Universal Journal of Educational Research 10(7): 470-478, 2022 http://www.hrpub.org
DOI: 10.13189/ujer.2022.100705

# Re-Examining "Media Effects Debate": Students' Off Task Mobile Device Use in Cameroon Higher Education Classrooms

**Gracemary Eloheneke Moluayonge**

Department of Science of Education, Higher Technical Teacher's Training College, University of Buea, Buea, Cameroon

*Received May 19, 2022; Revised July 6, 2022; Accepted July 25, 2022*

***Cite This Paper in the Following Citation Styles***

***(a):*** *[1] Gracemary Eloheneke Moluayonge , "Re-Examining "Media Effects Debate": Students' Off Task Mobile Device Use in Cameroon Higher Education Classrooms," Universal Journal of Educational Research, Vol. 10, No. 7, pp. 470 - 478, 2022. DOI: 10.13189/ujer.2022.100705.*

***(b):*** *Gracemary Eloheneke Moluayonge (2022). Re-Examining "Media Effects Debate": Students' Off Task Mobile Device Use in Cameroon Higher Education Classrooms. Universal Journal of Educational Research, 10(7), 470 - 478. DOI: 10.13189/ujer.2022.100705.*



**Abstract** Mobile devices have become an inevitable part of the classroom. But how do we ensure that these mobile devices do not negatively influence learning? This study set out to examine what higher education students do when on their mobile devices while in class, why they do this and recommendations were made at the end on how to ameliorate this situation. The study revealed that students bring several mobile devices to class which are frequently involved in off task activities related to communication and seeking information. Moreover, the study revealed that this involvement differs by different academic majors. However, comfortable language does not have an effect on the students' behaviour. Furthermore, it was reported that the reasons for these off task activities are both teacher and student inclined. Thus, to cultivate a more favourable environment for learning in the presence of mobile devices, both teachers and students have a major role to play.

**Keywords** Mobile Devices, Mobile Learning, Media Debate, Off Task Mobile Device Use, Bring Your Own Device (BYOD)

## 1. Introduction

Taking a close look at a higher institution classroom nowadays, a proliferation of mobile devices can be seen. This can be accounted for partly by the improvement in the infrastructure of most Higher Institutions which allow students to bring their own devices (BYOD) into the classroom [24]. This has resulted in a shift to mobile learning [23]. The most common mobile devices used by students include laptop and notebook computers, tablet, cell phones (non smart phones) and smart phones [4]; [27].

Clark [10] concluded that "media does not influence learning under any conditions". He stood on the grounds that media was simply a medium through which instruction was delivered and did not have any influence on learning, any more than a truck that delivers groceries causes change in our nutrition. He suggested that instead of researchers carrying out studies that compared learning with technology against using the traditional method, it was better they studied the learners' attitudes towards integrating technology into learning. Kozma [20] challenged Clark's position that media and method should be considered as two independent variables, together with the claim that media does not influence learning. He put forth his challenge using instances from computer-supported learning environments developed within constructivist and situated cognition frameworks for learning, and showed how these multimedia environments support the cognitive representations needed for learning to take place. Kozma [21] later proposed that the question should not be "Does media affect learning?"but "How does media affect learning?". However, Clark [10] still stood his

original position, arguing that the benefits of media integration were accounted for by the use of adequate teaching methods.

Over the years, many studies have been carried out that conclude that learning is being affected by technology. This effect has been shown to be both positive and negative [3]; [8]; [32]. In as much as teachers have accepted technology into the classroom for positive effects like immediate feedback, social learning, searching for information, assessing student understanding and interacting with both students and parents; however, they have not taken into consideration the fact that this mobile device use in the classroom is playing a big role in increased student distraction [17].

One of the ways by which mobile device use is a distraction involves students indulging in non-class activities on their mobile devices while in class [6]. Engaging in such activities on their mobile devices can be a distraction to themselves and their peers [25].

McCoy [25] found that undergraduate students used a digital device in the classroom for purposes unrelated to class 11.7 times a day making an average of 21% of class time.

Review of previous studies has shown that entertainment, searching for information and communication are the three prominent distractions [18]. Concerning communicative distraction, students frequently indulge in emailing and social media feeds during class [26].

Researchers have also observed that higher education students surf the net during lectures [13]. Other researchers have also reported that many higher education learners play games infrequently, watch movies and use their phones for many other entertainment purposes during class [26]; [33].

The divided attention brought about by students doing off task activities on their mobile devices while in class places a strain on the cognitive abilities of the learner. Studies have shown that it matters what one's neighbours are doing on their mobile devices; a neighbor who engages with off task content has more harmful effect on one's comprehension than if their neighbor is on task [15]. Some of these studies have proved that regular interruptions scatter our thoughts and weaken our memory. Moreover, switching from one task to another may make it difficult to tune out distractions and can cause mental blocks that slow you down [9].

