

Leveraging Technology for Remote Supervision: Overcoming Challenges in Supervising Geographically Dispersed Student Teachers

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ABSTRACT

Providing effective supervision and evaluation for student teachers during their teaching practice is a significant challenge in developing countries with geographically dispersed placements. This research investigates the impact of distance on supervision and explores alternative supervisory strategies for student teachers at Evangelical Presbyterian University College, Ghana. Utilizing a mixed-methods approach, the study combined an online survey of 100 student teachers with in-depth interviews and observational data. The survey revealed that 55% of respondents experienced difficulties in regular supervisory observations, 60% felt less supported due to physical separation, and 60% reported limited in-person feedback. Interviews highlighted resource constraints and the potential of technology-mediated supervision. Observations of WhatsApp-based supervision sessions demonstrated enhanced communication and real-time feedback, though underscored the need for clear guidelines. The findings suggest that while distance negatively impacts supervision quality, innovative solutions like WhatsApp can mitigate these effects, provided structured protocols are in place. This study emphasizes the importance of integrating technology to enhance teacher education in resource-constrained settings, ultimately improving the teaching practice experience for student teachers. This research contributes information about geographic barriers and the role of technology in helping to create a more inclusive and effective supervision environment for student teachers.

Keywords: Technology Supervision, Remote Supervision, Geographically Dispersed, Technology in Education, WhatsApp in Education, Student Teachers



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1. INTRODUCTION

The crucial role of effective supervision and evaluation in developing qualified teachers lies in its ability to provide feedback, support, and guidance to teacher trainees in order to improve their performance (Rusdiana et al., 2020). Through effective supervision and evaluation, teachers are able to receive constructive feedback on their teaching practices, identify areas for improvement, and access professional development opportunities (Ridge & Lavigne, 2020). This process helps to ensure that teachers are continuously improving their skills, knowledge, and instructional practices, ultimately leading to the development of qualified and competent educators. These processes go beyond mere assessment, offering valuable formative feedback that nurtures professional growth and fosters continuous improvement among educators (Irons & Elkington, 2021). Through a structured approach to supervision, educators are empowered to set individualized growth goals, driving their development forward in a manner aligned with best practices and institutional objectives (McGhee & Stark, 2021). Simultaneously, evaluation provides a

comprehensive overview of teachers' performance, incorporating various metrics to gauge their effectiveness in planning, delivery, and student engagement (Ford & Hewitt, 2020). Grounded in research-supported methodologies, effective supervision and evaluation not only hold teachers accountable for student outcomes but also serve as catalysts for ongoing professional development (Hart, 2024). In essence, these processes play a pivotal role in cultivating a cadre of highly skilled and dedicated educators poised to positively impact the learning experiences of their students (Gorni & Saud, 2023).

Evangelical Presbyterian University College often grapples with unique challenges when it comes to supervising student teachers who are geographically dispersed across vast areas. These challenges stem from logistical constraints such as inadequate transportation infrastructure, scarcity of qualified supervisors, and the sheer geographical expanse of the regions involved (Mangione & Cannella, 2021). The shortage of transportation options can hinder supervisors' ability to travel to remote areas, impeding their access to student teachers and limiting the frequency and quality of supervision visits. Moreover, the scarcity of qualified supervisors exacerbates the problem, as there may not be enough experienced educators available to effectively oversee and mentor student teachers in these dispersed locations. Furthermore, the geographical dispersion of student teachers presents its own set of challenges, as it can lead to isolation and a lack of peer support among students. This isolation may hinder collaboration and the exchange of ideas, which are crucial aspects of teacher development. Additionally, the absence of a robust support system in geographically dispersed areas can exacerbate feelings of professional isolation among student teachers, impacting their morale and overall learning experience. Overall, addressing these challenges requires innovative solutions that leverage technology, community partnerships, and resource mobilization to ensure effective supervision and support for student teachers in geographically dispersed areas. While the task may be daunting, it is essential for ensuring equitable access to quality teacher education and ultimately improving educational outcomes in these regions.

