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Investigating the Utilization of Smartphones in Classroom Instruction among Lecturers in Malawi Adventist University, Central Malawi

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Abstract: *The study focused on the lecturer's perspective in the use of smartphones in educational settings, how smartphones are being used by lecturers in performing their duties and how smartphones can be utilized to enhance the teaching and learning process in the university. The purpose for this study was to investigate the utilization of smartphones in classroom instruction among lecturers in Malawi Adventist University, Central Malawi. Participants were 15 lecturers at Malawi Adventist University, Lakeview Campus who were purposely sampled. The findings revealed that smart phones have an enormous ability as a teaching and learning tool in the classroom. In light of the findings, the study concluded that there is a strong inclination in the perceptions of lecturers on utilization of smart phones in the teaching and learning process at MAU, Lakeview Campus.*

Keywords*: Smartphone, smartphone integration, teaching and learning purposive sampling, Higher education, Lecturer, MAU*

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1. Introduction

Rich as cited in Jumoke, Oloruntoba and Blessings (2015) contend that possessing and utilization of mobile phones has profoundly influenced our society as far as accessibility, safety and security, coordination of social and business activities are concerned. Similarly, Cooke (2017) observed that "social media and networking sites have become increasingly popular as learning and teaching resources in higher education, providing students with increased opportunities for educational engagement in recent times" (p. 1). With the widespread availability of smartphones in the world, and their being handy it is common knowledge that most of the world population have access to this ubiquitous equipment. Consequently, due to the fact that the smart phones are readily available in this generation, they (smartphones) have since been incorporated in prescribed schooling.

Literature indicates that Africa is the second fastest growing region in mobile penetration with 650 million mobile subscribers, which is said to be more than in the USA or European Union (World Bank, as cited in Kaliisa and Picard, 2017). In this light, Africa being no exception, Nigeria for instance, a 2010 study done by Jumoke, Oloruntoba and Blessings (2015) brought to light the fact that mobile phones are the greatest basic means of communicating among adolescents. It follows therefore, that the greater proportion of those crisscrossing the corridors in higher education institutions are the adolescents meaning the sure users of mobile phones, hence a greater opportunity of affording their educational propensity.

The study attaches striking inclination to the utilization of smart phones that have flourished over the past years in Malawi. The origin of technology in this Southern African country, communication via mobile phones has greatly improved such that Malawi got in touch with state-of-the-art mobile phones, and other hand held

devices, just to mention a few. Internet facilities in Malawi are said to have started in 1997. It's on record that this internet was first initiated in the University of Malawi for students to access information pertaining to academics. With passage of time, there has been instant advancement in information technologies in the country with the emergence of numerous internet facility providers.

However, the evolution of ICT brought some academic and social concerns in institutions of higher learning. They have resulted in chaos in places of higher learning as well as the society at large (Sarfo and Ansong – Gyimah, 2011). Consequently, the access and utilization of mobile as well as smart phones have resulted in mixed perceptions about the devices among the lecturers. To this effect, a new chaos has emerged with the embracing of smart phones in lecture rooms and corridors of higher learning institutions.

1.1 Statement of the Problem

Higher education institutions have significant responsibility to play in the economic advancement of societies of the world (Kaliisa and Picard 2017). UNDP and World Bank cited in Kaliisa and Picard (2017) contend that institutions of higher education afford cutting-edge skills, which enable high productivity and improved quality of life (p.1). As such these institutions have to be seen as responding to expectations of the societies that they serve. However, Shraim and Crompton (2015) observed that as the utilization of smart phones are on the increase, many academics are not efficiently integrating this gadget into their teaching, which may be attributable to their negative perceptions of these devices (p.301). It has been observed that outmoded methodologies are still being used in teaching within universities, such as lectures as well as seminars (Cooke, 2017) which calls for thorough study for their impassive style. The University system worldwide with Malawi Adventist University being one of them faces the same dilemma alluded to above. Impassive teaching styles still find plenty of room in many of the lecture rooms at Malawi Adventist University despite the changing landscape in as far as type of students' technological aptitude is concerned. One study among others, have suggested that time has come for digital naturalized citizens as well as the digital immigrants to welcome the use of communication technology in academic social media by way of mobile devices in classrooms so as to facilitate learning for the 21st century transformative learners (Johnson, 2014). Gone are the days that a lecturer has to waste time finding information for students. At the press of a button, a student, if well guided, can benefit much more than sit in a lecture room and listen as their parents went through the past ages.

