Effectiveness and Policy Implications of Using WhatsApp to Supervise Research Projects in Open Distance Learning Teacher Training Institutions in Swaziland

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Abstract: The study explored the effectiveness of using WhatsApp social media platform to supervise research projects and policy implications to tertiary institutions in Swaziland. A qualitative research approach was used. Interviews were held with research project supervisors in four tertiary institutions that offer teacher training programmes through distance education. The study's findings revealed that WhatsApp is an effective platform in research project supervision. Findings also revealed that the use of WhatsApp poses challenges to students who come from poor socio-economic backgrounds since they can't manage to buy compatible gadgets and data bundles. It also poses some challenges to those students who come from communities with poor or no internet connectivity. It emerged as well from the findings that the Ministry of Education and Training (MOET) and institutions of higher learning in Swaziland have not yet embraced the use of WhatsApp in their policies. The study recommended that MOET and tertiary institutions should embrace the use of WhatsApp in their policies, support all students with compatible electronic gadgets and data bundles. The study further recommended that research project supervisors and students should develop rules that regulate the use of WhatsApp during research supervision.

Keywords: WhatsApp, Research Project Supervision, Open Distance Learning, Policy Implications, Teacher Training Institutions, Social Media Platform, E-Learning.

INTRODUCTION

The article focused on the supervision of research projects using WhatsApp in teacher training institutions in Swaziland using open distance learning (ODL). Swaziland National Policy Statement on Education 1999 section 9.1.4 stresses that teacher education shall impart research skills and inculcate the culture of research for personal, professional, and social development. Teacher training institutions aligned their curricula by including research projects which partially fulfil the successful completion of their programmes.

Most ODL students are employed to raise tuition fees since the government does not sponsor them. They attend tutorial lectures on a three weeks block release basis during school holidays. The duration of teacher training programmes is 3 years. Third-year students are allocated supervisors to guide them in writing research projects. As research supervisors, we realised that institutions do not allocate adequate research supervision time. They allocate it an hour per week. Each supervisor is usually allocated 20 or more students. This means that students do not have enough time to discuss expectations and get necessary guidance from their supervisors. Tichapondwa (2013) argues that research supervisors and supervisees should discuss their expectations and roles that they will play during the supervision process.

Due to inadequate time allocated to research supervision, some supervisors end up using WhatsApp to conduct supervision. Ministry of Education and Training (MOET) in Swaziland 2018 Policy as amended does not recognise social media platforms. Though Section 2.3.1 of this policy recognises e-learning and e-assessments, it is silent about the use of social media as a teaching and learning platform. There are many social media platforms like Facebook, Twitter, Instagram, but the main purpose of the study was to establish the effectiveness and policy implications of using WhatsApp to supervise research projects in institutions that offer teacher training programmes through Open Distance Learning (ODL) in Swaziland. To achieve this, the following questions guided the study: What are the benefits of using WhatsApp to supervise research projects? What challenges are encountered when using WhatsApp in the supervision of research projects? How effective is the use of WhatsApp in the supervision of research projects? Is the use of WhatsApp to supervise research projects part of the Ministry of Education and Training policies? Which strategies can be used to make WhatsApp more effective in the supervision of research projects. These questions generated information that made it possible to draw conclusions and come up with recommendations on the strategies that could be employed to make WhatsApp a more effective platform in the supervision of research projects.

LITERATURE REVIEW

This section discusses social media platforms in general and WhatsApp in particular. It further explores the challenges and benefits of using WhatsApp to supervise research projects. Distance education and policy implications of using WhatsApp in tertiary institutions are discussed.

