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Research Article

# THE IMPACT OF SOCIAL MEDIA ON LEARNING IN HIGHER EDUCATION IN CAMEROON

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**ABSTRACT**

The emergent shift in communication patterns with Information and Communication Technology (ICT) innovations seem to present both opportunities and challenges in Higher Education (HE) learning. The purpose of this study was to investigate the impact of social media on learning in the University of Buea. The study had two objectives: how WhatsApp and Facebook usages affect students' learning. The descriptive survey design was adopted for the study. A sample of three hundred and seventy (370) students was used, drawn from a population of 10,124 students. The simple random sampling technique was used. The data was collected using questionnaires. Both descriptive and inferential statistics were used for analysis of data. The findings of the study revealed that, learning in the University of Buea is generally affected by the use of mobile phones. Specifically, it was found that WhatsApp and, Facebook usages affected students' learning negatively to a greater extent. Again, the study revealed that WhasApp was only a distraction and most of the students did not use it during lessons. Facebook too only helped to slow down learning which led to poor academic performance. Based on the findings, it was recommended that, school administrators, guidance counselors and parents should educate and guide their children on the use of their mobile gadgets especially during lessons.

**Key words** Social media, Mobile phone, learning platforms, learning in higher education, WhatsApp, Facebook

## INTRODUCTION

Mobile phones are tools for accessing social media which apparently play a major role in daily life style and culture including university life. Talking precisely of university student it h been observed that these tools may have overt or covert usages (Tindell & Bohlander, 2012). This mobile tool not only sees an exponential increase in its development but would appear to affect learning. Aamri & Suleiman (2011) argue that mobile phones are being used to assist instruction and students in the process of learning. Moreover, research efforts have been aimed at enabling students to access course materials from their mobile phones.

The ubiquity of mobile devices indicates their superiority to preceding ones. For example, it is common for people the world round to take pictures, send messages and make calls using smart phones. Mobile phones, (all known as cell phones) is considered as the fastest developing technology in communication (GSM Intelligence, 2014). At the start in 2001 mobile phones were allowed in United Kingdom (UK) schools but by 2015 had been banned from half of all the schools. According to Duggan & Rainier (2015) possession of mobile phones had increased to 98% in 2012 in UK schools. In addition, Kottasova (2015) cites a CNN report which stated that the academic skills of students increased with the ban on the use of mobile phones in schools. All schools that prohibited the students from carrying mobile phones had assisted students to perform well in exams and decreased the enticements of students to use mobile phones for the purposes which are not related to academics.

Social media had a restricted use in schools initially as there was the worry of students' involvement in criminal activities but parents rejected this restriction because moble phones served as good contact with their children (Diekelmann (2001), St. Gerard (2006). The scenario was different in Nigeria where Fasae and Iwari (2015) found that 87.3 % of the students in a Nigerian university used smart phones than mobile devices. 77.5% of the students used mobile devices were for educational purposes and 72.5% used them to chat with people. In case of South Africa North, Johnston, and Ophoff (2014) found out that students at a university in South Africa mostly used mobile phones for the purposes of privacy, safety and social life. Furthermore, the result showed that there were some students who were even addicted to mobile phones.

Conversely, some concerns arise in relation to the use of social media in the classroom. Research has taken place all over the world on the usage of social media by university students in classrooms (see Smith (2011), Duggan and Smith (2013). This clearly shows that even

though social media is gaining more usage all over the globe, the questions of how well students are using it in a university classroom is still pending which is a serious gap that needs to be addressed in this research. Ling (2003) states that a significant number of students see the mobile phone as a tool for social exchange, plus visual and sound sharing amongst groups. In line with this, Fortunati (2002) argues that if the mobile phone is used principally for leisure or accessing social media rather than education then it may actually disrupt learning within an academic setting. Educators have labelled mobile phones as a classroom disturbance and they have been banned in most schools across the globe. Thus, the potential relationship between mobile phone use as a tool for accessing social media and academic performance is not clear. It is for this reason that this research is has as objective to investigate the effects that social media has on learning in the University of Buea.

**Specific Objectives**

There were two specific research objectives.

- The effects of WhatsApp on learning in the University of Buea.
- The impact of Facebook on learning in the University of Buea

**Research Questions**

- To what extent does Whatsapp affect learning in the University of Buea?
- To what extent does Facebook impact on learning in the University of Buea?