In several studies, students have given varied reasons why they get involved in off task activities on their mobile devices while in class. A number of them attributed using their mobile devices in class to the fight against boredom [7]; [25]. Another group of students attributed this behavior to class related reasons [2]; [25]; [29]. This might involve downloading notes from the learning management system, accessing readings, translating unknown vocabulary, posting an assignment online, or even searching concepts related to the lesson as it unfolds. All these can still have distractive tendencies even though related to the lesson. A section of other students claimed they use their mobile devices to stay connected [25]. Abel, Buff, & Burr [1] went further to explain this using the phenomenon 'the fear of missing out'. By this, most students while in class do not want to be left out on what is happening in other places. Thus they try to keep up with conversations and updates even in class. Some other students reported that they use their electronic devices for entertainment purposes like checking messages, chatting, surfing the net etc. [26]. This might be the case in situations where the students feel the teacher is just reading off the book or off the slides. In such a situation, the student would rather do something more fun than pay attention since he/she can just check the notes later [12].

Scholars have proposed a number of ways for managing these mobile devices off task behaviours in the classroom. One interesting technique by [16] is the self regulationskills which involve students placing their phones on their desk and if they do check their phones, the teacher asks them the question 'do you think this is the right time to check your phone? Kingsbury proposed giving a 10-minute tech break every hour for students to check their phones. He believes this break cuts down on distraction and reduces anxiety. Holden emphasizes that the ultimate goal of monitoring the students' mobile device use is educating our students on positive usage of these devices. There are other management techniques like students turning off or putting their devices into airplane mode, placing them in plastic bags, paper bags or their backpacks and retrieving them at the end of the class [16]. Sheninger [31] mentioned that a school culture that empowers students to use their devices responsibly and well-designed lessons that are relevant to the students combined with sound classroom management might be very efficient strategies in managing off task involvements in the classroom. However, no matter how well the teacher plans and manages the classroom, there is always the tendency for off task behavior. A solution to this might be the use of the app 'Pocket Points'. This app allows teachers to directly offer rewards to their students who stay focused in class. The 'pocket points' developers believe this will help the students develop healthy phone habits while maintaining engagement on the learning task. An update to this app will be teachers being able to whitelist certain apps which the students can use while learning is taking place. This will make room for mobile devices to be more effectively integrated into the classroom. Hance [15] further proposed that providing a cell phone arrangement, keeping students engaged, utilizing positive reinforcement and the teacher being active and moving around the classroom frequently as some other measures to curb off task activities.

From the above mentioned and other existing literature, it can be seen that mobile devices have become commonplace in higher education classrooms. However, they could be a source of distraction both to the user and those surrounding them [25]. The researcher therefore

thought it imperative to study some of these off task behaviours, why they do and come up with some suggestions on how mobile devices can be more effectively integrated into the classroom. For this study, a mobile device was considered as any electronic device that can easily be moved from one location to another. This included laptop, smart phone, cell phone/non smart phone, smart watches, earpods, tablets, ipads and palmtops. Off taskbehavior can be defined as any behavior that does not involve the learning task or material or where learning from the material is not the primary goal.

### 1.1. Objectives

This study aimed to examine:

1. What common mobile technologies students bring to the classroom.
2. What off task behaviours they indulge in on their mobile devices while in class and what is the frequency of these behaviours.
3. If the frequency of involvement in various off task activities differ by different academic majors.
4. If the frequency of involvement in various off task activities differ by comfortable language.
5. Why these students indulge in these off task activities while in class.

### 1.2. Research Questions

1. What are the common mobile technologies students bring to the classroom?
2. What are the common off task activities higher education students indulge in while in class and what is the frequency of these behaviours?
3. Does the frequency of involvement in various off task activities differ by different academic majors?
4. Does the frequency of involvement in various off task activities differ by comfortable language?
5. Why do these students indulge in these off task activities while in class?

### 1.3. Hypotheses

H1: Academic Major has a significant effect on the frequency of involvement in various off task activities.

H2: Comfortable Language has a significant effect on the frequency of involvement in various off task activities.