Social Media Platform

Anderson (2019) asserts that in the 21st Century the most critical technology that diversifies life events is the adoption of social media as a major component of entertainment, commercial, and educational activities. Czerkawski (2016) says that scholars are beginning to appreciate informal social media platforms and their value in formal education. Czerkawski (2016); & Greenhow & Lewin (2016) indicate that learning is not strictly divided into formal and informal, but learning in formal contexts often translates into informal activity. This implies that both formal and informal contexts contribute to the learning process. In most circumstances, a school is considered as a formal context in which learning occurs whereas social media reflects the informal learning context as alluded to by Czerkawski (2016). Greenhow & Lewin (2016) assert that learners may exercise learning with formal, informal, and non-formal features across a wide range of contexts. For example, distance learning originates from schools (formal context) and takes place at home, or work settings (informal context), and social media (non-formal context) may be used to distribute information to ODL learners. This scenario relates to what happened in Swaziland in 2020 during the Covid-19 lockdown when learners were learning from home through WhatsApp social media platform. Home learning using social media platforms was not included in the MOET 2018 policy, but it was just an opportunity recognised by schools in Swaziland to continue the teaching and learning process during Covid -19 lockdown.

Mohammadi *et al.* (2020) argue that portability and accessibility of mobile devices in this digital era have attracted many scholars to apply them in educational settings. Moreover, many researchers have put an effort to prove applicability of mobile learning as a modern way of teaching and learning. Mohammadi *et al.* (2020) further contend that application of portable technologies has been demanded by most modern learners who are often forced to study anywhere, anytime. In this manner, mobile learning is essential in bridging physical contact sessions in the four walls of the classroom.

Research supervision can be done anywhere at any time if mobile learning technologies like smartphones, tablets and laptops can be utilised in tertiary institutions. Mnkandla & Minnaar (2017) assert that if ODL institutions want deep learning for their students in an e-learning context, it is of paramount importance to use social media. Involving students in e-learning can create a transformation into the digital age environment and this can assist leaners to find meaning in learning through technologies and social media (Mnkandla & Minnar, 2017).

Anderson (2019) asserts that ODL institutions recognise technology as a tool that creates an enabling environment for academics and learners to expand on scholarly activities such as research, teaching, and learning. Some of the educators in distance education do not extensively use social media, partially due to lack of exposure to technology. This inhibits them from reaping the benefits derived from using technology to engage learners in ODL. Also, some educators join the teaching profession to engage with learners in face-to-face interactions, and technology may impede their desire for physical interaction with learners (Anderson, 2019).

Lehong *et al.* (2019) note that learners enrolled in ODL face challenges of accessing knowledge resources and often study in isolation especially when conducting research. Lehong *et al.* (2019) argue that to support such learners in their studies, the Learning Management System (LMS) should be used. LMSs however pose serious challenges to students who lack internet connectivity. One of the researchers had difficulties in operating the LMS when she was studying in an ODeL institution as a post-graduate student. At times she lacked resources such as internet. Sometimes the LMS had technical errors for days and this delayed her research activities.

Inclusion of social media in education has drawn many researchers' attention in the digital age era. Of late in the 21st-century studies have been conducted on the use of social media in the institutions of higher learning. This includes the study conducted by Matyanga *et al.* (2020) on virtual supervision of pharmacy undergraduate research projects during the Covid-19 lockdown in Zimbabwe. The findings of their study revealed that WhatsApp effectively guided undergraduate students' research process. Out of 16 pharmacy undergraduates, who were supervised on research projects using WhatsApp, 13 students managed to meet the deadline, all of the 16 students sat for oral examination and passed. On a further note, their study found out that WhatsApp may be the best platform for teaching small numbers of learners in resource-limited settings like Zimbabwe. On one hand, a mixed study conducted by Madge *et al.* (2019) on WhatsApp use among African International Distance Education (IDE) students, found out that WhatsApp opens up opportunities for IDE learners to transfer, translate and transform their learning in distance education. On the other hand, an analysis on the role of Facebook, as an educational tool in higher education was studied by Chugh & Ruhi (2018). Furthermore, Ricoy & Feliz (2016) used a mixed study entitled 'Twitter as a

learning community in higher education. They found out that Twitter is a feasible tool in universities that promotes interaction and technical knowledge amongst students.