Public as well as private universities are striving to produce the much sought after graduates who are rich in knowledge from the diversified world of technology. Smart phones, if well handled, modern learners stand to benefit from the multifaceted gadget when guided by the well-versed lecturers. Since the introduction of information technology and acquisition of smartphones and other digital devices in the learning arena by most lecturers, no empirical study has been done so far at Malawi Adventist University. For this reason, there is a need for a thorough study investigating the utilization of smartphones in classroom instruction among lecturers in Malawi Adventist University, Central Malawi.

1.2 Research Questions

The study made use of the following research questions to investigate the utilization of smartphones in classroom instruction among lecturers in Malawi Adventist University, Central Malawi:

1. What are the perspectives of the lecturers in the use of smart phones in educational settings?
2. How are smartphones used in the performing duties of lecturers?
3. How can smartphones be utilised to enhance the teaching and learning process in the university

1.3 Significance of the study

The study will provide insights in the incorporation of technology in creating learning communities among the learners in the institution of higher learning for it seems to be a sure sign of creating collaborative learning. The study will also enable lecturers to be more innovative in guiding students. Rather than waiting for lecturers to provide information, students create their own information thereby enhancing learning. The study will further bring to light that social media and networking sites have become increasingly popular as learning and teaching resources in higher education, thereby affording students with increased opportunities for educational engagement.

The study will contribute to further research on how teacher development can be tailored in order to make integration of technology a reality rather than mere rhetoric. Furthermore, the study would like to bring to light that collaborative learning promotes critical thinking when teachers take the role of being facilitators rather than being fountain of knowledge.

1.4 Justification of the Study

The study on investigating the utilization of smartphones in classroom instruction among lecturers in Malawi Adventist University, Central Malawi is as vital as it will be in the opening of different prospects that make teaching and learning change for the better. Lecturers and students, these days heavily depend on usage of mobile technology. Bearing this in mind, gone are the days that lecturers take the central role in the learning process but instead just be a facilitator in the world of academics that enable students to take responsibility for their own learning at the press of a button. Put differently, lecturers

ought to be emancipated from old methodologies of transmitting knowledge. To concur with Hollow (2008), the study suggests that the significant priority is to come up with what makes technology be of more prospective assistance in addressing development especially in the field of educational requirements. The smartphones are the sure way of creating study groups beyond the four walled lecture halls. Hence, Al-Rahm and Zeki (2017), observe that there is a shift in interest to the use of social media in teaching and learning in Higher education after drawing attention to the research community in the traditional view.

Furthermore, smart phones have the capacity of enhancing 'skills for an adult life (that) include technological literacy, and people who do not acquire and master these competencies may suffer from a new form of the digital divide, which will impact their capacity to effectively operate and thrive in the new knowledge economy' (McKnight, et. al. 2016, p 2.). Hence, the investigation of the utilization of smartphones by lecturers is of paramount importance in this day and age.

It follows therefore, that there is a need to investigate the utilization of smartphones by lecturers at MAU technology as is being perceived as much sorted means of accessing the higher-order proficiencies every so often described to as 21st Century Skills, which are similarly a requirement for one to deemed as productive in today's society. Likewise, incorporation of expertise in technology is said to have the ability to model as well as remodelling, the sort of the learner and the teacher. (McKnight, et. al. 2016) Additionally, utilization of smartphones in connection to technology, has the potential of opening up knowledge and content that otherwise would be less accessible, through access to open educational resources, hence the need for this study.