## 2. Materials and Methods

In this study, 400 students from 26 Higher Education Institutions in Cameroon were selected and administered a questionnaire. This questionnaire was a combination of items from questionnaires on digital distractions by Goundar [14] and Seemiller [30]. The sample was gotten by a non probability sampling, specifically the purposive sampling method since the participants were already streamlined to students attending Higher Education Institutions. A total of 400 copies of the questionnaire were administered both on and offline according to the participant's convenience. The questionnaire was answered anonymously. However, 363 were returned giving a return rate of 90.75%. The questionnaire was comprised of 35 items; section A had 5 items on demographic information, section B also had 5 items relating to the common mobile devices owned by the students, section C had 24 items appertaining to frequency of involvement in various platforms and section D contained an open ended item on why they indulge in off task activities. A pilot test was first done on 8 higher education students who were not part of the final test. Cronbach's Alpha Reliability Test was used to test for internal consistency of the items in the questionnaire. The Cronbach's Alpha coefficient for the questionnaire used for the pilot test was 0. 83 while that of the questionnaire used for the final test was 0.94. These coefficients according to [19] are respectively very good (0.80) and excellent (0.90).

## 3. Results and Discussion

From the 363 students that took part in this study, 192 (52.9%) of them were female while 171 (47.1%) of them were male. The age range of the participants was from below 20 years to 50 years of age. Most of the respondents were between the ages of 21 and 25 years (200/55.1%), followed by 26-30 years (125/34.4%), then by 31-35 years (27/7.4%) and 7 (1.9%) of the participants were below 20 years while 2 (0.6%) participants were between 36-40 years and another 2 (0.6%) of them were between 41-50 years.

For the academic major, they were grouped into Tertiary and Industrial Sciences. The Industrial Sciences majors included science inclined majors like Building and Construction, Woodwork and Wood Processing, Forestry Exploitation, Topography, Real Estate, Agriculture, Electronics, Electro techniques, Tourism and Hospitality Management, Renewable Energy, Air-conditioning, Mechanical Engineering, Food Technology, Computer Sciences, etc. The Tertiary included humanities and Arts inclined majors like Accountancy, Management, Marketing, Information Management and Communication, Economics, Law, Psychology, Guidance and Counseling and Science of Education. That said, 240 (66.1%) of the participants offered Tertiary majors while 123(33.9%) of the participants studied Industrial sciences.

In Cameroon, there are two official languages-French and English and Learning Institutions use either one or both of them as a medium of Instruction. In most cases, the learners are more comfortable with one of the languages than the other. So for comfortable language, 265 (73.0%) of the respondents were more comfortable with the English

Language while 98 (27.0%) of them were more comfortable with the French Language.

Concerning the Higher Education Institutions, most of the students were from Higher Technical Teacher's Training College, Kumba (185/51.0%) and quite a good number of them were from the University of Buea (109/30.0%) while just 1 respondent represented 13 other Higher Institutions. Table 1 below illustrates.

**Table 1.** Distribution of respondents according to Institutions

| Higher Institution | Frequency | Percent |
|---|---|---|
| 1. Higher Technical Teacher's Training College, Kumba | 185 | 51.0 |
| 2. University of Buea | 109 | 30.0 |
| 3. University of Bamenda | 10 | 2.8 |
| 4. University of Yaounde I | 7 | 1.9 |
| 5. University of Douala | 7 | 1.9 |
| 6. University of Dschang | 6 | 1.7 |
| 7. Higher Institute of Business Management and Technology, Buea | 6 | 1.7 |
| 8. Catholic University Institute, Buea | 5 | 1.4 |
| 9. Univerity of Yaounde II | 4 | 1.1 |
| 10. Government Technical Teacher's Training College, Kumba | 4 | 1.1 |
| 11. Higher Technical Teacher's Training College, Bambili | 3 | 0.8 |
| 12. SwissLink Higher Institute of Business and Technology, Kumba | 2 | .6 |
| 13. Siantou Higher Institute of Business and Technology, Yaounde | 2 | .6 |
| 14. Landmark University college, Buea | 1 | .3 |
| 15. Polytechnic, Bamenda | 1 | .3 |
| 16. PolytecnicYaounde | 1 | .3 |
| 17. IBAFoumban | 1 | .3 |
| 18. International Relations Institute of Cameroon, IRICYaounde | 1 | .3 |
| 19. Pan African Institute, Buea | 1 | .3 |
| 20. University Institute of Gulf | 1 | .3 |
| 21. ESG/ISTA Douala | 1 | .3 |
| 22. NASPWAnneXBuea | 1 | .3 |
| 23. EJED-Higher Institute of Management and Biomedical Sciences, Buea | 1 | .3 |
| 24. Survey school, Buea | 1 | .3 |
| 25. SATSA School, Kumba | 1 | .3 |
| 26. CHRWA, Kumba | 1 | .3 |
| Total | 363 | 100 |

The participants were further asked how often they were connected to the internet. The results showed that 351/96.7% (279/76.9%-very often; 72/19.8% often) of the respondents were always connected to the internet while a little fraction of them (12/3.3%) were sometimes connected to the internet. This explains the rampant use of mobile devices in the classroom as being connected to the internet gives room for an endless number of activities that can be done on the mobile device. Figure 1 below illustrates.