**pecific Hypothesis**

**$Ho_1$:** The use of WhatsApp does not significantly affect students' classroom participation and retention in the University of Buea

**$Ha_1$**: WhatsApp usage significantly affects students' classroom participation and retention in the University of Buea

**$Ho_2$:** Facebook usage does not significantly impact students' classroom participation and retention in the University of Buea

**$Ha_2$:** Facebook usage significantly impact students' classroom participation and retention in the University of Buea

## Review of Literature

In this sub-section, conceptual, theoretical and empirical literature related to the present study are reviewed. In this study the assumption is that mobile phones are tools with access to social media.

**Conceptual Framework**

**Concept of Mobile Phone**

There no standard conceptualisation of mobile phone though most of the characteristics are similar. To Ling (1996) it has a keyboard and a screen which can be used for spreadsheet programme, email, personal information, documents and communication as well as sharing audio and video. On their part, Lepp, Barkley and Karpinski (2014) say mobile phones enable users to make phone calls, emailing, texting plus video conferencing, micro-blogging, surfing the internet as well as playing video games, social networking and many software driven applications. Unlike the personal computer, mobile phone applications can be used anywhere and anytime contrary to traditional means of communication which suffered from duration of distance.

**Concept of Whatsapp Messenger**

According to Tzuk (2013) Whatsapp primarily is intended for sending personal and group messages. That may be the reason for its huge popularity in the market because statistic indicates over 350 million users. One reason for its vast usage may be the relatively low cost and its immediacy in conversation, including the sense of belonging to a group community, family or even confidential interaction (Church & de Oliveria, 2013).

However, Whatsapp has extended its usage into the education system. For example, the literature (see Deshen, Buchnik&Brochson, 2014) indicates Whatsapp class groups being used for activities with students such as communicating, collaboration and interaction among students, nurturing a vibrant social atmosphere in the classroom and as a means of learning. As an educational tool, Whatsapp creates opportunities for the teacher to be more familiar with students and this may influence students' discourse. Furthermore, as an academic tool which has benefits to teachers and learners in work outside the classroom including ready availability of study materials. As a result, of Whatsapp groupfs, students may feel confident since there would be someone to ask questions. Therefore, students who are not strong academically, can be engaged with Whatsapp without the fear of being mocked.

Whatsapp, though, has its short comings. Deshen, et. al. (2014) outlines some them such as the unavailability of a smartphone to each student. Next, the huge volume of information and messages in improper language plus student expectation that the teacher would answer their queries effortlessly in a short time. As a result, of Whatsapp groups, students may feel confident since there would be someone to ask questions

**The Concept of Learning**

There is wide difference of the concept of learning depending on what facet of learning each psychologist holds. For example, Cullingford (1993) argues that learning is a multifaceted activity found between thinking and the development process. Learning may be conceptualized as a function of age and psychological state of the learner. On the other hand, learning via a curriculum largely depends on a number of factors such as how learning takes place, the environment in which the school is found or how students learn. Learning can be conceptualised as either a simple or a relatively permanent change in behaviour caused by experience and interactions with other characters in the environment (Fontana, 1988). Burns (1995) stresses the difference between performance and learning that allows the teacher distinguish short term changes in behaviour as a result of external variables not related to learning. Therefore, Burns (1995) conceptualises learning as the relatively permanent change in behaviour accompanied by little experience. Thus, behaviour encompasses both activities that may be observable as well as internal processes such as emotions, thinking and attitudes. From the above definitions of learning, it can be seen that for learning to be effective there must be a change in behavior and a platform for experience should be provided.

This study mostly relates with the definition of learning which is linked to experience. For students to be able to achieve skills, they must be exposed and participate in situations/experiences that will enable them to gain skills and must be able to retain the experiences. Tyler (1949) conceives of learning experience as the interaction between the learner with the external conditions present in the environment which the person can react. One implication of the argument advanced includes that the experiences must be an activity put in the context in which the learner can be totally involved in order to practice the required behavior. Furthermore, learning experiences must have a purpose, and that purpose is the objective(s) preplanned to be achieved at the end of an instructional program. We thus conceive the term "learning experience" as an activity cooperatively planned by the class, but performed by the learner which is aimed at achieving a stated educational objective.