1.5 Theoretical Framework

There is much debate regarding utilization of smartphones in the classroom for instruction purposes. Some say smartphones when utilised for class related content, would enhance teaching and learning process. On the other hand, others are strongly saying the opposite, hence bringing chaos. In response to the different perspectives from various stakeholders, the study will make use of Chaotic Theory which has elements that speaks volumes of the goodness of chaotic scenarios. The theory is a product of two great minds, namely, Henri Poincaré (1854-1912), Edward Lorenz (1917-2008). The theory states that systems perform in erratic nonlinear circumstances and that their behaviour can only be observed, never predicted (Getchell 2016) but through such chaotic situations most often brings out sanity at the end of it all. Chaos theory is an informative model for an organization in crisis just as lecturer halls are perceived to be with the existence of digital natives and digital immigrants. Although many complex systems appear to behave in a random manner, chaos theory shows that, in reality, there is an underlying order that is difficult to see. Chaos theory supposes that there is order behind seemingly unsystematic events. Even though businesses may not be helped by making long-term future predictions, they can make short-term forecasts to help with business decisions. In other words, though chaos may possibly cause indecision nevertheless it can be an avenue that can generate the possibilities that build hope and transformation in the educational setting. As such some clear guidelines are required for lecturers to follow if a chaotic situation is to be prevented. Just as in business, lecture halls and the business of lecturing can be a breeding ground for chaos and with time turn into productive and transformative use of smart phones in institutions of higher education. It is in this light that the energy and zeal that lecturers have in the traditional strategies, be turned on the utilization of new strategies which despite being thought of as complex, is a sure means of having a clear-cut remedy to what seemed an insurmountable task. However, since sudden and drastic changes are bound to occur, professionals such as lecturers should be ready to get used to the guidelines as crucial. Because of the complexity and unpredictability inherent in complex systems, lecturers have to get ready for chaos and accept uncertainty as a natural condition. Lecturers cannot have power over the whole universe but make impressions on the small segment of the universe they live in notwithstanding all the chaos manifest in it.

Hence, this theory will guide the study in that despite chaos, lecturers ought not to fear the uncertainty the perceived use of smartphones might bring. Twenty first century classroom instruction through utilization of smartphones, will be a reality amid the chaos.

2. Literature Review

The review focused on utilization of smartphones in a high educational setting. As a result, this study aims at attempting to replicate what other studies have done but now in the Malawian context, to be specific. By conducting this study and going through various literature reviews, it has been discovered that use of smart phones in higher education institutions in Africa and Asia, just to mention a few, have a great role in student and lecturer collaboration (Kaliisa and Picard, 2017; Alenezi, 2017). A change in the lecturers' approaches to teaching also occurred by use of technology, implying that embracing technology can play a major role in bringing an immense chance for enhancing teaching and learning (Kaliisa & Picard, 2017; McKnight et al. 2016).

2.1 Integrating of Smartphones with Teaching by Lecturers – positive effects

The findings of a modern study by Oudat and Othman (2024); Alenezi (2017) clearly posit that smartphones and their utilities in the pedagogical part have established

how meaningfully they can bring effectiveness in engaging students in productive learning. This suggests then that the presence of smartphones could provide a positive picture of the society in which Higher Education has to embrace technology in its quest for a better society in the 21st Century. Higher education institutions are to be places that will provide society with a well-equipped work force that is technologically well informed. The developed countries put more priority on higher education for it is believed that such institutions provide the elite of society who propel economic development (UNESCO, 2011). Equally, countries like Malawi ought to make use of trends that will drive economic development through grooming well-equipped work force from both its public as well as private institutions.

Study by Shraim and Crompton (2015) indicate that in Palestine smart phones are used in several ways which include but not limited to, the registration of students for their classes, exchange information, receive course messages from their instructors, search the library for books, access course materials, look up their grades, and stay updated on their academic and financial records (p.302). Smart phone usage in higher education is a ready answer to the smooth running and record keeping of huge populations of students in this modern age where learning is seen as a catalyst for progress in all aspects, including social, academic as well as economic. This means again, that there will be less paperwork and reduction of space for keeping piles of paper files.

Lam et al. cited in Sarfoah (2017) contend that mobile technology as a means of enhancing learning and teaching process has been embraced within universities and other educational institutes because of their ubiquitous access to wireless technologies. Put differently, mobile technology is changing the learning and teaching landscape from the usual traditional methods to actual incorporation of mobile devices, which will in turn provide society with a technological well-informed work force who are equipped with current information. An informed society easily adopts new ideas resulting in the development of a society and in turn the whole country, thereby universities living up to their expectations by society.