Traditional supervision methods in geographically dispersed contexts often face significant limitations stemming from logistical constraints and resource shortages. The conventional approach, reliant on in-person interactions between supervisors and student teachers, is hindered by challenges such as transportation barriers, scarcity of qualified supervisors, and the vast geographical spread of educational institutions (Dyah Mutiarin et al., 2023). In response to these challenges, the potential of technology emerges as a promising avenue to bridge the gap and enhance supervision practices for geographically dispersed student teachers. Leveraging digital tools and platforms, such as video conferencing, online learning management systems, and mobile applications, holds the promise of overcoming spatial barriers and facilitating real-time communication and collaboration between supervisors and student teachers (Almusaed et al., 2023). Against this backdrop, the research novelty explores how technology can serve as a catalyst for improving supervision practices for geographically dispersed student teachers. By investigating the efficacy of digital solutions in facilitating remote supervision, the study seeks to identify innovative strategies and best practices that harness the transformative potential of technology to enhance the quality and effectiveness of teacher education in resource-constrained settings. As a result, the overall objective is to explore the potential of technology-mediated supervision practices to address challenges and improve the effectiveness of teaching practice supervision for geographically dispersed student teachers at the Evangelical Presbyterian University College (EPUC), Ghana.

1.1. Challenges of Teaching Practice Supervision

In the domain of teaching practice supervision in developing countries, a plethora of research underscores the multifaceted challenges faced by educators and supervisory bodies (Griffiths et al., 2021). Synthesizing various studies provides a nuanced understanding of the intricate issues embedded in the supervision process. A recurrent theme in the literature is the persistent shortage of qualified supervisors, exacerbating the challenge of offering meaningful and personalized feedback to student teachers. Research by Schwerdtle et al. (2017) highlights the scarcity of experienced supervisors in many developing contexts, leading to compromised supervision quality and limited opportunities for constructive mentorship. This shortage not only hampers the ability to provide in-depth guidance but also impedes the establishment of robust mentor-mentee relationships crucial for effective professional development (Kourieos, 2019). The dearth of experienced supervisors emerges as a significant bottleneck in ensuring the quality of teaching practice supervision in these settings.

Transportation emerges as another pivotal concern, significantly impacting the ability of supervisors to reach geographically dispersed student teachers. Inadequate transportation infrastructure can indeed have a significant impact on the frequency and effectiveness of on-site supervisory visits, consequently hindering the overall quality of the teaching practice experience. Research by Gamage et al. (2020) highlights the importance of regular and high-quality supervision in improving teaching practices and student outcomes. When transportation infrastructure is lacking or inefficient, supervisors may face challenges in reaching schools in a timely manner, leading to infrequent visits or even cancellations (Mamokhere & Kgobe, 2023). In many developing countries, particularly those with rural or remote areas, unreliable transportation options pose a formidable barrier to supervisory access. This challenge is compounded by factors such as poor road conditions, limited public transport services, and prohibitive travel costs, further impeding

supervisors' ability to conduct regular and comprehensive observations of student teachers in diverse educational settings. As a result, student teachers in geographically isolated areas may receive inadequate supervision, leading to disparities in the quality of their training experiences and potentially affecting their readiness for professional practice (Játiva et al., 2022). Addressing transportation barriers is thus crucial for ensuring equitable access to high-quality teaching practice supervision and promoting the development of competent educators across diverse geographical contexts.

Moreover, the literature underscores the geographical dispersion of educational institutions as a critical factor amplifying the challenges of supervision. Research by Echazarra & Radinger (2019) emphasizes how remote and rural placements contribute to isolation, limiting the accessibility of supervisory support and impeding the collaborative exchange essential for effective teaching practice. In many developing countries, teacher education institutions are distributed across vast geographic areas, with some located in remote or isolated regions where infrastructure and resources are limited (Mangione & Cannella, 2021). This geographical dispersion poses significant logistical challenges for both student teachers and supervisors, making it difficult to establish regular communication channels and coordinate supervision activities. As a result, student teachers in these settings may experience heightened feelings of isolation and lack of support, hindering their professional development and overall learning experience. Addressing the geographical dispersion of educational institutions requires innovative approaches to supervision, such as leveraging technology to facilitate virtual collaboration and resource sharing among stakeholders. By overcoming geographical barriers, these strategies can help bridge the gap between remote educational settings and ensure equitable access to high-quality supervision for all student teachers, regardless of their geographic location.

Synthesizing these studies not only illuminates the challenges inherent in teaching practice supervision in developing countries but also lays the groundwork for understanding the interconnected nature of these impediments. The resulting synthesis serves as a valuable resource for informing interventions and innovative strategies to address the intricate web of challenges faced by supervisors and student teachers alike.