Based on the above-mentioned research studies, researchers argue that much focus was put on the use and role of WhatsApp, Facebook and Twitter in institutions of higher learning. However, the study conducted by Matyanga *et al.* (2020) is in line with the current study conducted. It is imperative to note that their study was only limited to pharmacy research students and left out research supervisors and policy implications. In light of this, the study focused on the effectiveness of using WhatsApp and policy implications in research project supervision amongst students in teacher training institutions. Madge *et al.* (2019); & Ricoy & Feliz (2016) used mixed studies to conduct their research. However, this study adopted a qualitative study to obtain in-depth information from participants' natural settings. It is also significant to reiterate that currently there are no studies conducted on this topic in Swaziland. Taking this into account, Swaziland became an area of interest for conducting this study.

WhatsApp Social Media Platform

In this study, the term social media means platforms used for communication with individuals and groups of people who share a common goal. Of particular interest is WhatsApp which is used by many students in Swaziland tertiary institutions. WhatsApp is an application installed in mobile phones and computers for social interaction. Irfan & Dhimmar (2019) posit that WhatsApp is a cross-platform instant messaging service for smartphones that covers a wide range of users worldwide due to its user-friendly features.

Church & de Oliveira (2013) assert that WhatsApp enables users who have internet access to send and receive information, images, videos, audio, and text messages. WhatsApp calling makes it a great alternative to making expensive phone calls. The latest version of WhatsApp has been updated to support end-to-end encryption for all data sent on the platform (Church & de Oliveira, 2013). This implies that only the user and the recipient can have access to the content of their communication hence strengthening privacy of the users. WhatsApp presents notifications of the message sent, has features that indicate whether the message sent was read or not, and whether someone is online or offline.

Irfan & Dhimmar (2019) conducted a psychological study on the impact of WhatsApp on University students and found that 100% of students used WhatsApp and the majority of them used it regularly. Shettigar & Karinagannanavar (2016) in their study on the use of WhatsApp by students found that the majority of undergraduate students used WhatsApp

for more than three hours per day. Their study further revealed that WhatsApp is very effective for interaction and group discussions. Veena & Lokesha (2016) in their study on the effects of WhatsApp usage among students found that the majority of students used WhatsApp for educational purposes. A study on WhatsApp technologies by Abaido & El-Messiry (2016) confirmed strong positive indicators that there were differences between the face to face formal teaching method and the e-learning method applied via WhatsApp. Another South African study analysed the qualities of WhatsApp to foster digital inclusion of poorly networked communities of South African university students (Rambe & Bere, 2013). This study concluded that peer-to-peer and peer-to-lecturer discussions on WhatsApp increased students' participation and promoted the development of learning communities for knowledge creation.

Challenges of Using WhatsApp in Research Project Supervision

Nawaila & Bicen (2018) articulates that using WhatsApp can come with costs, ethical issues, societal considerations, and many other factors that need to be considered. For students and supervisors to be able to use WhatsApp, they should have internet and expensive gadgets such as laptops and smartphones. On a further note, some students and lecturers in Swaziland come from remote areas with poor internet connectivity.

Rambe & Bere (2013) reiterate that older learners take academic engagement after hours via WhatsApp as disruptive to their private lives whereas some students and lecturers do not like social media and they are not using it. On the other hand, Sudharani & Nagaraju (2016) argue that WhatsApp is extremely addictive, and this affects family time of students and supervisors. At times students overburden the supervisor with volumes of documents and messages. Furthermore, Zaheer & Munir (2020) assert that information on WhatsApp can be lost when the phone gets lost. This may result in people unofficially gaining access to information that they are not supposed to have access to.

Benefits of Using WhatsApp in Research Project Supervision

According to White (2012) employing social networking in education combined with face-to-face encounters can promote inclusive education. Most importantly, White (2012) say that the role of educators needs to be fully supported to establish and maintain successful digital pedagogies. If Swaziland is to embrace inclusive education, social media can be used to promote such inclusivity because its features are ubiquitous. Learners with inadequate educational resources and those with special needs may be supported through WhatsApp since most of them use it.