Additionally, Twun (2017) observed that lecturers use smartphones for the vast content that they keep which include but are not limited to as emails, e-books, video demonstrations, tutorials and audio. The smart phones are said to make a difference when properly put to use, they are believed to have the potential of increasing partnership and interaction among lecturers, students and content (ibid). It follows that when properly regulated within the educational setting, smartphones have the potential to revolutionize the teaching and learning process in the institutions of higher learning. Through utilization of smartphones, there can be more interaction between and among lecturers and students thereby creating a team of knowledge seekers and creators.

Likewise, reviewed work of Walsh (2012), indicates that students' perception of school is always varying; they each embrace their own views, and each have ideas of what they would like their school experience to be. Therefore, they would like it to be more like the world in which they live "aesthetically pleasing environment that inspires and motivates them to learn and achieve" (Spires, Lee and Turner, 2008, pg. 510). It follows that since many students have at liberty the use of technology in their homes, they would like that lack of restrictions in the classroom even though "cell phones are not welcomed in school" (511). Demb et al, (2004) related that students perceived that mobile technology had a positive effect on their study habits and academic success. Equally true, students on top of the teacher being so busy will regularly expect responses from their teacher as long as there is a network.

2.2 Integrating of Smartphones with Teaching by Lecturers – negative effects

According to the study by Harman and Sato (2011), it came out clearly that there is a correlation of text phone messaging and lowered academic scores, as well as problems that have to do with remembering coupled with disturbed class discussions. Furthermore, the same study (Harman et al 2011) strongly underscores that there is an association between lower scores and high text message. Those students with higher GPAs spend more time studying and therefore waste less time texting. A study by Tindell and Bohlander, (2012) brought about some interesting conclusions by revealing that if a student were constantly delivering large numbers of text messages frequently, time and attention would have to be taken from elsewhere, therefore negatively affecting other tasks.

A study by Olofinniyi, et al. (2012), reveals that while mobile phones offer very attractive benefits in enhancing learning, they have drawbacks. The study contends that mobile-communication actions in classrooms have harmful aspects, which include cheating, harassment, misbehaviour, disturbance, immorality, and time wasting. In other words, mobile communication is a cause of worry in secondary schools for their access and utilization lead to behaviour that is quite contrary to the process of learning. Earl (2012) observed that utilization and access to mobile phones is said to have an impact on students' attention span, analytical thinking skills and have a high regard for learning and teachers. Olofinniyi, et al. (2012) concludes by contending that students who are preoccupied lose the ability to concentrate, to plan, and to work with complex ideas and sometimes seem to decline in civility. Likewise, Kolb cited in Goad (2012) mentioned that the risk of cheating, texting, and distractions have led educators to disallow usage of cell phones in school. Therefore, the same students join higher institutions after completing secondary education.

Consequently, such undesirable behaviour manifests itself in the next level of education and manifests itself in the higher education classroom.

Equally true, is the observation by Belher (2017), that the adoption of ICT is a danger against the local way of life. ICT through the infusion of mobile phones is seen as a tool of transmission of various cultures from one location to another therefore, a great risk to the way of life of the localities that have taken mobile phones as a way of livelihood. Furthermore, mobile phones are looked at negatively for they are perceived as distractors to students from their educational attainment as they are not protected from resources that convey a lifestyle contrary to theirs. Through mobile phones with their applications, do contribute to individuals to learn about diverse countries and attitudes, which are contrary to theirs, which some quarters do not approve of as they see them as threatening their identity.

The device can enhance and complement learning, but it seems that most students end up abusing the mobile phones through visiting unsuitable sites (Kihwele, 2013; Kafyulilo, 2012; Olofinniyi et al, 2012). More so, some students' waste their precious time chatting with their counterparts as opposed to the classroom instruction, hence schools have put limitations on their mobile phone usage. Again, Wood et al (2012) concludes to say that students engage in multitasking which leads to decrements in performance in at least one of the two tasks, memory performance. This suggests that teachers looking at integration of smartphones in the classes would bring more harm than good.

