Doctoral Education in Context

Perspectives from Africa

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CHAPTER 17

Remote supervision of doctoral research using WhatsApp in universities in Benin

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Benin Republic is in West Africa. It has a population of 13 million. There are four public universities in Benin. The University of Abomey-Calavi (UAC), the University of Parakou (UP), the Agricultural University at Ketou (UK) and the National University of Sciences, Technologies, Engineering and Mathematics of Benin (UNSTIM). In 2022 more than 711 candidates were registered in seven doctoral schools in the country. The doctoral programme offers further education that can help a student become an expert in his or her field. A doctoral programme typically takes three to five years to complete and involves independent study and research in a focused area of interest. Doctoral programmes in Benin include course work and research that culminate in a final dissertation.

1. Introduction

This study focused on the use of WhatsApp as a tool to enhance doctoral supervision in the Benin Republic. Over the past twenty years or so, there has been a growing interest in doctoral education in the country, resulting in a rise in postgraduate enrolments. Regrettably, however, this increase in enrolments has not always led to successful completions. A significant factor contributing to this situation is the limited number of supervisors, many of whom are burdened with heavy supervision loads.

There have been studies on the use of social media technologies in education in recent years in many African countries. These include Pimmer (2016), who suggests the use of Facebook as a research education tool in disadvantaged

areas, Rambe and Mkono (2019) who advocate for appropriating WhatsApp-mediated postgraduate supervision to negotiate "relational authenticity" in resource-constrained environments and Ngakane et al. (2022) who focus on effectiveness and policy implications of using WhatsApp to supervise research projects in open distance learning teacher training institutions. There has also been extensive research into the potential role of electronic and mobile learning. But no research exists on WhatsApp interventions in doctoral supervision in Benin Republic so far.

This study assesses the potential of WhatsApp-based supervision in supporting doctoral training in Benin Republic. As the largest messaging platform, WhatsApp has become the most used and useful application for mobile communication all around the world (Motteram, 2019). Groups of people only need an internet connection (wi-fi or cellular network) and smart phones to instantly share unlimited text messages, voice notes, voice calls, group calls, and files. WhatsApp came into being in 2009 and was reported to have 1.5 billion users in over 180 countries in 2019 (Motteram, 2019). It has become one of the most downloaded Android apps focused on mobile usage in developing countries (Porter et al., 2016). WhatsApp seems, therefore, a good starting point as an alternative method of facilitating communication with the potential of improving doctoral supervision.

This study, which assesses the level of practice and experiences in using WhatsApp to support doctoral supervision in Benin Republic, is structured around five points: literature review; study objectives; the case study; results/discussion; and the conclusion.

2. Literature review

Doctoral supervision deserves special attention for it is easy for doctoral candidates to become isolated, with busy supervisors who fail to interact with their supervisees. Jones (2013) indicates that most supervisors today lack adequate supervisory capabilities and time and largely tend to overlook their fundamental role as mentors. Using the social media space can lower learners' thresholds to accessing educational resources (Pimmer, 2015). WhatsApp can be an excellent tool for cooperation between supervisors and doctoral candidates. Authentic supervision can be constructed through supervisor–supervisees' negotiation of academic hierarchies, supervisees' self-expression and self-disclosure. Supervisors need to manage the significant yet unrecognised "nervous moments" in technology-mediated supervision environments,

where compression of hierarchy may be conflated with negation of the supervisor's authority (Rambe & Mkono, 2019:702).

High-tech tools like video conferencing applications are attractive; however, they need higher bandwidth than media tools like WhatsApp (Motteram, 2019). If WhatsApp is well controlled and managed, it could be beneficial for education (Motteram et al., 2020). WhatsApp and similar multimodal devices — such as WeChat, Viber or Telegram — are able to handle text, pictures, sound files and video as well as voice calls. In low-resource and fragile contexts, teachers are often the most valuable resources available to students. Motteram (2020) identifies the potential for WhatsApp groups to contribute to learning in various ways: sharing of resources and materials and discussion on different aspects of learning. WhatsApp is an effective platform in research project supervision. However, the use of WhatsApp poses challenges to students who come from poor socio-economic backgrounds since they cannot always 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 (Ngakane et al., 2022).

3. Study objectives

This study aims to explore at what modalities low-tech, low-cost, readily available forms of technology might contribute to doctoral supervision in challenging contexts. The investigation sought supervisors and students' experiences and challenges relating to the use of WhatsApp for doctoral supervision in Benin Republic. To achieve its aim, we used the following research questions:

1. What forms of supervision practice emerge from the use of WhatsApp in the context under investigation?
2. What are the challenges in using WhatsApp for doctoral supervision?