1.2. Impact of Geographical Dispersion on Student Teacher Training and Supervision

The scholarly literature on the impact of geographical dispersion on student teacher training and supervision reveals a complex interplay of challenges and opportunities, underscoring the need for nuanced considerations in educational practices. Synthesizing various research studies provides a comprehensive overview of the multifaceted implications associated with geographical dispersion in the context of student teacher training.

Research by Goos et al. (2020) consistently highlights that geographical dispersion poses significant hurdles to the traditional model of student teacher training, particularly in terms of access to resources, mentorship, and collaborative learning opportunities. Remote and dispersed placements often result in isolation, limiting the exchange of ideas and experiences crucial for the holistic development of student teachers. In many developing countries, teacher education institutions are scattered across vast geographic areas, with some located in remote or rural regions that lack adequate infrastructure and support systems (Bahri et al., 2022). As a result, student teachers placed in these areas may face challenges in accessing essential resources, such as teaching materials, technology, and professional development opportunities. Additionally, the lack of proximity to experienced mentors and peers can impede their ability to engage in meaningful collaborative learning experiences and receive timely feedback on their teaching practice (Bland et al., 2021). Consequently, addressing the geographical dispersion of teacher education institutions is essential for ensuring equitable access to quality training and support for all student teachers, regardless of their location. This involves implementing innovative approaches to supervision, such as virtual mentorship programs and online learning communities, to bridge the gap between remote areas and educational resources.

Contrastingly, studies such as those conducted by Rodríguez-Espíndola et al. (2022) illuminate the potential benefits of geographical dispersion. These works emphasize that exposure to diverse educational settings, including those in remote or rural areas, can enrich the training experience for student teachers. The varied contexts offer unique challenges that contribute to the development of adaptability and resilience, essential qualities for educators in diverse settings. Furthermore, student teachers placed in geographically dispersed locations may have the opportunity to engage with communities that have distinct cultural backgrounds and educational needs, broadening their understanding of educational equity and social justice. Additionally, teaching in remote areas can foster a sense of purpose and fulfillment, as educators play a crucial role in addressing educational inequalities and improving outcomes for marginalized students. Therefore, while geographical dispersion presents challenges, it also offers valuable opportunities for student teachers to grow personally and professionally, ultimately enhancing their effectiveness as educators.

Moreover, the literature synthesizes the impact of geographical dispersion on the supervisory aspect of student teacher training. Challenges such as limited on-site visits, as evidenced by research from Hertlein

et al. (2020), contribute to a growing reliance on technology-mediated supervision. The use of virtual platforms for mentorship and feedback is emerging as a potential solution to mitigate the constraints posed by geographical distances (Jordan et al., 2021; Murtagh, 2022; O'Dowd et al., 2020). Studies by Chen et al. (2020) highlight how virtual observation tools and online communication platforms enable supervisors to conduct remote observations, provide timely feedback, and engage in reflective discussions with student teachers. This shift towards technology-mediated supervision not only addresses the logistical challenges of geographical dispersion but also opens up new possibilities for innovative and interactive supervision practices.

In exploring these diverse perspectives, it becomes evident that the impact of geographical dispersion is a multifaceted phenomenon, affecting various dimensions of student teacher training. This synthesis not only acknowledges the challenges but also sheds light on the potential opportunities and alternative approaches that can enhance the training experience in dispersed educational settings.

1.3. Potential of Technology in Teacher Education Particularly in the Context of Supervision

Examining existing research on the potential of technology in teacher education and training, especially regarding supervision, offers valuable insights into the evolving landscape of educational practices. Synthesizing various studies underscores the transformative role technology can play in enhancing teacher preparation and support mechanisms.

Studies by Haleem et al. (2022) highlight how technology-enabled supervision tools, such as video conferencing platforms and virtual learning environments, have the potential to overcome geographical barriers and facilitate remote supervision. These technologies offer opportunities for real-time feedback, mentorship, and collaborative reflection, thereby enriching the student teacher experience. By leveraging features like live streaming and interactive communication tools, supervisors can virtually observe teaching practice sessions, provide immediate feedback, and engage in reflective discussions with student teachers regardless of their geographical locations (Sarker et al., 2019). This not only enhances the accessibility and flexibility of supervision but also promotes a more dynamic and interactive learning environment for both supervisors and student teachers.

