of Google classrooms.

According to Janzen (2014), several benefits of using Google Classroom; easy to use, saving time, is cloud-based, flexible, accessible, and mobile-friendly. On the other hand, Keeler (2014) also notes the other benefits of using Google Classroom, such as ensuring streamlined counselling only by posting an announcement and encouraging collaboration between students. Furthermore, Crawford (2015) states that Google Classroom facilitates collaborative learning. Here teachers can upload materials and can give feedback to students. Students also can upload materials and make personal comments. Moreover, students can collaborate. They can share their documents and assignment and thus produce the best assignment.

According to Sukmawat and Nensia (2019), Google Classroom offers a platform of blended learning in schools to simplify creating assignments and getting the grade out to the students in a paperless way. With all the potential benefits it can bring, Google Classroom still has some drawbacks in its use. Based on the previous study by Azhar and Iqbal (2018) entitled Effectiveness of Google Classroom: teachers perceive it as only a facilitation tool used for document management and essential classroom management with a significant impact on teaching methodologies. It also indicates that the lack of a user-friendly interface is inefficient.

In recent years, Cameroonian Higher Education teachers have conflicting information regarding the appropriateness and effectiveness of Web 2.0 technologies in education. This study focused on the learner and was designed to discover how learners perceived the usefulness of specific pedagogical activities conducted on Web 2.0 technologies. Based on the notion that teachers using Web 2.0 technologies in teaching need to have more information about what activities work best in the classroom, the research questions that guided this study are: What are learners' attitudes toward the ease of use, educational use and instructional use of Google Classroom?

2. Methods

2.1. Participants

The researchers voluntarily recruited graduate students from a public university in Cameroon who had experience using Google Classroom. Data were collected from 380 students using simple random sampling. Data from 46 participants were removed due to inconsistent responses to the questionnaire. As a result, the responses of 334 participants were used in the study; 62% (207) were female, and 38% (127) were male students. The majority of the students were 25 years old at the time of this study.

In order to have a general understanding of the participant's ability to use Google services, participants were asked through the questionnaire to identify their experience using Google services based on how many years they have used it. The vast majority of the participants could be categorised as Google users. About seventy per cent (n = 234) of respondents had been using Google services for fewer than five years. The remaining students (n = 100) had been using Google Services for more than six years.

2.2. Instruments

A descriptive survey was used to investigate Cameroonian university students' use of Google Classroom in an educational setting. A Likert type questionnaire with twenty items was used. Items 1 to 7 were designed to measure Ease of Use, items 8 to 14 Educational Use and items 15 to 20 Instructional Use.

Table1.

Questionnaire items

Dimension	Items
Perceived Ease of Use	I think that online learning platforms enrich learning activities. The learning activities on online learning platforms are easy to understand and follow. I learned to use the online learning platform very quickly. The learning methods used in online learning platforms are not difficult for me. I think that the system of the online learning platform is easy to use. I receive instant updates when using the online learning platforms. I think that using online learning platforms is easy to submit assignments.
Educational Use	I think that online learning platforms enrich learning activities. I think that online learning platforms are beneficial for me to obtain knowledge. I think that the learning mechanism provided by the online learning platform makes the learning process smoother. Online learning platforms help me get useful information when I need it. I think that online learning platforms help me learn better. Online learning platforms are more valuable than traditional classroom teaching methods. Online learning platforms help contact classmates.
Instructional Use	Online learning platforms help me to check homework assignments. Online learning platforms help Communicate Through Email. Online learning platforms help collaborate with coursemates. Online learning platforms help Find information on the Internet. Online learning platforms help to ask course-related questions. Online learning platforms help submit assignments.

An initial questionnaire was created after reviewing relevant literature. The questionnaire was pilot tested using 20 university students; additional modifications were made to the questionnaire instructions, including word choice and item statements, to ensure that the instrument is valid and reliable and minimises any language-related misinterpretations. The final version of the survey was distributed.

2.3. Procedure

The researcher administered the questionnaire to all participants. They were asked to complete the survey outside of class within a week so that they could take their time providing an honest and reliable response. The students returned all the questionnaire administered after one week. Students were also informed that all questionnaire responses were anonymous. Descriptive analyses of the quantitative data were conducted using *SPSS* version 23.0.

3. Findings

First, a reliability analysis was used to investigate the questionnaire's internal consistency among the twenty items. All the items (20 items) had a Cronbach Alpha of .88, signifying a high degree of consistency among the twenty items.

Next, descriptive statistics that combined averages of the items within each category are presented as frequency distributions: table 1 shows descriptive statistics and correlation test of participant attitudes and perceptions using Google Classroom.

Table 2.

Descriptive statistics and correlation results for ease of use, educational use and instructional use

Outcome	M	SD	N	Ease of use	Educational use	Instructional use
Ease of use.	4.71	.606	334		.892**	.727**
Educational use	4.81	.677	334			.774**
Instructional use	4.67	.684	334			

**. Correlation is significant at the 0.01 level (2-tailed).

The results showed that participants responded and favoured all statements for ease of use. The results show that the mean for ease of use was (M = 4.71, S.D. = .606). The favourable response shown here toward Google Classroom usability suggests that students had a great experience using Google Classroom in learning.