### 3.1. What are the common Mobile Devices Students bring to the Classroom?

For this section, each item was considered a continuous variable, with 2 pertaining to Yes and 1 pertaining to No. The findings show that many students own a laptop (319), a smart phone (361), a cell phone/non-smart phone (347), tablet (11), ipad (8), palmtop (1) and earpod (1). In Cameroon, most persons own both a smart phone and a cell phone. The smart phone which has all the higher functions like using a browser, social media etc. while the cell phone/non smart phone can be used for basic functions like sending text messages and answering calls. This is due to security reasons. You use the smart phone at home and in safe places like the classroom etc. while you can go all about with your cell phone and if it gets missing or stolen, it can easily be replaced since it is cheaper. This explains why the figures for smart phone and cell phone ownership are similar. Figure 2 below illustrates.

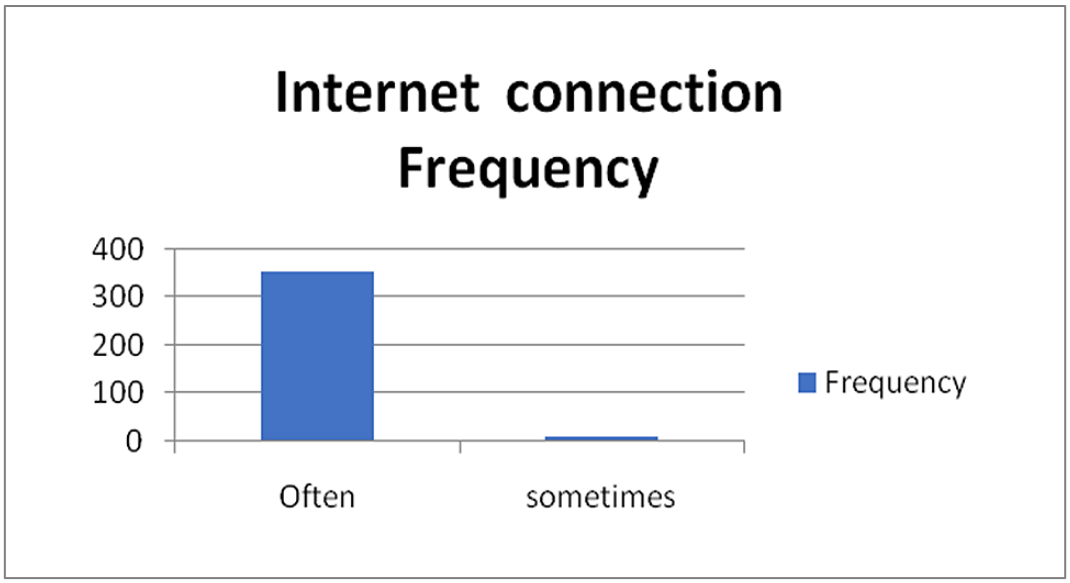


**Figure 1.** Internet connection Frequency

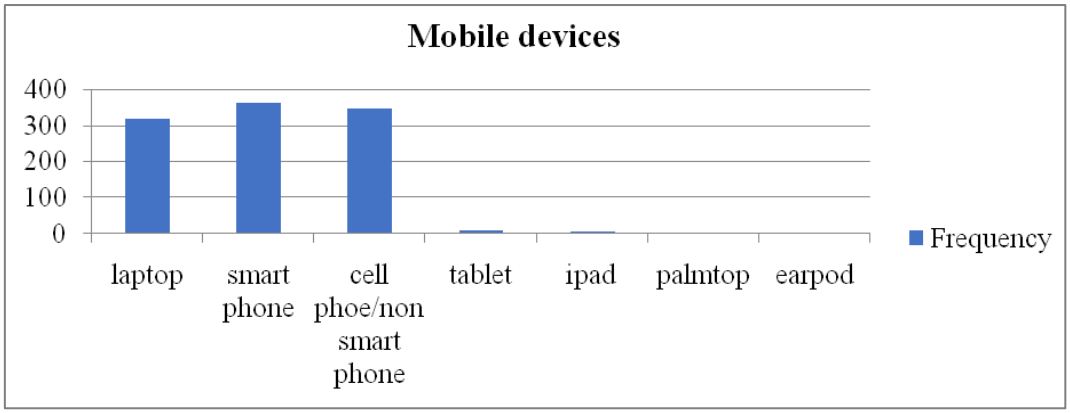


**Figure 2.** Mobile devices used

### 3.2. What are the common off Task activities Higher Education Students indulge in while in class ?

To find out what off task activity the students did while in class, each activity was considered a continuous variable with Very Often pertaining to 5 then Often-4; Sometimes-3; Rarely-2; Never-1. The frequency, median and standard deviation for each item were then computed.