4. The study

4.1 Context of the study

The majority of doctoral candidates in the context under investigation work outside of the university and reconciling study and work is a challenge. Some of those doctoral students have difficulties in making appointments and meetings with supervisors. Supervisors are too often faced with work overload. It is not uncommon to see supervisors teaching here and there, and supervising as well.

This leaves little to no time for 'free' supervision of students. Combining heavy teaching and research responsibilities with consultancy results in the fact that there is no time left for good supervision.

The mobile phone is the most accessible and commonly owned technology for participants in the context under investigation. Mobile data represented the most frequent way of connecting to the internet. Connecting to wi-fi at home is the least common method.

4.2 Participants and instruments

Twenty-two participants in science-related disciplines took part in the study, among which seventeen were supervisors (two females and fifteen males) and five doctoral candidates (one female and four males). The study focused on five doctoral students because only five respondent supervisors were able to provide doctoral candidates from whom to collect data for the study. A questionnaire was designed to collect background information from the seventeen supervisors and five doctoral candidates. This procedure was adopted primarily to understand more about the participants themselves (supervision experience and their employment situation). Then, I aimed at understanding the types of technology available to them personally, the way they connect to the internet and the reliability of that connection. I wanted to gauge their interest in online supervision and to discover the sorts of areas they would like to explore. I designed an interview schedule for the five supervisors and the five doctoral students suggested for the study.

The researcher met participants to explanation the project. This allowed them to give the researcher permission to be part of the research study in a format they could comfortably access. Another very important ethical consideration was the protection of the participants' identity and dignity. Therefore, to ensure anonymity, the researcher provided participants with pseudonyms which do not expose their identities.

5. Results

This section provides the outcomes of the study. It displays the answers to the questionnaire as well as the interview. The answers were analysed using descriptive statistics and thematic analysis.

5.1 Respondents' characteristics in the context under investigation

One of the aims of the study was to understand the sort of access participants had to the internet, how they accessed it and the equipment they had.

Table 1: Participants' personal access to technology

Population	Participants	Mobile phone	Laptop	Tablet	Desktop
Supervisors	17	17	17	11	13
Doctoral students	5	5	2	0	1

Table 1 shows the mobile phone as the most accessible and frequently owned technology for participants in the context under investigation. Mobile data represented the most frequent way of connecting to the internet (22 out of 22 in the study), while connecting through wi-fi at home was the least common method. Data connection was deemed reliable by fifty-two per cent (52%) of the respondents, with thirty-one per cent (31%) saying that it was not reliable.

5.2 Forms of practice and doctoral supervision by means of WhatsApp chats

WhatsApp activities were developed for supervision in the context under investigation. These groups primarily seek to share resources and information via WhatsApp. Attending meetings, sharing presentations and talking about candidates' difficulties are other forms of practice.

One of the student respondents said: "*My supervisor uses WhatsApp to announce events and scholarship opportunities and share administrative information and documents with me*."

For some supervisor respondents, WhatsApp constitutes a fantastic learning tool. Some asserted that WhatsApp could be used to work collaboratively. In that connection, another respondent added: "*It is awesome and fantastic to share our experiences to build relationships, and it is also good to improve our supervision practices in different ways*."

Learning happened around specific aspects of supervision; for example, the respondents spent a lot of time discussing the content of some chapters.

WhatsApp is crucial in offering psychological support and sharing information with doctoral students. Data collected from supervisors showed that time spent on WhatsApp positively affected doctoral student psychological wellbeing. This supportive relationship has helped sustain students' sense of wellbeing and commitment to their research work. It also recognises a collective

responsibility to each other as supervisors and doctoral candidates collaborate in trust and respect for each other.

5.3 Challenges in using WhatsApp for doctoral supervision in the context under investigation

Even though WhatsApp could be used for supervision activities, it could also be challenging for teachers, whose difficulties with the application and context of its use included technical and technological, economic, political, data protection and time-related concerns.

Technological and technical challenges

Even though WhatsApp does not require sophisticated technical skills, the ability to install and use the application constitutes an issue. Participants in the context under investigation were not sufficiently prepared to meet the required technical standard skills for WhatsApp chats. The difficulty lay with supervisors who struggled to gain technological fluency. Many identified barriers continued to prevail in the study, not for lack of participants' trying but because of the overwhelming nature of technology. The study also shows that many supervisor respondents were often resistant to technology because they did not see it as part of their content responsibilities. Time allotted for mobile phones and computers means learning how to use a function with little or no concrete connection to supervision activities. Some of the respondents were reluctant to use WhatsApp and others were against social media entirely and did not want to join any WhatsApp group. Of those who were computer literate, some did not want to join any WhatsApp group because of an unfortunate event they experienced related to social media in the past.