Maor & Currie (2017) report that research supervision must involve research students, supervisors and online communities to enrich the supervision process and provide collaboration opportunities. Loureiro *et al.* (2010) argue that though the potential of Information and Communication Technologies (ICTs) for innovating research supervision processes is undeniable, literature related to this issue is still scarce. This scarcity provides research opportunities.

Pimmer *et al.* (2016) assert that studies were conducted on how students from previously disadvantaged South African universities with limited computer laboratories used WhatsApp to work collaboratively on group research assignments outside classrooms. The results of their study indicated that there was teamwork and efficient sharing of workload amongst these students. Hansen & Hansson (2015) attest that in research supervision ICT tools contribute to providing frequent feedback and facilitating high level of interaction between supervisors and supervisees.

As research project supervisors, we realised that WhatsApp communication instantly reaches a large number of students at a lower cost. Its software allows supervisors to send to students, files, videos, voice notes, instant chat messages and to make calls. This has advantages over sending emails that most students access after some days in internet cafes. Sending information to students in the aforementioned forms promotes Gardner's (1983) multiple intelligence theory. This theory emphasises that since learners are different, diverse teaching and learning approaches should be used to promote inclusivity in learning. In this regard, if research supervisors use WhatsApp voice notes and calls in supervision process this will promote student researchers with verbal-linguistic intelligence. The use of WhatsApp videos can assist student researchers with visual-spatial intelligence. Engaging researchers with text messages can benefit those who possess linguistic intelligence. WhatsApp group charts is likely to accommodate researchers with interpersonal intelligence while individual chats promote learners with intrapersonal intelligence. This scenario reflects that WhatsApp had multiple features that are aligned to Gardner's multiple intelligence theory and in this manner it is much likely to benefit and strengthen the research project supervision process.

WhatsApp has privacy of information because it has an option of locking your messages from being accessed by the second party. Of critical importance is that, lost or deleted information in WhatsApp can be retrieved from Google backup system and in the internal storage memory of the phone or memory card.

Distance Learning

Lehong *et al.* (2019) declare that distance learning is a process of teaching learners located at different places away from their institution, and it is facilitated through the use of technologies. Anderson (2019); & Dron & Anderson (2014) note that though instructional interaction between students and lecturers usually occur in a classroom or other structured context, distance education adopts an electronically mediated context for teaching and learning. Distance learning reflects self-regulated and self-directed learning approaches which have been linked to social media because it promotes learner centred information discovery, connectivity with others, and learner-generated content (Blaschke, 2012).

Historically, distance education has used technology. Tayebinik & Puteh (2012) identified distinct generations of using technology in distance education in the 20th century. He attests that the initial emphasis was on the print-based model of teaching. Then during mid-century, there was an integration of multimedia teaching with the use of print broadcast media, cassettes, and micro-computers. In the third generation towards the end of the 20th century, there was a massive spread of new interactive communication technologies. In the 21st century, digital technologies have enabled distance education to use a variety of tools such as websites, digital libraries, email, virtual learning environments (VLEs), LMS, and the recent application of social media platforms. Distance learning has embraced all trending technologies to engage learners in different geographical areas. WhatsApp and LMSs are some of the trending technologies in the 21st century. These technologies promote a learner-centred approach, and create space for information accessibility and sharing by students and educators.

Lehong et *al.* (2019) posit that online educational technologies aid in collaborative learning in YouTube, Facebook, and WhatsApp forums. Integration of these social media platforms with LMSs may improve teaching and learning in ODL institutions. Anderson (2019) attests that most lecturers in distance education are part-time employees who are geographically dispersed with much potential for professional isolation, minimum chance for teamwork, and institution support. Despite isolation challenges, lecturers and students in distance education institutions have higher digital and social media use than their campus-based counterparts (Anderson, 2019).