The median instead of the mean was computed because scholars have argued that the median is a better representation of likert scale (ordinal data). The median is a type of average value like the mean; however, it shows the number that is exactly in the middle of the data (Kostoulas, 2013). Each median here thus represents the continuous variable pertaining to very often (5), often (4), sometimes (3), rarely (2) and never (1). Table 2 below illustrates.

**Table 2.** Percentage, Median and Standard Deviation of off task activities

| Items /off task activity | %Very Often | % Often | % Sometimes | % Rarely | % Never | Median (n=363) | Std. Deviatn |
|---|---|---|---|---|---|---|---|
| Answering calls on phone | 13.8 | 24.0 | 57.3 | 3.0 | 1.9 | 3.00 | 0.828 |
| using my phone | 31.7 | 33.6 | 28.1 | 6.1 | 0.6 | 4.00 | 0.939 |
| checking my phone for messages | 15.2 | 43.3 | 30.9 | 10.2 | 0.6 | 4.00 | 0.879 |
| reading text messages on my phone | 32.2 | 34.7 | 19.6 | 8.5 | 5.0 | 4.00 | 1.129 |
| typing text messages on my phone | 20.1 | 26.7 | 28.7 | 23.1 | 1.4 | 4.00 | 1.091 |
| checking my emails | 6.9 | 25.9 | 39.7 | 20.7 | 6.9 | 3.00 | 1.008 |
| surfing the internet | 25.9 | 27.0 | 16.0 | 26.2 | 5.0 | 4.00 | 1.262 |
| listening to music | 19.3 | 3.6 | 10.2 | 14.0 | 52.9 | 1.00 | 1.571 |
| reading news online | 3.9 | 11.0 | 24.5 | 52.9 | 7.7 | 2.00 | 0.924 |
| playing games on my phone | 10.7 | 9.9 | 16.5 | 25.1 | 37.7 | 2.00 | 1.348 |
| doing assignments of other courses | 15.4 | 57.6 | 23.7 | 1.7 | 1.7 | 4.00 | 0.763 |
| watching videos online (youtubeetc) | 5.8 | 4.1 | 5.2 | 62.0 | 22.9 | 2.00 | 0.981 |
| on online dating sites (Tinder etc) | 0.3 | 17.1 | 3.9 | 26.2 | 52.6 | 1.00 | 1.122 |
| online shopping (Amazon, Jumia etc.) | 29.8 | 8.5 | 12.9 | 27.3 | 21.5 | 3.00 | 1.552 |
| class information(course website, class whatsApp group) | 33.9 | 38.3 | 1.7 | 17.1 | 9.1 | 4.00 | 1.334 |
| on online reading material(blogs, forums etc) | 22.9 | 36.6 | 21.5 | 13.2 | 5.8 | 4.00 | 1.149 |
| information seeking(websites, wikipedia) | 10.2 | 45.7 | 12.7 | 25.6 | 5.8 | 4.00 | 1.123 |
| Job search employment, LinkedIn etc.) | 0.8 | 8.3 | 47.4 | 14.0 | 29.5 | 3.00 | 1.021 |
| idea sharing (PinInterest) | 12.7 | 17.1 | 47.9 | 8.8 | 13.5 | 3.00 | 1.139 |
| online communication (email, twitter, WhatsApp, text, Facebook) | 11.0 | 31.4 | 41.3 | 10.5 | 5.8 | 3.00 | 0.991 |
| online photo sharing | 8.3 | 24.8 | 9.4 | 30.9 | 26.7 | 2.00 | 1.332 |
| audio communication | 7.2 | 9.6 | 10.2 | 26.7 | 46.3 | 2.00 | 1.264 |
| online collaboration | 9.0 | 13.9 | 32.5 | 30.6 | 14.0 | 2.00 | 1.124 |
| social commentary | 3.1 | 12.6 | 16.0 | 45.2 | 23.1 | 3.00 | 0.997 |
| review postings | 1.9 | 14.9 | 24.8 | 51.0 | 7.4 | 2.00 | 0.903 |
| Cronbach's Alpha=0.94 | | | | | | | |

From table 2, the items using my phone (65.3%); checking my phone for messages (58.5%); reading text messages on my phone (66.9%); typing text messages on my phone (46.8%); surfing the internet(52.9%); doing assignments of other courses(73%); checking class information(72.2%); on online reading materials (59.5%) and information seeking(55.9%) had a median of 4 which appertains to often from the likert scale. Thus, signifying that most of the students were frequently involved in carrying out communication and course related off task activities. Even though some of these activities are related to the class, they could still be a source of distraction as they bring about a divided attention. This is in line with studies that have concluded that multitasking has a negative effect on academic performance [17]. However, listening to music (22.9%) and being on online dating sites (17.4%) had the lowest median of 1 which appertains to Never from the likert scale. Meaning most students hardly listened to music or went to online dating sites while in class. These results are in line with studies by [18]; [26] who discovered that searching for information, entertainment and communication are the main off task activities students indulge in on their mobile devices.