Furthermore, research by Ruslan & Rauddin (2022), emphasizes the importance of integrating innovative technological approaches, such as mobile applications and online learning modules, into teacher education curricula. These tools not only enhance the accessibility and flexibility of training programs but also enable personalized learning experiences tailored to individual student needs. By leveraging mobile applications, student teachers can access learning materials and resources anytime, anywhere, facilitating self-paced learning and independent study. Additionally, online learning modules offer interactive and multimedia-rich content, engaging student teachers in immersive learning experiences that cater to diverse learning styles. This integration of technology into teacher education not only enhances the quality and effectiveness of training but also prepares student teachers for the digital-age classroom environments they will encounter in their future careers.

Additionally, studies by Perla & Vinci (2023) delve into the effectiveness of data-driven approaches in technology-mediated supervision, highlighting the potential of analytics and artificial intelligence to streamline assessment processes and provide actionable insights for instructional improvement. Through the analysis of large datasets generated from student teaching experiences, these technologies can identify patterns, trends, and areas for improvement in teaching practice. By leveraging machine learning algorithms, educators can receive personalized recommendations and feedback based on the analysis of their instructional practices and student outcomes. This data-driven approach not only enhances the efficiency and objectivity of supervision but also empowers educators to make informed decisions that optimize student learning and achievement.

Overall, the convergence of diverse research findings underscores the transformative potential of technology in teacher education and training, particularly in revolutionizing supervision practices. From overcoming geographical constraints to facilitating personalized learning experiences and leveraging data-driven insights, technology holds promise in shaping the future of teacher preparation and professional development.

1.4. Technological Solutions and their Potential Benefits for Overcoming Challenges

Indeed, online platforms have been recognized as a versatile solution for remote supervision in teacher education (Malhotra & Bhatia, 2021). Haque (2023) emphasized the significance of these platforms in facilitating seamless interaction between supervisors and student teachers, overcoming geographical barriers that often hinder traditional supervision methods. By enabling real-time communication, file sharing, and collaborative document editing, online platforms promote effective supervision regardless of the physical location of stakeholders. Moreover, their accessibility and flexibility allow supervisors and student teachers to engage in supervision activities at their convenience, accommodating diverse schedules and preferences. Overall, online platforms offer a dynamic and efficient approach to supervision, leveraging digital technology to enhance the quality and accessibility of teacher education practices.

Virtual observation tools, as elucidated by Sato & Chen (2021), present an innovative solution to supervision challenges by facilitating virtual classroom observations and feedback sessions. Leveraging video conferencing technology and live streaming capabilities, these tools enable supervisors to remotely observe teaching practice and provide immediate feedback and support to student teachers (Ramos et al., 2022). By transcending geographical limitations, virtual observation tools ensure that supervision activities can be conducted effectively regardless of physical distance. Furthermore, these tools enhance the authenticity of supervision experiences by capturing real-world teaching contexts, allowing supervisors to provide targeted and contextually relevant guidance to student teachers (Korucu-Kıř, 2021). Overall, virtual observation tools represent a promising avenue for enhancing the quality and accessibility of supervision in teacher education.

Collaborative networks, as investigated by Psyché et al. (2020), harness the potential of online communities and social learning platforms to facilitate peer collaboration and knowledge exchange among educators. These networks connect student teachers with experienced mentors and fellow practitioners, creating opportunities for professional development, reflective practice, and collaborative problem-solving. By fostering a sense of belonging and support within the teaching community, collaborative networks cultivate a culture of continuous learning and improvement. Through shared resources, discussions, and feedback mechanisms, educators can leverage collective expertise to enhance their teaching practices and address common challenges. Thus, collaborative networks play a vital role in promoting professional growth and strengthening the teaching profession.

2. METHOD

The chosen research methodology for exploring the potential of technology-mediated supervision practices at the Evangelical Presbyterian University College (EPUC), Ghana, reflects a comprehensive and context-specific approach. The research delved into the challenges of teaching practice supervision for geographically dispersed student teachers and assess how technology can enhance the effectiveness of supervision.