Even though distance education is essential, it presents some challenges to teachers and leaners involved. Zaheer & Munir (2020) articulate that challenges faced by distance learners are lack of access to necessary resources such as educational and technological infrastructure, shortage of skilled educators, negative attitudes and poor socio-economic background. Educators engaged in distance learning may experience difficulties and frustration of reaching out to students, lack of relationship development with students and poor network coverage and internet

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connectivity to reach all students in different geographical areas.

Policy Implications on the Use of Social Media in Tertiary Institutions

Jili'ow (2017) defines policy as statements that outline how institutions conduct their internal business operations. Ndou (2015) argues that the definition of policy is broad and depends on the context. In this study, policy refers to regulations and guidelines that govern ODL institutions. The introduction of technologies has changed the education terrain. Barone (2003) posits that there is a need for institutions to address the critical relationship between technology use and policy.

Wallace & Young (2010) articulate that new technologies evoke debate on policy decisions around educational methodology, implementation, evaluation, and costs. They proceed to argue that new technologies cannot be introduced without debate amongst relevant stakeholders in higher education.

Wiid *et al.* (2013) asserts that tertiary institutions should craft policies that govern how social media platforms should be used to facilitate teaching and learning. Burns (2019) argue that challenges associated with the implementation of technology in sub – Saharan African schools are lack of policies, technical skills, and proper systems. In Swaziland, the National Education and Training Improvement Programme 2018/19 – 2020/2021 indicate that there is a lack of policy and statutes for higher education. MOET Policy 2018 stipulates that the curriculum framework policy's emphasis is on the use of e-learning and blended learning. Technology is seen as one of the tools that can contribute to development of 21st Century skills for the knowledge-based economy and achievement of vision 2022 development goals for socio-economic aspirations of Swazis. Also, MOET 2018 policy indicates that a digital version of the curriculum, mobile learning, e-learning, e-assessment, and e-governance shall be incorporated by the Ministry of Education and Training to facilitate an enabling environment for the use of ICT in all education and training establishments. This policy however did not incorporate the use of social media to facilitate teaching and learning.

One of the aspirations of Africa Agenda 2063 is that by 2063 the continent should have well-educated and skilled citizens, particularly in science, technology, and innovation. This continental agenda sees technology as one of the key elements that are necessary for the stimulation of development in Africa. It is therefore critical for African institutions of higher learning to keep abreast with technological development to meet the targets of the first ten-year plan of the African Agenda 2063.However, Burns (2019) note that introducing technology in education institutions without proper policies tend to be meaningless and ineffective. In light of this, Swaziland Higher Education Council (SHEC) regulatory authority ensures that tertiary institutions align their operations with MOET policies.

RESEARCH METHODOLOGY

This section focus on research approach, research design, data collection instruments, population and sampling methods. Data analysis and presentation, issues of trustworthiness of the results and ethical considerations are discussed.

Research Approach

The study adopted a qualitative research approach. This approach was suitable because the study sought to generate rich and in-depth information from participants who used WhatsApp to supervise research projects in selected teacher training institutions in Swaziland. The suitability of this approach is in line with Bhadari (2020) who asserts that a qualitative approach is used to understand how people experience the world, and it tends to be flexible and focuses on retaining rich meaning when interpreting data.

Research Design

A case study design was used and each selected ODL teacher training institution represented a case. McMillan & Schumacher (2014) & Creswell (2014) argue that a case study design's major advantage is that it allows the researcher to probe and analyse intensively to get a detailed understanding of the phenomenon. In this regard, the case study generated detailed information for the study.

Population and Sampling

Madlela (2014) attest that the population of the study is a group of people where participants are selected from. The target population of the study were research supervisors who used WhatsApp to supervise research projects. Patton (2002) argues that purposive sampling enables researchers to select individuals with deep information about the topic being studied. In light of this, four (4) ODL teacher training institutions were purposively sampled and in each institution, two (2) participants were purposively selected.

Data Collection Instruments

In-depth semi-structured interviews were used to collect data, and they promoted deep interaction with participants. The interview questions were derived from the interview guide designed by the researchers. Jamshed (2014) commend interviews for enabling researchers to get comprehensive information from participants.