**Concept of Classroom Participation**

Classroom participation may be viewed differently but difficult to standardise. Some authors view it as being part of engagement. The logic is because frequently used inclination of students is used as descriptors daily in classroom activities such as keeping to deadlines for submission of homework, regularity and teachers' instructions in class. Strong evidence comes from Petress (2006) and Weaver (2005) indicating the importance of classroom participation. Furthermore, Cohen (1991) explains that the teaching learning process may engage students' interest and facilitate teaching by participation of the class.

Another stimulus for classroom participation is discussion which may be spontaneous (Howard, 1998). Typically, elicitations may bring about good discussions but at other times it may break down. It therefore means that facilitating effective classroom participation and discussion calls for thinking, planning and structuring. Active learning has been stressed by Chickering and Gamson (1987) which was confirmed by the studies of Pascarella and Terenzini (2005), Kuh and Umbach (2004).

Fritschner (2000) claims that classroom participation involves different things that may take a variety of forms; for example, explanations and questions whose duration of participation may differ from one person to another. Some of the methods for effective classroom participation include dialogue, presentation, and discussion and their duration alternate. According to Wade (1994) classroom discussion to be participative must be interesting for the students to gain any learning experience, explanation and information. Students bring to a discussion an array of information plus cultural, social tenets, contextual experiences, and assumptions. What is more, integration of student thinking is enhanced through classroom collaboration in a productive fashion. Such participation increases students' abilities, knowledge and dispositions for problem solving (Anderson (2001) and Hatano (1993).

**Theoretical Framework**

In this sub-section describes two theories that have been reviewed as they are relevant to the present study. These theories include observational learning theory by Bandura and soft pedagogy or soup kitchen theory of education by Dewey

**Information Processing Theory by George A. Miller (1956)**

Miller (1956) argues that unlike behaviourists associate experience with stimuli, the human mind is linked to an information processor or a computer. The latter, it is assumed, receives input, processes it and delivers the output. In other words, information is gathered through the senses (input), and then it is stored and processed by the brain which reacts by bringing the behavioural response (output). Central to the information processing theory is human cognition present at all levels of cognitive processing.

The capacity of the short-term memory that could hold only seven plus or minus two chunks of information is known as "chunking". In addition, a chunk is taken to be any information that is a meaningful unit and could be anything from words, letters, numbers, people's last names, faces, to dates. These units should be small and digestible and should not contain any more than nine separate items of information but instead 5-9. The limited ability of the short-term memory to hold no more than nine items and the concept of "chunking" has become a basic element of all theories studying memory.

The second concept is referred to as the Test-Operate-Test-Exit (TOTE). It is suggested by Miller, Pribram and Galanter (1960) that TOTE as the basic unit of behaviour replaces the stimulus. It is argued by Miller, et al, (1960) that TOTE unit as concept a goal has to be tested to find out if it is being accomplished. In case this is not so, an operation may be carried out to accomplish the goal. The whole Test-Operate process could be repeated until the goal is attained, if the goal is not accomplished the second time, or abandoned.

The educational implication of this theory is that a student cannot pay particular attention to two things at the same time. This means that, if a student is in class and cannot gather some information into the brain for processing, then the student will not be able to internalise anything. George Miller says for information to be taken in, a student must be very attentive and participate to what the teacher says and abandoning every other thing. So, if a student while in class concentrates so much on the mobile gadget, then there is a slim chance for the learner to be able to take in what the teacher says and so, rehearsal will be very difficult.

**Soft Pedagogy or Soup Kitchen Theory of Education by John Dewey (1996)**

Dewey (1996) refers to soft pedagogy or soup kitchen theory of education as the efforts of the teacher to solicit the extrinsic interest of the learner. He examines the dialectic between interest and discipline; he frowns upon strict discipline, which seeks to maintain order in the student against his interest. Dewey considers intrinsic interest, which flows from within the child to be of capital importance to education. The stern discipline that deprives the child from self-expression is a malpractice in pedagogy. Dewey thinks that external constraint in education arises from the educator's inability to appeal to the adequate interests of the learner. To appeal to the interest of the student, the teacher has to connect the present powers and interests of the students with the purpose of his lesson. If the teacher does not do this, he has to resort to all sorts of "*extraneous and artificial*

*inducements*" which are detrimental to democratic education (Dewey, 1966:127).