### 3.3. Tests of the Hypotheses

Multiple Regression analysis was used to test the hypotheses. The results of the hypothesis testing were accepted when the null hypothesis in a study is deemed not rejected, if the t value is equal to or greater than 1.96 and the p value is equal to or less than 0.05 [22].

Table 3 below shows the result of the Multiple Regression for first Academic Major then Comfortable Language as the independent construct and the frequency of involvement in various platforms as the dependent construct. Based on the premise earlier mentioned, the analysis thus showed that the results were significant, $F(362) = 3.691$, $p<0.005$, $R^2 = 0.020$.

**Table 3.** Direct Effects

| Dependent Variable | Independent Variable | Standard error | B | t | P |
|---|---|---|---|---|---|
| Frequency of Involvement in off task activities | Major | 0.082 | 0.134 | 2.524 | 0.012 |
| | Comfortable Language | 0.087 | 0.079 | 1.476 | 0.141 |

$R^2 = 0.020$, Adjusted $R^2 = 0.015$, $F = 3.691$, $p = 0.026$, $df = 362$

#### 3.3.1. Does the Frequency of Involvement in various off Task Activities differ by different majors?

Table 3 above revealed that Academic Major is a significant predictor ($\beta=0.134$, $t=2.524$, $p<0.005$) of the frequency of involvement in various off task activities by students. Major in this study was broken down into tertiary and Industrial Sciences as earlier mentioned. This means that academic major has an effect on the frequency of involvement in various mobile devices off task activities. This could be accounted for by the fact that students in different majors might need different levels of concentration and the teaching methods might also be different thus the participants' involvement in various off task activities is also bound to differ. This reiterates [28].

### 3.4. Why do these students indulge in these off Task Activities while in class?

This was an open ended item. Content Analysis was done and various themes were extracted. These themes were grouped under student related reasons and teacher related reasons.

For the teacher related reasons, most of the participants reported that they indulged in off task activities on their devices during lectures when the lesson is boring and not interactive; the teaching method is monotonous; poor classroom management techniques e.g. class is noisy, teacher gives a nonchalant attitude to those using devices etc; the class is large and the teacher is paying attention only to the students at the front or those who have understood; no practical activities; teacher asks difficult questions or exercise thus they have to search for the answer online; the teacher deviates from the lesson of the day; too much repetition by the teacher; when the teacher gives too much material at a go and there is cognitive overload and the teacher does not have mastery of the subject matter.

For the student related reasons, most of the participants reported that they indulged in off task activities on their devices during lectures when waiting for an important message; checking up for more information for class exercise; checking for emergency messages; having difficulties following up the lesson; fighting the urge to sleep or hunger; contacting a friend to inform him/her on the teacher's presence; having personal problems and being emotionally unstable; having a mastery of the lesson of the day; updating social media status on ongoing activities; social media notification pop ups; doing assignments of another course; peer influence; language barrier; showing off and addiction to these electronic devices.

These show that students indulging in off task activities on the mobile devices can be accounted for by both the student and the teacher. These results are consistent with other studies [2]; [12]; [25]; [29]; [30].

## 4. Conclusions and Recommendations

The findings of this study indicate that most students in Higher Education Institutions in Cameroon bring their cell phones, smart phones, tablets and laptops to class. Moreover, the off task activities students most frequently indulge in include using their phones, checking their phones for messages, reading text messages on their

phones, typing text messages on their phone, surfing the internet, doing assignments of other courses, checking class information, on online reading materials and information seeking. This is in accordance with McCoy, 2016; Safdar et al., 2020; Al-Daihai, 2018; Nayak, 2018 who all concluded that off task activities in class center around communication, class related activities or entertainment. Also, the study revealed that academic major affects the frequency of involvement in various off task activities on mobile devices. However, it showed that comfortable language does not have an effect on the frequency of involvement in various off task activities on mobile devices. Furthermore, it revealed that the reasons for students being involved in these off task activities on their mobile devices could be teacher related like the teaching methods etc or student related like having an emergency message etc. This reiterates the conclusions of [2]; [25]; [29] [31].