Data analysis and presentation

Data was analysed in line with emerging themes and presented narratively. Some of participants' contributions were presented verbatim. Macmillan & Schumacher (2014); & Bandari (2020) contend that

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qualitative data analysis can be done in a thematic form and presented narratively. In this study, data was analysed and presented under themes that emerged from data interpretation.

Trustworthiness

Guba's (1981) criteria were used to ensure the trustworthiness of the study. These include credibility, transferability, dependability and confirmability. Appropriate research design and methods were used to obtain detailed information in this study. This promoted the dependability and credibility of the findings of the study. Further, the proper selection of participants being studied and appropriate data collection instruments made the study transferable to other similar environments. Furthermore, the member checking strategy allowed participants to confirm the results of the study and this was done to meet the confirmability criteria.

Ethical Consideration

Research ethics were followed in this study. McMillan & Schumacher (2014) assert that ethical guidelines that govern qualitative research include informed consent, confidentiality, privacy, anonymity and voluntary participation. Given this, participants were asked to sign consent forms with ethical guidelines guaranteeing them confidentiality and protection of their identities, and informing them that participation in the study was voluntary. Participants' names were replaced with coded names such as Participant from institution A, B, C and D and institutions were coded Institution A, B, C and D.

PRESENTATION OF FINDINGS AND DISCUSSIONS

This section analyses, presents and discusses findings of the study. Since the study used a qualitative research approach, findings of the study were presented narratively under the themes that emerged from data interpretation as alluded to by Macmillan & Schumacher (2014); & Bandari (2020). Four ODL institutions that took part in the study were coded A, B, C and D. Participants were referred to as participant from institution A or D etc.

Research Project Supervision

Participants said that a research project is an inquiry that is undertaken to generate solutions to identified problems. A participant from institution A said:

A research project is an undertaking engaged in by the student to provide solutions to an identified problem, by following a systematic order known as the research cycle.

A participant from institution B said:
A research project is an inquiry into something that is affecting society which needs to be solved in a systematic way of involving people who are directly affected by the problem.

Another participant said:
A research project is acquiring information to answer a research question.

Participants' responses proved that they understood what a research project is. Bell & Waters (2014) attest that a research project is an approach that is appropriate in any context where a problem involving people, tasks, and procedures cries out for solution.

Participants concurred that in their contexts research supervision involved supporting and guiding young researchers step by step, to ensure success of the research project. A participant from institution D said:
Research supervision entails mentoring a student throughout a research project, being supportive, ensuring that timelines are met, helping students to formulate answerable research questions, and ensuring that research ethics are not violated

Institution B's participant said that research project supervision is assisting the supervisee to come up with a researchable topic. He said that the supervisor must teach the student problem identification and formulation of research questions. He continued to say:
The supervisor should also help the student to review literature, write methodology and analyse data. The student's failure should be blamed on the supervisor who has a responsibility to mentor and motivate the student.

The participant from Institution B continued to argue that the supervisor should be exemplary to the supervisee in keeping timelines. He condemned supervisors who threaten supervisees instead of playing their supervision role. Tichapondwa (2013) asserts that in order to produce quality research supervisors should guide students well and be concerned about their needs and also give them timely feedback. He said:
Supervisors should journey with the student and share experiences from the first day of supervision up to the completion of the research project so that they develop long-lasting relationships.

Chlome & Chabaya (2012) cited in Tichapondwa (2013) asserts that students need to be accorded respect by supervisors because they deemed themselves as scholars and colleagues in research.

WhatsApp Social Media Platform

In response to the question: Give a brief definition of WhatsApp? One participant from institution A said:

WhatsApp is a platform that allows people to send text messages, PDFs, pictures, videos, voice and video calls instantly. Users can interact on a one on one or a group basis.

The participant's response is in line with Church & de Oliveira (2013) who assert that WhatsApp is a cross instant messaging platform which allows users to send and receive information, images, audio, text messages to individuals and groups through using smartphones and computers that are connected to the internet.