The decision to employ a case study design aligns with the specific focus on EPUC, providing an in-depth examination of the institution's unique context, challenges, and potential solutions. According to Paparini et al. (2020), a case study is particularly suitable for understanding complex phenomena within real-life contexts. The literature emphasizes the relevance of case studies in educational research, allowing for a nuanced exploration of specific issues within a bounded system.

The adoption of a mixed methods approach, integrating qualitative and quantitative data, is substantiated by the need for a comprehensive understanding of the multifaceted issues surrounding teaching practice supervision. Dawadi et al. (2021) argue that mixed methods research can provide a more holistic view, capturing both the breadth and depth of the research questions. In the context of technology in education, this approach allows for a triangulation of findings, enhancing the robustness of the study.

2.1. Data Collection

Qualitative data from interviews offer insights into the perspectives of key stakeholders, such as supervisors, student teachers, and administrators at EPUC. Existing literature supports the use of interviews for exploring subjective experiences and perceptions in educational research.

The inclusion of online surveys is justified by their efficiency in gathering quantitative data from a large and geographically dispersed participant pool. This aligns with the research focus on geographically dispersed student teachers. The literature emphasizes the utility of online surveys in educational research.

The observation component of the research methodology is informed by the literature advocating for direct observation of teaching practices and supervision processes in educational settings (Merle et al., 2022). This method enables the collection of real-time data on how technology is integrated into the supervision process.

2.2. Participants

The selection of participants for this study was informed by the aim of capturing diverse perspectives and experiences related to preservice teacher education management in Ghana. The following criteria were used to identify and recruit participants.

Student Teachers. Participants were selected from various levels of the teacher education program, including levels 2, 3, and 4. This selection criterion ensured that student teachers had experienced different stages of their training, including practicum experiences. Student teachers were invited to participate in an online survey administered through platforms like Google Forms, allowing for the collection of quantitative data on their perceptions and experiences.

Supervisors and Teacher Educators. Participants in supervisory and teaching roles were selected based on their professional expertise and experience in teacher education. This included supervisors responsible for overseeing teaching practice placements and teacher educators involved in curriculum development and

program implementation. Semi-structured interviews were conducted with supervisors and teacher educators to gather qualitative insights into their roles, responsibilities, and perspectives on preservice teacher education management.

2.3. Data Analysis

Quantitative data from online surveys were analyzed using statistical techniques to identify patterns and trends. These techniques were used to summarize survey responses and quantify participants' perceptions and experiences.

Qualitative data analysis through interview transcripts and observational notes was subjected to thematic analysis to identify recurrent themes, patterns, and interpretations. This involved coding the data, organizing codes into broader themes, and interpreting the findings about the research objectives. This qualitative analysis aimed to provide rich, contextualized insights into the complexities of preservice teacher education management.

By employing a combination of quantitative surveys, qualitative interviews, and observational methods, this study adopted a comprehensive approach to data collection and analysis, enabling a nuanced exploration of preservice teacher education management in Ghana.

2.4. Justification for WhatsApp Technology for Supervision

Various digital platforms such as Zoom, Google Classroom, Microsoft Teams, and WhatsApp can be used for remote supervision of student teachers on teaching practice. Zoom and Microsoft Teams offer robust video conferencing and collaboration tools, while Google Classroom integrates with other Google services for streamlined management. However, WhatsApp stands out as the most affordable and appropriate option due to its widespread accessibility, minimal data usage, ease of use, and real-time communication capabilities. Its extensive penetration in low-resource settings and user familiarity make it an ideal tool for facilitating continuous and effective supervision without significant financial or technical barriers.

3. RESULTS AND DISCUSSION

3.1. Questionnaire Results

The responses from the online survey conducted among 100 student teachers at Evangelical Presbyterian University College, Ho, were analyzed to gain insights into various aspects of their training experience. Table 1 summarizes the findings of respondents in the bachelor of education program with a year of study: Year 2 (35 students), Year 3 (35 students), and Year 4 (30 students).