Dewey (1996) saw freedom as a necessary condition for voluntary action. Education is a conscious and intentional activity, which permits the individual to freely develop his interests for the common good of his society without any external pressure from an authority (Pallante, 2002:32). The interesting question at this juncture is the possibility of reconciling the constraint of the common good and personal freedom within the context of democratic education. Reboul brings the two parties concerning this dialectic. In the classical conception of education, the school is a place for the preparation of life in the future.

In the same light, Reboul (1989:55) saw the necessity of diagnosing the students' intrinsic interest as a solution to the problem of imposed disciplined. He says that external discipline does violence to the learner and that his own interest is the appropriate basis for his educational process. This is the position of Dewey, where the educator has to refer to the learners' true interest in order to succeed in his pedagogic activity. The question arising has to do with the possibility of appealing to true interest. Dewey proposes a dialectic educational process where every teacher response to the intellectual and sentimental questions of the child. This is important in order to make teaching respond to the needs and preferences of the child. This approach is in conformity with the present innovation of competency-based method

The education implication of this theory is that, students should not be forced to study under conditions which are not favorable to them. Students should not be forced to study. Rather learners should be allowed to study under conditions which are best for them. It is directly linked to this study in that, students should not be forced not to bring their mobile phones to class but they should be allowed to bring their mobile phones and use their intrinsic interest to study and not to be so concentrated on their mobile phones. Learners are supposed touse their intrinsic interest to study since education is a free will action as Dewey (1996) puts it. Punishing students is not the best way of going about schooling because Dewey says the stern discipline that deprives the child from self-expression is a malpractice in pedagogy.

**Empirical Review**

In other to meet up with practice, relevant empirical studies were reviewed to find out the issues underpinning them compared to the present study. The empirical reviews are done by research objectives.

**Objective 1: The effects of WhatsApp on learning in the University of Buea.**

A study that was carried out by Cetinkaya (2017) sought to investigate Whatapp's impact on learning usage. For its purpose the study attempted to explore Whatapp's effects on education usage, as well as, track opinions of students. For research design mixed-method approach was adopted with a quasi-experimental method. As for data analysis, two factor variance was used. Some of the findings indicated that the two learning environment has diverse effects on positive student outcomes. Results also pointed out that traditional environment seemed to benefit regarding success when supported by Whatsapp. The qualitative data showed that a positive opinion was developed by students to the use of Whatapp in their course. Another finding from this study was that learning could take place unconsciously as well as the effectiveness of messages with visual support. Nonetheless, some participants of the study expressed adverse opinions particularly regarding the timing of posts and their redundancy.

**Objective 2: The impact of Facebook on learning in the University of Buea**

An empirical study by Duncan (2010) investigated the effect of Facebook on learning in Higher Education. Research design was experimental involving volunteer students from California and Indiana in four different business courses offered during two semesters. Sampling of respondents came up with 586 from 22 face-to-face business courses out of a total 671 students who were registered for the courses taught by the researcher. Instrumentation was a questionnaire composed of 52 closed and open-ended questions which were eliciting answers to assess students' attitudes towards use and convenience of Facebook in a course, if a course was enhanced, by the use of Facebook, if the tool facilitated professional growth, and whether there was any increased students' classroom participation using Facebook. Of the two experimental groups, one received treatment but not the other over the semesters. In the last weeks to the end of data gathering both groups were surveyed via paper questionnaires which were completed in 12 minutes. Findings indicated that respondents from the experimental group used Facebook at least once a day, accessing the group page at least once daily. More than half of respondents agreed or strongly agreed that using Facebook for classroom discussion was very convenient, effective, than Blackboard. Respondents generally agreed that their experience using Facebook was positive. Half the number of respondents agreed or strongly agreed that Facebook was adequately integrated into their courses. Findings also included the fact that acquisition of enhanced professional growth following completion of the course with Facebook.

**METHODOLOGY**

This study used the survey research design. The justification for using survey research design in this study as stated by Mbiko (1990) is to collect data from a sample of a determined population in order to examine the distributions, incidence and interactions of the social phenomenon. In this study, some faculties and schools were selected from the University of Buea and results generalized to the entire University of Buea.