Institution D's participant said:
WhatsApp is a platform that can be used to communicate with students in terms of announcements and class discussions.

Participants' explanations and Church & de Oliveira's (2013) assertions concur that WhatsApp is a platform that people use to communicate through sending text messages, images etc.

Effectiveness of Using WhatsApp to Supervise Research Projects

Participants concurred that WhatsApp is effective in research project supervision. A participant from institution C said:
WhatsApp enables students to send their research projects and receive feedback. WhatsApp is effective in giving feedback than email as it indicates through blue ticks that the student has received feedback. Emails don't show that students have received feedback, and most students have a tendency of denying that they received emails with feedback.

On the other hand, a *p*articipant from institution A said that though he conducts supervision through WhatsApp, he gives feedback through emails. He said:
I do a lot of communication and guidance of students through WhatsApp, but after going through their research documents I email individual students detailed specific comments.

He said that WhatsApp enabled him to circulate documents and discuss issues instantly with students. He noted that students posed questions and the supervisor's response to the group benefited all students. He said:
Through WhatsApp, I can send to students' research project guidelines, articles related to students' research topics, and marking rubrics. This improves the effectiveness of supervision as students can get information that they need at the comfort of their homes without going to the internet cafés to try and access emails. Some students stay where there are no internet cafes and it is difficult for them to access

emails. Most of them have compatible phones, it is easy for them to get information from supervisors through WhatsApp.

Shettigar & Karinagannanavar's (2016) study revealed that WhatsApp was very effective for undergraduate student group discussions and interaction.

Institution A's participant asserted that:
Through WhatsApp, you can send audio to the group explaining certain concepts that they need clarity on. You can make a WhatsApp group call, and you can have a group meeting with students in different geographic locations.

This participant continued to say:
What makes WhatsApp more effective in research project supervision is that it enables supervisors and students to interact regularly.

Institution B's participant noted that WhatsApp is one of the most effective and affordable communication platforms than other communication channels such as emails. He said that making a normal phone call is too expensive compared to a WhatsApp group call which can benefit many students at a lower cost. He continued to argue that through WhatsApp students can screenshot the part of their research projects where they have problems and send it to the supervisor. Church & de Oliveira (2013) assert that images can be sent through WhatsApp at affordable costs. Institution B's participant went on to say:
WhatsApp also encourages students to help each other. This builds good relationships among student researchers. Student collaborations can lead to co-publications.

Participants noted that what makes WhatsApp effective than other platforms in research project supervision is that it is time and cost-effective and everything happens instantly. Participants concurred that WhatsApp eliminates distance barriers and the need for physical contact with students which have time and cost implications. Rambe & Bere (2013) assert that results of a study that was conducted in South Africa on the use of WhatsApp revealed that, WhatsApp promotes digital inclusion of university students coming from poorly networked communities. This shows that if used appropriately WhatsApp promotes interaction, knowledge creation and sharing between students and lecturers. This makes it effective in research project supervision where regular interaction between supervisors and supervisees is required.

Challenges of Using WhatsApp to Supervise Research Projects

Participants noted challenges associated with the use of WhatsApp to supervise research projects. They said poor internet was a major challenge.

Participants also said that students from poor communities did not have enough money to buy data to access information posted in the group by supervisors and peers. One participant from institution C said:

> At times due to poverty, some students do not have money to buy enough data to download documents sent by the supervisor.

Participants also said that some students' phones can't access WhatsApp. A participant from institution A said:

> Though most students have cell phones, some phones cannot access WhatsApp, while other phones can't navigate certain documents. Sometimes students fail to see the supervisor's comments in the research project document if they are using cell phones.

Participants noted that some students were not on WhatsApp for different reasons. One participant from institution C said:

> Due to Religious and social backgrounds, some students do not use WhatsApp, while some say that their spouses complain when they use it. Some students even if they are in the WhatsApp group they prefer a paper-based system to soft copies.