Curbing the tendency for students to turn to off task activities on their mobile devices in the classroom would thus require the teachers, students, their parents and other education stakeholders to all take an active part.

On the part of the students, suggestions to more effectively use their mobile devices in class would include: the students being self disciplined and using their devices only for important cases, if he/she must bring their device to class. Also, the students should take control of their studies by calling on the teacher's attention if they are not following up or find it difficult to understand any aspect of the lesson. More so, the students should try to revise and in the case of language barrier translate the course materials before coming to class. This will go a long way to help the student not to turn several times to their devices with such excuses. Another way to curb this is by the students putting off their phones at the beginning of each lesson and only putting it on at the end of the lesson to check their messages.

On the part of the teachers, they have to put strict rules concerning the use of mobile technologies at the beginning of the course. The teacher could come up with these rules with the participation and input from the students. These students will feel more connected to these rules they have all laid down together, thus making it easier for them to follow these rules. Also, the teachers should try to involve all the students when teaching. Moreover, the teachers should make their lessons engaging, active, participative and interactive. Furthermore, the teacher should have a mastery of their subject matter. Lastly, the teacher should also call the students' attention on the importance of being focused in class and reward students of good conduct.

Parents also have an influential role to play in the education of their children. As the children are being brought up, the parents should instill in them the importance of education. This will go a long way to develop intrinsic motivation for education in them. Such students who have been brought up in this manner do not need to be pushed to do the right thing and also they are not easily moved by peer pressure.

These recommendations are in accordance with [15] who proposed that giving rules for mobile device use in class, positive reinforcement and active participation from both the teacher and the student could better integrate technology into the classroom. It is also in line with [31] who suggested that a school culture that nurtures students to use their devices responsibly; well designed lessons and sound classroom management will help in curbing these distractive tendencies.

The integration of mobile devices into the classroom has a very great potential to affect teaching learning positively. However, if careful planning and execution of lessons are not done, the negative influence of technology might out way the positive. This corroborates what Clark [11] later said that the benefits from technology integration were from the teaching methods and not just the technology itself. Educatorsare therefore called upon to put in efforts to bring out the positive effects of this very useful tool-technology while reducing the negative effects. The class teachers, the students, the curriculum developers and even the parents are all called upon to play their own role in providing a learning environment in which the positive energy of mobile devices can be harnessed to improve the teaching learning process.

Propositions for a follow up to this study could be: how students of different academic majors use mobile devices in the classroom and how mobile devices could be more effectively integrated into the classroom.

# REFERENCES

[1] J. Abel, C. Buff, A. Burr. 'Social media and the fear of missing out: Scale development and assessment', Journal of Business & Economics Research, Vol. 14, No. 1, 33-44, 2016.

[2] S. Al-Daihani. 'Smartphone use by students for information seeking. Global Knowledge, Memory and Communication', Vol 67 No. 4/5, pp. 194–208, 2018.

[3] K. Alhumaid. 'Four ways technology has negatively changed education'. Journal of Educational and Social Research, Vol. 9, No.1, pp. 10-20, 2009.

[4] R, Alshammari. 'The Current Use of Mobile Devices among Students and Faculty in EFL Teaching in a Saudi Arabian Context'. *The Turkish Online Journal of Educational Technology, Vol. 19, No. 2, pp. 34-51, 2020.*

[5] C. Amanda, T. Tara, E. Eileen, W. Sean. 'On or off task: The negative influence of laptops on neighboring students'. Computers & Education, Vol. 153, No. 1, pp. 3-9, 2020.

[6] B. Batch, R. Allen, A. Nakonechnyi, J. Roberts. 'Understanding And Reducing Off-Task Mobile Phone Use In University Classrooms', INTED2020 Proceedings, pp. 3171-3172, 2020.

[7] S. Bolkan, Griffin, J. Darrin. 'Students' Use of Cell Phones

in Class for Off-Task Behaviors: The Indirect Impact of Instructors' Teaching Behaviors through Boredom and Students' Attitudes. Communication Education', Vol. 66, No. 3, pp. 313-329, 2017.

[8] K. Carstens, J. Mallon, M. Bataneh, A. Bataineh. 'Effects of Technology on Student Learning'. *The Turkish Online Journal of Educational Technology*, Vol. 20 No.1, pp. 105-113, 2021.

[9] Cherry K., 'How Multitasking Affects Productivity and Brain Health'. https://www.verywellmind.com/multitasking-2795003. (acccessed Feb. 1, 2022).