2.3 Teachers' perception on use of smartphones in teaching

Harnessing smart phones in the lecture room would add global competitiveness, which should be the goal for 21 first century lecturers. McKnight, O'Malley, Ruzic, Horsley, Franey and Bassett (2016), suggest that lecturers using digital instructional approaches would improve and inject new life in the manner that students learn. Similarly, McKnight, et al. (2016) contends that through the digital instruction tactics lecturers would also further support the use of smartphones with learning research. This being the case, smartphones can add value to Higher Education for their mandate is to add knowledge through carrying out vibrant research in institutions, which in this case can be aided by utilization of smartphones.

Challenges in technology implementation in teaching and training institutions depend much on the perceived usefulness and perceived ease of use by both teachers and teacher trainees (Hu, Clark and Ma, cited in Aypay., Celik., Aypay and Sever, 2012). It follows that, "public school teachers are not particularly technology savvy, partially because the older ones received training when technology was less developed and pervasive" (Hu, Clark and Ma, 2003, p.228). Omwega cited in Omariba (2012) further posits that when the teachers talk of integrating technology into the practice of teaching and learning, then it has to be embraced wholeheartedly.

The basis for not embracing technology fully can be explained in the light of the lecturers themselves. One of the possible reasons has to do with age. Kivunike cited in Makori (2015) made mention that it is the age of the teachers and teacher trainees that make a distinction in their conduct particularly in respect to contemporary technology. To this effect, the age factor plays a great role in challenges in the implementation of technology in training as well as teaching institutions. The assertion is suggestive that as one advances in age, it becomes difficult to embrace new things as such technology implementation is seen as something that has just come to complicate the normal way of doing things. As such, the perception of those advanced in age makes technology implementation a challenge in places of placement be it in training and teaching institutions.

Poll (cited in Alenezi (2017), contend that the majority of the students have great expectations from their distinct universities that they make deliberate efforts to adhere to approaches that will subsequently open up to utilization of smartphones in the educational sector. The students in this context seem to say that if universities are to take a thoughtful move towards introducing smartphones in their respective campuses, a great revolution in education could be experienced. Learning may take a different avenue altogether towards the greater good in their studies, hence making learning meaningful.

A study carried out by Gromik, (2012, p.223) complemented by that of Cockrane and Bateman, (2010), maintains that mobile phones have applications that do facilitate learning. Among such features include, enabling users to take pictures, write notes, and make voice recordings or short videos, listen to music, watch audio-visual material, use bilingual dictionaries or language study software, play games, receive radio, send text messages, engage with social-networking and make regular calls. The above-mentioned applications would do much service to the educational enterprise by making education real, live and entertaining. By considering such features would enable teachers to be facilitators rather than generators of knowledge. Meaning to say, if the teacher is creative enough, can just plan several activities that can address the intended learning outcomes for a particular subject, and students be the doers and creators of their own learning.

2.4 Teachers' attitude on use of smartphones in teaching

Norris (2012) contends that lack of sophistication in the use of technology must be considered. The fact of the matter lies in the sensitivity of the teacher trainees in the teaching and training institutions in as far as their readiness to learn and make use of the new technologies

that they meet. According to Hu, Clark and Ma (2003) the sensitivity being alluded to, can be noted in the refusal to accept integration of technology by public school teachers despite the fact that the role of technology in the education sector is on the rise. Norris (2012) additionally, noted that depending on the teacher trainees' sensitivity to technology, they end up settling for the medium which they are more conversant with, which boils down to be what they deem easy and less stressful. Differently put, the challenge in the implementation of technology emanates from the teacher trainees' enthusiasm, to integrate technology in their day-to-day endeavours during training.

Additionally, when teacher trainees view technology negatively while in teaching and in training institutions, it will be so hard for such a personality to put the technology in its rightful place in the teaching and learning environment when qualified. In the study by Osang., Ngile., and Tsuma (2013), it was pointed out that by using technology in class, most teachers noted it was bringing additional difficulty to their already much demanding profession. It follows that educators will not only contemplate on development of course material, facilitation, setting and marking of questions but their work will now go on to include course website, classroom technology as well as learning technology.

Nikou and Economides (2017) stated that smartphones may certainly be used to augment the mental and cognitive development on the individual basis and equally assist in increasing levels of motivation when there is an actual person's yearning to acquire them for their skill improvement. The observation comes from the background that smartphones and their different multi tasks in the education arena had turned out suggestively convenient owing to them playing remarkable and prominent duties. Hence, smartphones taking their rightful position in educational innovations on top of just being used as a communication device.