Nawaila & Bicen (2018) asserts that the use of WhatsApp comes with ethical and societal considerations that should be considered. Participants said the use of WhatsApp in research project supervision at times led to abuse of the platform by supervisors and students. One participant said:

> At times the supervisor and supervisees end up targeting each other and communicating directly not via the group and sending each other obscene messages that have nothing to do with research project supervision. This jeopardises the use of WhatsApp as a supervision platform.

Participants suggested that the use of WhatsApp should be regulated and those who break ground rules should be reprimanded.

Use of WhatsApp to supervise research projects and policy implications

The policy that regulates education institutions in Swaziland is MOET 2018. Institutions align their policies with this policy. Participants concurred that MOET policies had not yet recognised the use of WhatsApp. A participant from institution C said:

> WhatsApp is not yet in the MOET policy. We are just improvising as human beings. We cannot continue sticking to old methods that are now irrelevant.

Though MOET 2018 policy recognises e-learning, it doesn't recognise the use of social media platforms such as WhatsApp. Participants also said that WhatsApp was not yet recognised in their institutions' policies, because such recognition should start from MOET policies. They said that their institutions used WhatsApp for communication, not for instructional purposes. A participant from institution B said:

> Though it is not yet written in the communication policy, WhatsApp is embraced in my institution for communication at all levels. Staff members and students have WhatsApp groups to facilitate communication only. It is not in the teaching and learning policy.

Burns (2019) argue that in Sub – Saharan Africa the challenge associated with the implementation of technology among others is lack of policy. The study's findings revealed that MOET policies and tertiary institutions' policies have not yet embraced the use of social media platforms. This limits the use of social media like WhatsApp in tertiary institutions because the policy is the one that guides institutions.

Strategies That Can Make the Use of WhatsApp Effective in Research Project Supervision

Participants said that if WhatsApp is to be effectively used in research projects supervision, MOET and institutions should embrace it in their policies. One participant said:

> There is a need for policy overhaul to cater for new realities of blended and online learning. This should start right from MOET up to institutional level. Regulators like SHEC should check compliance to quality standards based on policies.

Participants emphasised the necessity of policy review. They said that some institutions did not allow learners to use their phones yet phones are very effective in learning. One participant from institution B said:

> MOET should have a policy that allows for the use of WhatsApp from primary school level. Skills are learnt better at an elementary stage than when people are old.

Jili'ow (2017) notes that policies give guidelines on how institutions conduct their internal operations. One participant said that policies should specify how students should be supported in terms of data. He felt that institutions should assist students with data bundles and electronic gadgets using the IT levy. Another participant said that policies should state how supervisors and students should properly interact in the WhatsApp platform.

CONCLUSIONS

In conclusion, based on the findings of the study, WhatsApp is effective in supervising research projects. WhatsApp has proven to facilitate communication, promotes interaction, knowledge

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creation and sharing between research students and their supervisors, is time and cost-effective, and enabled research students to get prompt feedback without travelling to institutions to see their supervisor. WhatsApp as a supervision tool presented challenges to students who did not have compatible gadgets, internet connectivity, and money to buy data bundles. It also presented challenges of improper usage by research supervisors and students who found it as an opportunity to present their interests that has nothing to do with research activities. Despite WhatsApp being effective for research supervision, it is not recognised by MOET and institutions of higher learning in Swaziland. Their education policies do not reflect the incorporation of WhatsApp in teaching and learning. In this regard, participants suggested the necessity of policies that inform and regulate the use of social media platforms such as WhatsApp in the school context.

Recommendations

The following recommendations were made based on participants' contributions.

- The Ministry of Education and Training and institutions of higher learning should embrace the use of WhatsApp platform in their teaching and learning strategies and policies.
- Institutions of higher learning should support their students and lecturers with compatible gadgets such as tablets, smartphones, and laptops as well as Wi-Fi and data bundles.
- Research project supervisors and students should come up with rules that regulate the use of WhatsApp during supervision.
- Institutions of higher learning should use WhatsApp on other pedagogical practices in addition to research project supervision.

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