**Table 2: Accessible Population**

| SN | Faculties/college | Population |
|---|---|---|
| 1 | Arts | 1,464 |
| 2 | Health Sciences | 1,022 |
| 3 | Education | 2,701 |
| 4 | Social and Management Sciences | 4,612 |
| 5 | College of Technology | 325 |
| | **TOTAL** | **10,124** |

The accessible population for this study was four faculties and one school selected from the eight faculties and three school of the University of Buea using the simple random sampling technique. These four faculties and school were: Arts, Health Science, Education,

Social and Management Science and the one school the College of Technology

**Sample and Sampling Technique**

The simple random sampling technique was employed in arriving at the accessible population. This was done by writing the names of all the Faculties and schools in the University of Buea on pieces of papers and placed in a bowl. The folded papers were shuffled over and over again in the bowl. A young man around the compound where I live was asked to pick out a paper from the bowl one after the other. The names of the faculties were recorded, folded and placed back in the bowl. The bowl was reshuffled again and the young man brought out another paper. If it was a folded paper carrying the name of a faculty or school already registered, the paper was ignored, folded and placed back in the bowl. The process went over and over again until four faculties and one school were brought out, the process ended there and the names of the faculties and school that were found in the folded papers were the names of the four faculties and one college that were used as the accessible population of the investigation as shown in table 2 above.

The Krejcie and Morgan (1970) table was used in determining the sample size for the study.This table shows a population of 10,124 students has a sample of 370. This sample was distributed amongst the four faculties and one school using the proportionate stratified random sampling technique. The formula used is (sample size/population) x stratum size. The table below shows the results obtained for each faculty and school

**Table 3: Sample Population**

| SN | Faculties/School | Sample Population |
|---|---|---|
| 1 | Social and Management Sciences | 169 |
| 2 | Education | 99 |
| 3 | Arts | 53 |
| 4 | Health sciences | 37 |
| 5 | College of Technology | 12 |
| | **TOTAL** | **370** |

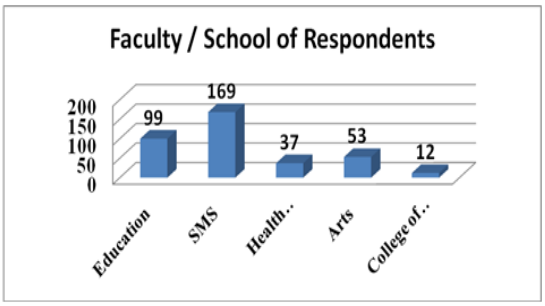


**Fig. 1: Sample Population**

The reason for the above sample for this study is because the Krejcie and Morgan table was used in determining the sample size for the study. Also, choosing this sample is due to time constraint especially as working with the entire university cannot be done within the time this research is supposed to be ready.

The table below presents the number and percentages of the respondents according to gender.

**Table 4: Gender of respondents**

| Gender | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Male | 139 | 37.6 | 37.6 | 37.6 |
| Female | 231 | 62.4 | 62.4 | 100.0 |
| **Total** | **370** | **100.0** | **100.0** | |

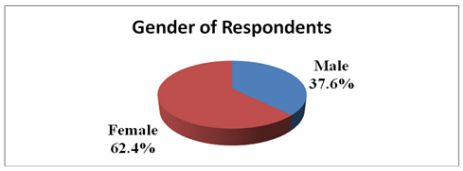


**Fig. 2: Gender of Respondents**

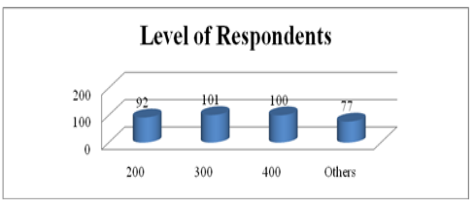


**Fig. 3: Level of Respondents**

From table 4 and figure 2 above, it depicts that both male and female were represented in the sample under investigation though the females were relatively more than the males with a proportion of 62.4% in the sample area while the males' respondents constituted a minority of 37.6% of the total sample.

The table below presents the number and percentages of the respondents according to level.