3. Methodology

3.1 Research Design

The research design involved the qualitative research methods in addressing the research questions. Hence, it is with such understanding that the study settled for a qualitative study. The design was settled for it required to get first hand insights from the experts in the teaching process in the Institution of higher learning.

3.2 Research Setting

The population of this study comprised lecturers at MAU, Lakeview Campus, Central Malawi. The study made use of eighteen (18) lecturers of which fifteen (15) were male and three (3) were female. The researcher chose the lecturers purposely and MAU conveniently.

3.3 Sampling Technique

Purposive sampling technique and convenience sampling was employed to establish a sample of MAU, one of the privately run institutions of higher education in Malawi. According to Mugenda and Mugenda (2003) purposive sampling is said to be a procedure that consent a researcher to use instances that have the vital information with respect to his or her respondents. A sample of 18 lecturers formed the population size.

3.4 Data Collection

The researcher used interviews and observations in the collection of data. Three research questions provided the basis for the interviews. The interviews and observations were settled for because they provided the means of obtaining the required responses.

3.5 Data Analysis

Data was gathered through qualitative analyses of lecturers' responses analysed thematically.

3.6 Ethical Considerations

Respondents were not asked to reveal their names, and the researcher used the data confidentially and only for the intended purpose. Lecturers were classed with numbers for easy verifying and anonymity.

3.7 Researchers Reflexibility

The researcher's experience of being a lecturer at MAU in the education department for nine (9) years and studies in curriculum influenced me in researching smartphone use in pedagogy. Hence, the research questions were based on his experience in education teaching. As a practising lecturer he was aware that when interviewing my colleagues I needed to try as such as possible to remain neutral, setting aside my own views and reactions and to listen from the perspective of a researcher. It was however difficult for me to be totally objective and to set aside my personal experience and thus taking an insider position

4. Results and Discussion

The participants in the study were fifteen (15) male and three (3) female lecturers. The perceived utilization of smartphones in educational settings, usage of smartphones as they carry out their duties and how smartphone utilization enhances teaching and learning in the university was analysed thematically.

4.1 Perceived Utilization of Smartphones in Educational Setting

Nearly all lecturers interviewed perceived use of smartphones in educational settings positively. The lecturers look at smartphones as a means of enhancing learning through facilitating communication, collaboration, creativity and problem solving. For instance, lecturer 1 pointed out that,

"*They will be very helpful and will simplify learning because notes, assignments can be communicated through smartphone technology"*.

Additionally, Lecturer 2 said that,

"*Smartphones could be a very useful tool for lessons and researching of relevant information on the internet"*.

One study has shown that owing to mobile learning, "people are capable of using mobile devices to get educational resources, connect with others, and create content, both inside and outside classrooms" (UNESCO, 2012, p. 2).

Similarly, Lecturer 5 indicated out that,

"*Smartphone is a tool that helps the student to get information for studies. They can also be used in teaching and learning, use of WhatsApp, google chartroom which the smartphone can facilitate".*

The response by Lecture 5 concurs with the finding of the study done by Woodcock., Middleton., & Nortcliffe (2012) which posited that students use smartphones owing to the extensive variety of academic applications that promote their learning requirements.

Likewise, Lecture 2 indicated out that,

"*However, for examinations and assignments, students can be tempted to cheat as they would be extracting information during examinations and use templates or samples and turn them into assignments*".

The observation by the lecturer concurs with the observation made by the study done by Kibona and Mgaya (2015). The study indicated that use of smartphones among students of Ruaha Catholic University in Tanzania, negatively affects performance. However, this observation is shared by just a few of the lecturers at Malawi Adventist University which includes lecturer 2.

Additionally, Lecturer 9 posited that,

"Smartphones can be used for educational purposes through use of internet as it can be fruitful, bearing in mind the calibre of today's students".