Table 1. Distribution of Student Teachers' Experiences with Supervision

| Statements | 1 (Strongly Disagree) | 2 (Disagree) | 3 (Neutral) | 4 (Agree) | 5 (Strongly Agree) |
|--|-----------------------|--------------|-------------|-----------|--------------------|
| The distance made it difficult for my supervisor to observe my teaching practice regularly. | 10 | 15 | 20 | 30 | 25 |
| I felt less supported by my supervisor due to the physical distance between us. | 5 | 10 | 25 | 35 | 25 |
| The time it took my supervisor to travel to my school limited the amount of in-person feedback I received. | 8 | 12 | 20 | 40 | 20 |
| The distance hindered my ability to easily reach out to my supervisor for guidance or clarification. | 7 | 15 | 28 | 30 | 20 |

Table 1 shows in question one on the chart, a significant proportion of students (55%) agree or strongly agree that the distance made it difficult for supervisors to observe their teaching practices regularly. This indicates that more than half of the respondents feel that distance negatively impacts supervisory observations. In question two on the chart, a total of 60% of students agree or strongly agree that physical distance led to feeling less supported by their supervisors. This suggests that distance has a substantial impact on the perceived level of support from supervisors. In question three on the chart, majority of students (60%) agree or strongly agree that travel time for supervisors limited the amount of in-person feedback they received. This highlights a significant logistical challenge in the supervisory process. In question four on the chart, over half of the respondents (50%) agree or strongly agree that distance hindered their ability to reach out to supervisors for guidance or clarification. This suggests that physical separation affects communication and accessibility between students and supervisors.

In summary, based on Table 1, the data indicates that distance between placement schools and the educational institution's supervisory staff significantly impacts the supervision quality in a teacher education program. The majority of respondents feel that distance: 1) Impairs the regularity of observational visits; 2) Reduces the level of support they feel from their supervisors; 3) Limits the amount of in-person feedback they receive; 4) Hinders their ability to seek guidance or clarification.

3.2. Interview Results

The first point from the interview results is challenges in program management. The participant highlights the significant challenges faced in managing the program, emphasizing the limitations imposed by inadequate funding and faculty shortages. These constraints not only strain the administrative capacity but also impact the quality of supervision and support provided to student teachers. Here are the interview results: "Managing the preservice teacher education program is a constant juggling act, especially given our resource constraints."

The second point from the interview results is supervision practices and challenges. The participant acknowledges the importance of supervision in the training of student teachers but underscores the strain placed on faculty due to resource limitations. The scarcity of faculty exacerbates the challenges of providing effective supervision, particularly in geographically dispersed locations. Here are the interview results: "Supervising student teachers is essential, but with limited faculty and resources, we often find ourselves overstretched."

The third point from the interview results is impact of funding constraints. The participant sheds light on the reliance on student tips as a means of supplementing inadequate funding. This precarious financial situation compromises the stability and sustainability of the program, hindering efforts to improve supervision practices and enhance the overall quality of teacher education. Here are the interview results: "We are usually at the mercy of student tips to supplement our resources, which is far from ideal for sustaining a quality program."

The fourth point from the interview results is Strategies for Improvement. Despite the challenges, the participant expresses optimism about the potential of technology-mediated supervision to address the constraints imposed by geographical dispersion. Investing in innovative solutions could help mitigate the impact of resource limitations and enhance the effectiveness of supervision practices. Here are the interview results: "Investing in technology-mediated supervision could be a game-changer for us, allowing us to overcome geographical barriers and optimize our limited resources."

In summary, the interview highlights the challenges faced by preservice teacher education programs in resource-constrained environments, including inadequate funding, faculty shortages, and reliance on student tips. The participant emphasizes the need for innovative solutions like technology-mediated supervision to overcome geographical barriers and optimize resources. This proactive approach can improve program outcomes and foster the development of skilled educators, emphasizing the importance of prioritizing innovative approaches in resource-constrained settings.

3.3. Observation Results

The observation conducted during the supervision session between the head of the teacher education program, (the supervisor) and Level 3 student teachers provided valuable insights into the dynamics of technology-mediated supervision in teacher education. Through the use of WhatsApp, the session unfolded as a collaborative and interactive exchange, where student teachers engaged in real-time discussions with their supervisor. With the help of a tablet fixed on a tripod and the WhatsApp application, as in Figure 1, students A and B took turns operating the device to capture their lessons and allow the supervisor to observe their lessons remotely. This sets the stage for understanding the significance of digital platforms in facilitating meaningful mentorship and learning experiences in preservice teacher education. The post-supervision activities provided meaningful feedback for the student teachers.