**Table 5: Level of respondents**

| Level | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| 200 | 92 | 24.9 | 24.9 | 24.9 |
| 300 | 101 | 27.3 | 27.3 | 52.2 |
| 400 | 100 | 27.0 | 27.0 | 79.2 |
| Others | 77 | 20.8 | 20.8 | 100.0 |
| **Total** | **370** | **100.0** | **100.0** | |

From Figure 3 and table 5 above, majority of respondents (27.3%) were from Level 300, this was followed by Level 400 students with 27.0%. It's then followed by Level 200 with 24.9% and finally above Level 400 students of the University of Buea with 20.8%

**Instruments for Data Collection**

Data were collected through the use of a questionnaire. The questionnaire was used because according to Gall (1976), it has the following advantages. Firstly, because it is a quick means of collecting information, easy to analyze data when collected properly, it also has a written record of people's responses and the researcher gets information from a broad section of the community.

The questions were short, clear and precise so as to avoid misunderstanding between the researcher and

respondent. The questions were both closed and open ended. The researcher used four-point Likert scale that is; Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) to help the completion of the questionnaire items by ticking depending on the respondent's conviction. The questions were asked following the research question. The questionnaire was divided in to two parts. Part I had the demographic information while Part II had of section A, B, C and D comprised of the different research questions.

**Administration of the Instrument**

The researcher obtained a written authorization from the Vice Dean in charge of Research in the Faculty of Education and also from the Head of Department which gave him the go ahead to visit some classes of the University of Buea. The researcher proceeded and personally administered the questionnaires after presenting himself to the students. Each questionnaire was accompanied by a cover letter assuring the respondents that the information needed from them will be treated confidentially and will be used for the research purpose only. This enabled the researcher to create a good rapport with the respondents before administering the instruments.

The items on the questionnaire were properly explained and the respondents were permitted to ask questions where not clear. This is because some of the students were of francophone origin. The entire exercise required the movement from one faculty to another. Questionnaire was delivered and collected on the spot.

**Methods of Data Analysis**

The researcher used the descriptive and inferential statistics in analyzing the data of this study. The descriptive statistics used were: tables, frequencies, and percentages. Inferentially, Pearson chi square ($\chi^2$) test of independence was seen as the most appropriate statistical test for analyzing the data and to verify the hypotheses of the research. Pearson chi square was chosen to study the correlation of variables.

**RESULT OF FINDINGS**

**Research Question One: To what extent does Whatsapp affects learning in the University of Buea?**

**Table 6: WhatsApp and Learning**

| No | Item | SA | A | D | SD | Total | Dec. |
|---|---|---|---|---|---|---|---|
| 1 | Whatsapp helps me to be attentive during lessons. | 8 (2.2%) | 10 (2.7%) | 128 (34.6%) | 224 (60.5%) | 370 | A |
| 2 | Whatsapp helps me to internalize information during and after lessons. | 29 (7.8%) | 110 (29.7%) | 116 (31.4%) | 115 (31.1%) | 370 | A |
| 3 | Whatsapp helps me to participate during class lessons | 7 (1.9%) | 32 (8.6%) | 158 (42.7%) | 173 (46.8%) | 370 | A |
| 4 | Whatsapp is of positive impact to my participation and retention during and after lessons? | 8 (2.2%) | 72 (19.5%) | 142 (38.4%) | 148 (40%) | 370 | A |
| 5 | Whatsapp makes me to be very strong academically. | 8 (2.2%) | 38 (10.3%) | 152 (41.1%) | 172 (46%) | 370 | A |
| | **Total / Mean** | **60 (3.2%)** | **262 (14.2%)** | **696 (37.6%)** | **832 (45%)** | **1850** | **A** |

From Table 6 above, 3.2% and 14.2% of the respondents strongly agreed and agreed respectively that WhatsApp usage is of positive impact to learning while 37.6% and 45% strongly disagreed and disagreed to the importance of WhatsApp to learning. This therefore portrays that WhatsApp usage during learning in the University of Buea is having a negative effect

Table 7 below is an analysis of the open-ended question pertaining to research question one which was question 6 on the questionnaires. The question reads thus: How does Whatsapp affect your participation and retention in class during lesson?

**Table 7: Analysis of the Open-Ended Question for Research Question One**

| No | Response | No | % |
|---|---|---|---|
| 1 | WhatsApp distracts me during classes and makes me lose focus during lessons. | 263 | 75.1 |
| 2 | I receive information from classmates through WhatsApp concerning courses, change of venue and assignments. | 70 | 20 |
| 3 | I use WhatsApp at home for research purpose. | 17 | 4.9 |
| | **Total** | **350** | **100** |

Form Table 7 above, it is very clear that majority of the respondents 75.1% are of the opinion that Whatsapp usage distract students and makes them lose focus during lessons, while 20% of the total respondents are of the opinion that they receive information from classmates through WhatsApp concerning courses, change of venue and assignments, while 4.9% of the total sample are of the opinion that they use WhatsApp at home for research purpose.