Results showed that participants also have a high perception (M =4.81, S.D. = .677) using Google Classroom. Overall, the majority of responses were positive for all the seven corresponding items concerning the educational use of Google Classroom. In particular, participants had positive attitudes towards Google Classroom's potential to promote interactions between student-teacher and student-student. Also, most participants' responses, using Google Classroom for sharing content (82%), indicated that Google Classroom's unique platform and functionality are ideal for educational pursuits, corresponding to participant attitudes toward Google Classroom's general ease of use.

Concerning the instructional use of Google Classroom, results also showed positive attitudes. The results showed mean of (M =4.67, SD = .684). On average, perception of instructional use was the highest. A very high score was on participants' ability to access information or communicate through Google Classroom for specific learning purposes, such as submitting assignments and receiving feedback from students and instructors.

4. Discussion

The present study indicates that participant use of online learning platforms in education was overall positive. The underlining rationale for using Google Classroom in teaching and learning is that such technology optimally allows students to collaborate and co-construct knowledge according to social constructivist principles. The asynchronous nature of Google Classroom is not bound to a specific location as with traditional classrooms and supports sociocultural theory principles. Of course, such reasoning relies on available technology and instructional procedures to be easy to use.

Educational use. Participant perceptions of the online learning platforms' usefulness in contacting classmates and instructors were very high. Such findings are essential because the primary rationale for using an online learning platform is to provide a context where students can interact with each other for learning purposes. Regarding participants' perceptions of the online learning platform being an excellent place to contact the instructor, the researcher regularly posted updates on the platform and was available on the online platform to answer questions or give advice. According to Mazer, Murphy, and Simonds (2007), Web 2.0 technology allows both instructors and students to make interpersonal connections with each other. Therefore, instructors considering using an online platform should encourage students to use their online profiles to foster relationships beyond the classroom. With the group platform, students can participate in all activities as group members without the obligation to be friends with their classmates.

Instructional use. Graduate students are often busy with other activities out of the classroom and therefore appreciate accessing class information at their convenience. The significant-high perceptions within this category were seen in Statement 16, using an online platform to check homework assignments. Such participant responses are consistent with previous research (Akbari et al., 2012; Karimi & Khodabandelou, 2013), where participants' perceptions were mainly positive regarding using Web 2.0 technologies to access materials related to their studies and improving learning outcomes. In this respect, the researcher postulates that the asynchronous nature of online platforms in which essential class components are not tied to time and place is one of its prime strengths and demonstrates online platforms' potential as a powerful educational tool and one which educators should especially take advantage of for this instructional benefit.

In line with social constructivist theory, the primary benefits of Google Classroom as a powerful learning tool include the affordance of opportunities for students to collaborate and share knowledge (McCarthy, 2012). It also can promote more significant interactive learning opportunities through genuine communication and interaction among students (Wang & Vasquez, 2012).

5. Conclusions

The researcher conducting this investigation noticed that students find online learning platforms easier to access information since students receive instant updates on their mobile phones from the online learning platforms' notification function whenever new information was added.

The study participants' opinions and attitudes regarding using Google Classroom in education were generally positive overall, but the findings need to be replicated in other environments to confirm more definitive results. Nevertheless, several notable suggestions emanate from this study for educators considering using Google Classroom in a classroom setting.

Educators need to consider online platforms as a learning tool that creates a greater community of learners, offers students another avenue for individual knowledge development, and links formal and informal learning. First, it is recommended to keep an open mind about online platforms' educational value as students overall demonstrate positive attitudes toward their usefulness. In this research, students expressly specified essential class materials not tied to time and place as one of the prime strengths of online platforms' educational potential. Second, this study showed that when activities are conducted within a learning community composed of peers, learners took an active role and exhibited more self-determination to improve their weaknesses until they were personally satisfied. The researcher's conclusion is supported by several other researchers who collectively infer those activities through Web 2.0 technologies are engaging, and students can collaborate and reflect on their learning, then motivation, confidence, and attitudes will improve (Gamble & Wilkins, 2014: Kaliban et al. 2010; Mazer, Murphy, & Simonds, 2007; Shih, 2011; Yunus & Salehi, 2012). Finally, online platforms have the potential to promote and sustain blended learning because of their popularity and affordance.

The researcher acknowledges the limitations of this study and has identified some points of interest for improvement in future studies. Firstly, all the activities used in the online platform were designed by the teachers. Secondly, this study was conducted in the second semester, and during the COVID 19 pandemic, it was only conducted over three months due to time constraints. Students take 50% of their coursework online using an online platform and 50% face-to-face during this period. Future studies should be longitudinal, perhaps for a year or more. Varied participant attitudes will be more likely observed and valid responses achieved if participants have a longer time to form objective opinions on the probability of activities through the online platform to improve language learning.

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