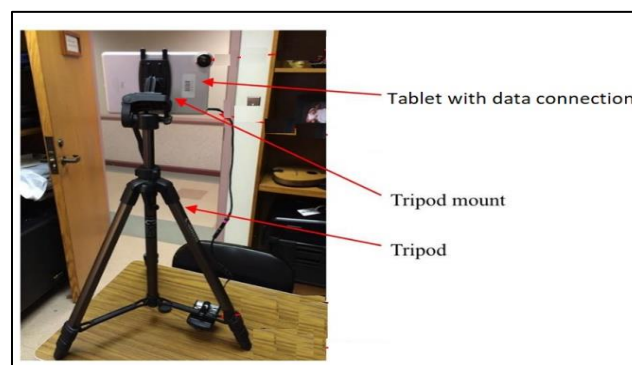


Figure 1. Tablet Mounted to Tripod for Remote Supervision

The supervision of two student teachers, A and B, was conducted using WhatsApp. The process began with the supervisor sending a group message at 9:00 AM, greeting the student teachers and outlining the day's agenda. "Good morning! 🌞 Let's start our session. Please share your recent experiences and any challenges you've faced during your lessons," the message read.

Student A quickly responded, "Good morning, Sir! I've been trying a new group activity with my class, but I'm struggling with classroom management. Any advice? 😊". Student B also chimed in, "Morning! I've had some success with my lesson plans, but I'd love feedback on my teaching strategies. 🙏".

Throughout the session, the supervisor provided personalized feedback using a mix of text and voice messages. For student A's classroom management issues, he suggested, "Try breaking the activity into smaller steps and assigning roles to each student. This can help maintain order and keep everyone engaged." He also sent a thumbs-up emoji 👍 to encourage the effort.

For student B, the supervisor delved into the lesson plans and provided detailed feedback. "Your lesson plan is well-structured, but consider incorporating more interactive elements to keep students engaged," he advised in a voice message. This allowed student B to hear the nuances in his tone, adding a personal touch to the feedback.

The immediacy and interactivity of WhatsApp allowed the student teachers to ask follow-up questions and seek further clarification. Student A remarked, "I appreciate the quick feedback. It's like having a mini-coaching session right here! 🎧". Student B added, "The voice messages are really helpful. They make the feedback feel more personal and easier to understand 🎧".

The use of emojis and voice messages created a friendly and supportive atmosphere, making the student teachers feel more connected despite the physical distance. The supervisor also shared useful resources and links directly in the chat, facilitating easy access to additional materials.

As the session concluded, both students expressed their gratitude. "Thank you for the guidance! I'm excited to try out your suggestions," said student A. "This has been very insightful. I feel more confident in my teaching now," echoed student B.

The WhatsApp supervision sessions proved to be highly effective in enhancing the quality of teaching practice. The real-time feedback, personalized interactions, and supportive environment fostered a sense of community and continuous professional growth. The use of WhatsApp's features not only bridged the gap between remote locations but also enriched the learning experience for both student teachers.

In summary, the study found WhatsApp improved teacher education by enabling real-time communication and fostering collaboration. The user-friendly platform was readily adopted, but lacked clear guidelines, leading to scattered discussions. Establishing communication protocols such as purpose, frequency, and training can maximize WhatsApp's effectiveness in supervision.

3.4. Discussion

The findings of this study resonate strongly with the nuanced challenges underscored in the existing literature on teacher education in developing countries, particularly the hurdles associated with geographically dispersed student teachers. The persistent shortage of qualified supervisors, as highlighted by Asare et al. (2023), exacerbates the difficulty of providing personalized feedback to student teachers. The study echoes these concerns, revealing that the scarcity of experienced supervisors in the context of Evangelical Presbyterian University College, Ho, Ghana, directly impacts the quality of supervision and mentorship. The limitations of traditional models become evident in such resource-constrained settings.

The geographical dispersion of student teachers, as illuminated by Goos et al. (2020), is a critical factor that intensifies the challenges of supervision. Our research at Evangelical Presbyterian University College aligns with this narrative, underscoring how remote and rural placements contribute to isolation, limiting the accessibility of supervisory support and impeding collaborative exchanges crucial for effective teaching practice.

Moreover, transportation emerges as a pivotal concern, echoing the findings of (Mamokhere & Kgobe, 2023). The inadequate transportation infrastructure at the institution hampers the frequency and effectiveness of on-site supervisory visits, aligning with the broader literature on the impact of transportation on supervision in developing countries.