All hypotheses were tested with the use of Chi-Square test of independence at 0.05 Level of significance. Below is a test for hypothesis one

**$Ho_1$:** Whatsapp usage does not significantly affect students' classroom participation and retention in the University of Buea.

**$Ha_1$**: Whatsapp usage significantly affects students' classroom participation and retention in the University of Buea.

**Table 8: Chi-square test of WhatsApp on Learning**

| | Item 01 | Item 02 | Item 03 | Item 04 | Item 05 | Total |
|---|---|---|---|---|---|---|
| Chi-Square | 351.3 | 58.3 | 235.0 | 141.5 | 215.9 | 1002 |
| Df | 3 | 3 | 3 | 3 | 3 | 15 |
| Asymp. Sig. | .000 | .000 | .000 | .000 | .000 | .000 |

Where, $x^2$ = Chi Square Value, df = degrees of freedom, Asymp. Sign= Asymptotic significance.

As seen in Table 8 above, since the calculated value ($x^2$ = 1002) is greater than the critical value ($x^2$= 25.00) with df = 15 at $p \leq 0.05$ level of significance, the null hypothesis is rejected ($Ho_1$) and the alternative hypothesis retained ($Ha_1$) which states that WhatsApp usage significantly affects students' classroom participation and retention in the University of Buea.

**Research question Two: To what extent does Facebook impact learning in the University of Buea?**

**Table 9: Facebook and Learning**

| No | Item | SA | A | D | SD | Total | Dec. |
|---|---|---|---|---|---|---|---|
| 7 | Facebook affects my participation in class during lessons. | 126 (34.1%) | 126 (34.1%) | 54 (14.6%) | 64 (17.3%) | 370 | A |
| 8 | Facebook affects my ability to retain information during lessons | 109 (29.5%) | 85 (23%) | 76 (20.5%) | 100 (27%) | 370 | A |
| 9 | Facebook group chat page helps me share class lessons, notes and assignments. | 76 (20.5%) | 145 (39.2%) | 89 (24.1%) | 60 (16.2%) | 370 | A |
| 10 | Facebook makes me to be very strong academically. | 27 (7.3%) | 66 (17.8%) | 135 (36.5%) | 142 (38.4%) | 370 | A |
| 11 | Facebook usage helps me to answer questions in class correctly | 28 (7.6%) | 41 (11.1%) | 135 (36.5%) | 166 (44.9%) | 370 | A |
| | **Total / Mean** | **366 (19.8%)** | **463 (25%)** | **489 (26.4%)** | **532 (28.8%)** | **1850** | **A** |

From the analysis on Table 9 above, it clearly shows that 19.8% and 25% of the respondents were of the opinion that Facebook usage has an effect on learning while 26.4% and 28.8% strongly disagreed and disagreed respectively to the fact that Facebook usage is helpful to learning. From these findings, one can conclude that Facebook usage significantly affects learning negatively in the University of Buea

Table 10 below is an analysis of the open-ended question pertaining to research question two which was question 12 on the questionnaire. The question reads thus: How does Facebook help you in class during lesson?

**Table 10: Analysis of the Open-Ended Question for Research Question Two**

| No | Response | No | % |
|---|---|---|---|
| 1 | Facebook distracts me during lessons and makes me lose concentration of what is being taught at that particular time. | 140 | 40 |
| 2 | Facebook does not help me in any way during lessons. It is time wasting looking at pictures and chatting in class. | 140 | 40 |
| 3 | I use Facebook at home or in class for research purpose. | 70 | 20 |
| | **Total** | **350** | **100** |

Hypothesis two was also tested using the chi square test of independence at 0.05 Level of significance as seen below

**$Ho_2$:** Facebook usage does not significantly impacts students' classroom participation and retention in the University of Buea.

**$Ha_2$:** Facebook usage significantly impacts students' classroom participation and retention in the University of Buea.