Furthermore, Lecturer 10 observed,

"*Use of smartphones in educational setting is important and will be better if all lecturers would have them and be properly acquainted with their functions"*

All in all, the Lecturers quoted and observed largely substantiate the literature on smartphone utilization in educational settings. Most lecturers observed showed a range of highly effective impact of smartphone use in teaching as noted in provision of feedback, cooperative learning and advance organiser. The study done by Woodcock, Middleton, and Northcliffe, (2012) and Twum, (2017) revealed that there is a lot of potential in the utilization of smartphones in higher education classrooms due to the applications the device possesses. Smartphones are perceived as educational tools that can bring unquestionable results in enhancing teaching and learning. Consequently, the study has established that incorporation of smartphones in the educational setting would bring about enhancement of teaching and learning in higher education institutions.

4.2 Use of Smartphones in the Performance of Lecturers' Duties

Turning to this question, nearly all lecturers who took part in the study indicated that their smartphones are used for communication.

For instance, Lecturer 7 pointed out that

"*I have created WhatsApp, google group with students, passing on information to the class representative in case of me missing a class for whatever reasons".*

Similarly, it was noted that Lecturers 8 and 4 use their phones respectively

"*To look for supplementary information in class"*

And

"*As a dictionary when teaching in the class setting*".

In connection to observations by the lecturers above, Gromik (2012); Cockrane and Bate (2010) indicated that smartphones enable users to take pictures, write notes, and make voice recordings or short videos, listen to music, watch audio-visual material, use bilingual dictionaries or language study software, play games, receive radio, send text messages, engage with social-networking and make regular calls. Lecturer 10 posited,

"*I have used my smartphone to communicate with students through WhatsApp and google chatroom, sent notes including power points*"

The observation credibly demonstrates what Gromik (2012) posits above.

Lecturer 2 pointed out that

"*When there is a new word, I ask the students to google on their smartphones, then discussions follow after that other important aspects are discussed. This makes the learning process to be fast and easy to grasp new ideas from various sources"*

It follows therefore that nearly all lecturers persuasively demonstrated that they use their smartphones in enhancing information sharing in an easy and quick manner. Therefore, the findings of this study demonstrate that lecturers at Malawi Adventist University make use of their smartphones in carrying out their duties. Put another way round, smartphones enhance the smooth mode of performing duties of the lecturers. The finding is consistent with studies done by Blessings (2015), Ford, and Bachelor (2007) who argue that students can similarly set up utilization of smartphones in bluetoothing project material between

group members, receiving SMS and email reminders from teachers, harmonizing calendar/timetable as well as setting reminders. However, a few lecturers observed that though smartphones have convincingly demonstrated that they enhance teaching and learning in university classrooms, they also pose some challenges if misused. Lecture 1 strongly indicated that,

"*Some students tend to use non – academic channels and do not follow discussions in class, sometimes they even distract others"*

The above assertion persuasively demonstrates that though smartphones can enhance teaching and learning, if misused teaching and learning can be negatively impacted. As a technology that is emerging, lecturers need to establish clear learning targets for their respective students if meaning and purposeful learning is to take place.

4.3 Perspectives in the use of smartphones in educational setting

Regarding the possibility of utilising smartphones in enhancing teaching and learning process, most lecturers persuasively demonstrated positively that smartphones can be used in the educational setting. The study discovered that most lecturers revealed that smartphones allow
collaboration as well as interface, thus enhancing face to face. Likewise, smartphones also enable lecturers to relate with students even off school hours.
Likewise, Lecturer 6 posited that,

"Smartphones can be used to search for some information in the classroom and can be used as a calculator in Maths and other subjects that require calculations; in part I feel that modern day student's curiosity is enhanced through use of smartphone, teaching and the learning process is made real".

Besides, Lecturer 11 argued that

"*There is operational evidence in the course I facilitate that smartphones enhance positive and respectful interactions and create a culture of commitment to materials shared by students and lecturers"*

In addition, Lecturer 10 stated that,

"*I can send lectures, assignments to my students, Students also may send assignments to their lecturer and in turn the lecturer may also send timely feedback to the students".*

Similarly, Lecturer 3 and 7 asserted that,

"*We should assume that smartphones are not here only for communication, rather,*

they also provide sources of information. If lecturers and students bear this in mind,

then such technology will help both to advance the teaching and learning process.