In the face of these challenges, technology-mediated supervision emerges as a promising solution. Studies by Haleem et al. (2022), emphasize how technology-enabled supervision tools have the potential to overcome geographical barriers and facilitate remote supervision. Our study further validates these claims, showcasing how platforms like WhatsApp can effectively bridge the gap, enabling real-time communication, timely feedback, and collaborative learning experiences.

The implications of our findings are far-reaching, particularly for the enhancement of teaching practice supervision in developing countries. The scarcity of qualified supervisors necessitates innovative approaches to ensure effective mentorship. The integration of technology, as demonstrated in our study, not only addresses geographical challenges but also provides a scalable solution to the shortage of

experienced supervisors. Institutions with limited resources, such as Evangelical Presbyterian University College, can leverage technology to optimize the impact of their supervisory efforts.

The use of platforms like WhatsApp offers a flexible and accessible avenue for supervision, fostering collaborative learning experiences for both supervisors and student teachers. This approach aligns with the literature advocating for formative feedback and collaborative, teacher-driven supervision (Chen et al., 2020). The student teachers at Evangelical Presbyterian University College, despite their geographical dispersion, experienced real-time interactions, individualized feedback, and collaborative reflections, thereby enriching their teaching practice.

The potential impact of technology-based supervision on the quality of teacher education and student teacher development is evident in our findings. By overcoming geographical barriers, technology facilitates continuous support, timely feedback, and mentorship. Platforms like WhatsApp provide a virtual space for student teachers to engage in meaningful discussions, seek clarification, and share resources. This virtual camaraderie contributes to a positive and collaborative learning environment, aligning with the literature emphasizing the importance of supportive teacher communities (Haque, 2023).

The qualitative feedback received from student teachers, such as Mary expressing gratitude for the timely feedback and improved reflective practices, underscores the transformative potential of technology-based supervision. This impact extends beyond mere logistical convenience; it contributes to the overall quality of the teaching practice experience and, consequently, the professional development of student teachers.

Despite the promising outcomes, it is crucial to acknowledge the limitations of this study. The sample size, limited to two participants, the head of the program, may not capture the diversity of perspectives among teacher educators. Additionally, the financial constraints and inadequate faculty at Evangelical Presbyterian University College may influence the generalizability of the findings to other institutions.

Future research should explore the scalability of technology-mediated supervision in diverse educational contexts. Comparative studies across institutions with varying resource capacities would provide a more comprehensive understanding of the challenges and benefits of this approach. Moreover, investigating the long-term impact of technology-based supervision on student teacher development and subsequent teaching careers would contribute valuable insights to the literature. The study illuminates the potential of technology in mitigating the challenges of geographically dispersed student teachers, aligning with the broader literature on innovative approaches to teaching practice supervision in developing countries. The implications for practice and the exploration of technology's transformative impact on teacher education warrant continued research and consideration in the ongoing discourse on global education.

4. CONCLUSION

The research highlights significant challenges in the supervision of student teachers at Evangelical Presbyterian University College, Ho, primarily due to geographical distances. The online survey data indicates that a majority of students feel that distance impairs the regularity of supervisory visits, reduces support, limits in-person feedback, and hinders easy communication with supervisors. These challenges are exacerbated by inadequate funding and faculty shortages, as revealed in interviews, which further strain the program's management and supervision quality.

However, the observation sessions demonstrate the potential of technology-mediated supervision, particularly through platforms like WhatsApp, to overcome these barriers. WhatsApp facilitated real-time, interactive, and collaborative exchanges between supervisors and student teachers, fostering a supportive learning environment despite physical distances. The platform's user-friendliness and accessibility contributed to its effective adoption, although clear guidelines and communication protocols are necessary to maximize its effectiveness and avoid miscommunications. The contribution of this research is to provide information about geographic barriers and the role of technology in helping to create a more inclusive and effective supervision environment for student teachers.

In summary, while geographical distances and resource constraints present substantial challenges, leveraging technology-mediated solutions like WhatsApp offers a promising avenue for enhancing supervision and support in teacher education programs. Implementing structured guidelines and investing in innovative technologies can significantly improve supervisory practices, ultimately contributing to the development of skilled and well-supported educators.

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