**Table11: Chi-square test of Facebook and Learning**

| | Item 07 | Item 08 | Item 09 | Item 10 | Item 11 | Total |
|---|---|---|---|---|---|---|
| Chi-Square | 49.1 | 7.1 | 44.3 | 99.9 | 151.6 | 352 |
| Df | 3 | 3 | 3 | 3 | 3 | 15 |
| Asymp. Sig. | .000 | .069 | .000 | .000 | .000 | .069 |

Where, $x^2$ = Chi Square Value, df = degrees of freedom, Asymp. Sign = Asymptotic significance.

As seen in table 11 above, since the calculated value ($x^2$ = 352) is greater than the critical value ($x^2$= 25.00) with df = 15 at $p \leq 0.05$ level of significance, we reject the null hypothesis ($Ho_2$) and retain the alternative hypothesis ($Ha_2$) which states that Facebook usage significantly affects students' classroom participation and retention in the University of Buea.

**Discussion of Findings**

There is enough evidence to support the fact that mobile phones have an effect on learning in the University of Buea. These are reflected in the findings arrived at after the analysis of data and verification of hypotheses. According to these findings, mobile phones significantly influences learning in the University of Buea. These findings tie with past findings of other authors.

**Hypothesis 1**

The null hypothesis (**$Ho_1$**) was rejected while the alternate hypothesis (**$Ha_1$**) was retained. The result of the findings implies that, there is a significant negative effect of WhatsApp usage during lessons on student' classroom participation and retention in the University of Buea. This is supported by the findings of McCoy (2013) who carried out research across six universities and 700 participants on the use of digital devices. Taking the classroom scene, the findings indicate that majority of students used digital devices (86%). There was also above average respondents used digital tools for social networking (66%) while there were also 68% who used digital devices for emailing. Respondents in addition indicated that students had different reasons getting into these behaviours such as to be able to stay connected with 70%, and 55% did so merely to stay off boredom, while 49% engaged in the behavious for entertainment reasons. However, the results were quite clear on the negative effects of digital devices. 90% of respondents thought that the use of the tools made them not attentive in class or/and fail receiving lectures from faculty members (80%). Finally, due to the widespread use of mobile devices by students lecturer began experimenting how the gadgets may be used for productive classroom.

**Hypothesis 2**

Since the calculated chi square value ($x^2$ = 352) is greater than the critical chi square value ($x^2$= 25.00) with df = 15 at $p \leq 0.05$ level of significance, the null hypothesis ($Ho_2$) was rejected and the alternative hypothesis ($Ha_2$) retained which stated that Facebook usage significantly impacts students' classroom participation and retention in the University of Buea. From the findings, this effect turned out to be negative.

The above findings were in line with Junco and Cotton, (2012:511), who examined the impact of multitasking on academic performance, found that "engaging in Facebook use or texting while trying to complete schoolwork tasks the student's limited capacity for cognitive processing and precludes deeper learning". Students who had simultaneously paid attention to both schoolwork and Fcwbook, saw a reduction in their capacity in processing information (essential processing) limited their abilities in storing information in working memory (representational holding). The consequence of this is the creation of an information bottleneck which precludes effective information processing. Therefore, it may be assumed that coming out with original content on a mobile device with activities requiring plenty mental processing, might block effective information processing which could inhibit student learning if simultaneously paying attention to a class lecture.

**CONCLUSIONS**

From the findings, it can be seen that, mobile phones influence the process of learning. This is in accordance with the general alternative hypothesis of the study which states that mobile phones significantly affect learning in the University of Buea. Based on the conflict theory of education, schools exist to produce the kind of people needed by the society, to educate people who will fit well into the job market, and to transmit good values and attitudes unto the younger generation (Szymanski and Goertzel, 1997). Ling (2004) opined that the social media "clashes with many social situations, particularly those governed by a heightened sense of normative expectations". There is little wonder why respondents reported social media as a big distraction during classes. After all, classroom is located within a social context guided by social norms

Nevertheless, it has its benefits and drawbacks on the effects on learning. It could be concluded, therefore from the current study that the University of Buea students do have awareness of social networking as well as sites s well as how to access them. However, these students make more use of the social media in such activities as chatting, music, and sharing of files rather than use social media for study and research. Finally, it is seen that mobile phone is owned by most of the students and its uncontrollable usage impacts on students' study leading to poor academic results.

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