> *"I had downloaded a software as WhatsApp desktop application one day and the installation distributed malware that compromised my computer,"* Fedi complained.

Reliable connectivity remains another technical challenge. While city residents have access to better internet connection, rural area residents are poorly served. In any case and regardless of one's place of residence, connection is costly for the doctoral candidate with their meagre income. Many candidates who had smartphones could not afford the cost of mobile data. Furthermore, the network

saturation and bandwidth in urban areas and the non-coverage of some remote villages made the use of WhatsApp very challenging for many informants.

Economic and political challenges

Communication has been identified as one of the 21st-century skills necessary for meeting many of the development imperatives expressed in the UN's Sustainable Development Goals for Africa. Information and communication technologies (ICTs) hold the potential to drive development and transform education. However, ICT policies and systems that may promote this growth are not in line with participants' economic realities. There are regions lacking electricity, a crucial component in ICT access. In Benin Republic, the use of technology-mediated learning that allows for improved learning and additional access to higher education is limited. In the extant literature, it is recognised that the diffusion and adoption of technologies uphold, or even further amplify, educational inequality. An example being the differences between those who can access and make use of digital knowledge sources and those who do not have such means at their disposal (Pimmer, 2016).

Time

Another major challenge was the time factor. Some participants saw WhatsApp as a time-consuming activity. One of the informants, declared the following: "*I prefer face-to-face collaboration with my doctoral candidates than wasting my time by punching fingers over a glass screen that takes the non-verbal aspect of communication away and replaces emotions with phony emoticons where a person types ten smileys even though they might be frowning.*" Furthermore, another challenge was agreeing on a time to engage with doctoral candidates through WhatsApp. Time zone differences makes it very hard for local students to learn from and share with international supervisors.

Data protection

During the study, many scholar respondents reported concerns about data protection issues. Respondents live in a data-driven world. Almost every transaction and interaction one has involves data sharing. Every time social media is used data is shared. Respondents value the use of one's data only in ways one would reasonably expect, and that it stays safe. Most of the participants were

cautious regarding the use of WhatsApp in supervision because they thought students' projects may be exposed to data protection issues.

6. Discussion

The use of WhatsApp could strengthen the relationships between supervisors and candidates, moving the students from isolation to a supported community by fostering in them a sense of belonging in the context under investigation. Sharing resources and spreading information are significant activities. The feeling of belonging to a community tearing down the barriers that used to isolate the supervisor and the student. The WhatsApp platform could succeed in bringing the two parties together through a relatively universally accessible medium.

However, some challenges need to be considered as well: some doctoral candidates live in rural areas deprived of electricity and thus have very limited internet access. One candidate made the following comment: "*I am not lucky. I don't have electricity although I can afford to use my personal computer.*" The implication seems to be that not all candidates have the luxury of electricity. What is clear is that there is great variety in terms of access to electricity among the student respondents and therefore the state should provide electricity for the specific local, as well as national, context. Furthermore, the study revealed that WhatsApp cannot replace the face-to-face aspect of communication in the supervisory relationship; not everything can or should be done through social media.

Several previous studies have found that specific structural, programme-level characteristics are essential to the creation of a successful educational WhatsApp group. This study suggests that WhatsApp could play a vital role in doctoral supervision in challenging contexts.

7. Suggestions

Doctoral schools and laboratories should provide internet connection to both supervisors and doctoral candidates. For doctoral candidates in remote and rural communities, where access to the internet access is more sporadic, it may be necessary to purchase mobile data. That could increase their access to the internet. This might encourage continued uptake. More adapted software should also be designed. Providing dedicated time and space for reflection is essential for doctoral candidates, enabling supervisors to engage more deeply with the substance of their supervision.

8. Conclusion

This study investigated the possible role of WhatsApp in doctoral supervision in Benin Republic. The combination of the literature review and the implementation of the questionnaire and interview have shown how technological innovations have opened up supervisors' options for networking and improving their supervision practices. WhatsApp can be an excellent tool for compensating for the packed schedule of supervisors. It can be used to provide feedback and support to doctoral candidates. In today's knowledge economy, innovation and technological change are recognised as the primary drivers of progress. Creating a space and time for reflection is necessary for doctoral students. If WhatsApp is well controlled and managed, it can be beneficial for doctoral education. However, it needs to be set up and managed in a context of good connectivity.

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