Then it will be possible for lecturers and learners to use information from

smartphones for classroom activities such as puzzles and games" and

"Smartphones can be very instrumental if their uses follow some simple agreed norms like putting them on silent mode when not warranted for in that class session".

Lecturer 14 opined that

"*Students have to use their smartphones wherever necessary and not anyhow*".

In connection to the contentions above, Earl (2012), asserts that utilization and access to smartphones phones have an impact on students' attention span, analytical thinking skills and have a high regard for learning and lecturers. The lecturers largely tend to agree that smartphones do enhance teaching and learning in the educational setting, though some caution ought to be taken as suggested by lecturer 14 above. The observations by the lecturers in regard to lecturers' perceptions on smartphone use in educational settings in the university are in agreement with the studies done by Woodcock, Middleton, and Nortcliffe, (2012) and Bates (2015).

The lecturers' sentiments replicate some findings that have been documented in literature. Sife et.al. (2007) observed that the higher learning institutions have made efforts to adopt ICT in the teaching and learning because of greater information access, greater communication, increase in cooperation and collaborative learning, cost effectiveness and let alone improvement in pedagogy.
On the other hand, Lecturer 1 examined that,

"*Students at times do not have the ability to authenticate the right sources where they can get information".*

Nearly all the lecturers' observed that there is a challenge on how to access trustworthy and accurate information. This applies too, what is academic and what can be categorised as non-academic. The observation above is in line with Bates (2015) who stated that there is some challenge on how learners could be able to tell between reliable, accurate, trustworthy information, and erroneous, subjective or not backed up information. By visiting the institutional classrooms and making some observations, the setup offered some additional significant indication on utilization of smartphones by lecturers and their students. A supportive and well managed environment is evident throughout the Education and Biomedical Departments of the university which if well done is conducive to learning using smartphones.

4.4 Creation of WhatsApp groups

During the study, the researcher discovered that there was a systematic, collaborative process in the use of smartphones which were proactively used by various lecturers and their respective students. Nearly all the lecturers and most of the students use their smartphones to create study groups through WhatsApp application. This was true with most of the lecturer rooms visited. It was noted that there were very active collaborations, where every student was proactively expected to

contribute to class discussions. Most students used rubrics, checklists and examples to actively monitor their class progress. Following the discussions, the students were graded based on the contribution from each student. The observation agrees with Bleher (2017) who suggested that smartphones could be an educational tool in sub - Saharan Africa. UNESCO (2012) opines that there are quite a small number of projects that are operational in regions including Asia, Africa, and North America that are dependent on mobile devices. The mobile devices that include smartphones would bring about more efficient communication between classroom lecturers, and those who teach comparable disciplines or groups of students.

4.5 Smartphone ownership

Furthermore, the researcher identified that almost all the students were in possession of smartphones. Ownership of these devices can be explained as a response to the improvement of Wi-Fi on campus due to introduction of an optic fibre connection. The study discovered that nearly all of the lecturers were fascinated in using their smartphones as they were encouraging their students to possess one so that sharing of teaching and learning materials could be smooth. The observation as regards prevalence of smartphones is supported by Librero, et al. (2007); Prensky, (2005). The two studies show that a record number of teachers in far-off countries now use cell phones as a learning tool.

5. Conclusions and Recommendations

5.1 Conclusion

In the light of the outcomes of the study, the following conclusions were made:

1. Smartphones as an emerging mobile device have an immense capability as a learning tool in the classroom and therefore can certainly be used in the educational setting by creating a supportive academically challenging learning environment.
2. Smartphones are a powerful tool that enables lecturers in performing their duties in the university if lecturers can establish clear learning success criteria that can be well linked to the required university curriculum standards.
3. Utilization of smartphones as a tool that can enhance teaching and learning process in the university through research based instructional practices that can enhance and improve learning as lecturers and students interact with each other.

5.2 Recommendations

Based on the study, the following recommendations are hereby proposed:

1. A comparative study be done between a private and public university on investigating utilization of smartphones in classroom instruction among lecturers.
2. A comparative study be done in a public university on investigating utilization of smartphones in classroom instruction between lecturers and students
3. A study be done in a public university on investigating utilization of smartphones in classroom instruction among lecturers

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