[10] R. Clark. 'Reconsidering research on learning from media'. *Review of Educational Research, Vol. 53, No.1, pp. 445-459, 1983.*

[11] R. Clark. 'Media will never influence learning'. *Educational Technology Research and Development, Vol. 42, No. 1, pp. 21-29, 1994.*

[12] A. Flanigan, W. Babchuk. 'Social media as academic quicksand: A phenomenological study of student experiences in and out of the classroom. Learning and Individual Differences', Vol. 44, No.1, pp. 40-45, 2015.

[13] Gordon S., 'How Smartphones Create Distractions in the Classroom'. https://www.verywellfamily.com/how-smartphones-are-creating-distractions-in-the-classroom-4174646 (accessed Jan. 3, 2022)

[14] S, Goundar. 'The distraction of technology in the classroom'. Journal of Education & Human Development Vol. 3, No.1, pp. 211-229, 2014.

[15] Hance C., '5 Ways to Keep Students Off Their Cell Phones in the Classroom'.https://www.teachhub.com/technology-in-the-classroom/2019/07/5-ways-to-keep-students-off-their-cell-phones-in-the-classroom/ (accessed March 13, 2022).

[16] Holden S., 'Managing Smartphone Distractions in the Classroom'.https://home.edweb.net/managing-smartphone-distractions-in-the-classroom/ (accessed Jan. 19, 2022)

[17] E. Jamet, C. Gonthier, S. Cojean, T. Colliot, S. Erhel, S. "Does multitasking in the classroom affect learning outcomes? A naturalistic study", Computers in Human Behavior, Vol. 106, No. 4, pp. 106-264, 2020.

[18] R. Kay, S. Lauricella. 'Investigating the benefits and challenges of using laptop computers in higher education'. Canadian Journal of Learning and Technology, Vol. 40, No.2, pp. 1–25, 2014.

[19] R. Kline. 'Principles and practice of structural equation modelling'. Guilford, New York, 2016.

[20] R. Kozma. 'Learning with Media'. Review of Educational Research, Vol. 53, No.4, pp. 445-459, 1991.

[21] R. Kozma. 'Will media influence learning? Reframing the debate. Educational Technology Research and Development', Vol. 42, No. 3, pp. 11-14, 1994.

[22] S. Landau & B. Everitt. 'A Handbook of Statistical Analyses using SPSS. Chapman and Hall/CRC', Florida, 2004.

[23] Lieberman. 'Students Are Using Mobile Even If You Aren't'. https://www.insidehighered.com/digital-learning/article/2019/02/27/mobile-devices-transform-classroom-experiences-and (accessed Jan. 19, 2022).

[24] M. Limniou. '*The Effect of Digital Device Usage on Student Academic Performance: A Case Study'.* https://doi.org/10.3390/educsci11030121 (accessed Feb. 19, 2022)

[25] B. McCoy. 'Digital Distractions in the Classroom Phase II: Student Classroom Use of Digital Devices for Non-Class Related Purposes'. Journal of Media Education Vol. 7, No. 1, pp. 5 -32, 2016.

[26] K. Nayak. 'Relationship among smartphone usage, addiction, academic performance and the moderating role of gender: A study of higher education students in India'. Computers & Education, Vol. 123, No.2, pp. 164–13, 2018.

[27] H. Poll. Pearson student mobile device survey 2015. http://www.pearsoned.com/wp-content/uploads/2015-Pearson-Student-Mobile-Device-SurveyCollege.pdf (accessed Nov. 19, 2021)

[28] E. Rahiminia, S. Yazdani, & H. Rahiminia. 'Factors Affecting Concentration and Attendance in the Classroom from Students' Point of View in Qom University of Medical Sciences. Educational Research in Medical Sciences', Vol 8 No.2, 2020.

[29] B.Safdar, A. Habib, A. Amjad, & J. Abbas. 'Treating Students as Customers in Higher Education Institutions and its Impact on their Academic Performance'. *InternationalJournal of Academic Research in Progressive Education and Development,* Vol. 9 No.4, pp. 176–191, 2020.

[30] C. Seemiller. 'Curbing Digital Distractions in the Classroom'. Contemporary Educational Technology, Vol. 8, No.3, pp. 214-231, 2017.

[31] E. Sheninger. 'A Principal's Reflections: Reflections on teaching, learning, and leadership'. http://esheninger.blogspot.com/2019/02/are-students-off-task-in-class-on.html (accessed Jan. 25, 2022)

[32] A. Strom. 'The Negative Effects of Technology for Students and Educators'. Master's Theses & Capstone Projects Education. https://nwcommons.nwciowa.edu/education_masters (accessed Oct. 19, 2021)

[33] M. Tallvid, J. Lundin, L. Svensson& B. Lindstro. 'Exploring the relationship between sanctioned and unsanctioned laptop use in a 1:1 classroom'. Educational Technology & Society, Vol. 18, No.1, pp. 237–249, 2015.