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Technology Acceptance and Mobile Supervision: A Qualitative Study of Telegram Use in Internship-Based Learning

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Abstract: One of the most important factors in determining whether or not an undergraduate student's internship and project work are effective is the supervision of those students. Several higher education institutions have implemented Learning Management Systems (LMSs) to facilitate the delivery of courses outside the classroom. This is a response to the influence of COVID-19 and the growing number of students enrolling in these schools. The purpose of this qualitative study was to investigate the efficacy of the Telegram app for overseeing and supporting students in their last year of physical education as they completed project work during an internship. For the study, this methodology was utilised to investigate the lived experiences of 19 participants who were purposefully selected for involvement. Individual interviews were conducted with nine participants, while the remaining participants took part in talks held in an intimate group setting. To determine the extent to which the themes were connected, the Technological Acceptance Model (TAM) was utilised. A classification system was used to classify the findings of the research into three categories: (1) simplicity, (2) suitability and efficiency, and (3) effective application.

Keywords: Learning Management System (LMS); Technological Acceptance Model (TAM); Professional Development; Physical Education; Higher Education; Group Discussions.

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1. Introduction

Globally, institutions of higher education are using Information and Communication Technology (ICT) to deliver lessons creatively to address the explosion in student enrolments in tertiary institutions [23]. According to Murad et al. [23], mobile learning has become popular and successful in developed countries, including Japan, Korea, and Finland. Many institutions of higher learning, including those in developing countries such as Malaysia, have adopted mobile apps to complement traditional learning methods. The use of mobile phone applications to aid smooth lesson delivery and sustain teachers' satisfaction in their profession has been reported, and mobile apps play a significant role in lesson delivery when effectively utilised [2]. Several platforms or Learning Management Systems are available for the delivery of teaching and learning, a common one being the Modular Object-Oriented Dynamic Learning Environment (MOODLE) [1]. This free learning software enables interaction

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between the teacher and learner. Another common platform is Telegram. Contributor [3] indicated that Telegram is super-fast, simple, and free, and that users can connect from most remote locations, join groups of up to 100,000 members, and synchronise chats across all devices [18]. Telegram, compared to WhatsApp, offers more feature-rich functionality, better file sharing, greater platform compatibility, and multiple instances at once. Also, all chats are automatically backed up to the cloud, offering better privacy than WhatsApp. Students enrol in online courses due to the growing student population and the lack of adequate lecture halls [15]. Lecturers every year embark on teaching practice (student teaching or internship) supervision of final-year students scattered across the country, supervising them individually. Additionally, the same lecturers serve as project supervisors to the same students during the internship period. This makes it very demanding and stressful for lecturers at the University of Education, Winneba (UEW), Ghana. Additionally, lecturers encounter challenges such as travelling to remote areas, limited internet connectivity, poor road networks, low rates of student-supervisor project discussions, and the inability to provide immediate feedback.

The possibility of some students not receiving quality supervision during their internships due to their geographical location and distance from their university supervisors, for easy triangulation of mentors' performance, remains a significant concern. The Telegram App is a multi-platform messaging service that has an estimated 550 million monthly users. According to Gyane [24], Telegram is free software that can be downloaded and used on any smartphone for online teaching and learning. A study found that using Telegram as a Learning Management System (LMS) offers numerous benefits [15]; [24]. Essel and Wilson [5] focused on the use of Telegram and Moodle in teaching science to faculty. Gyane [24] focused on students' perceptions of Telegram use during the COVID-19 pandemic. There is limited research on the use of Telegram to enhance the internship and supervision of project work for PE students in Ghana. It was therefore paramount to investigate the usefulness of the Telegram App in supervising final-year PE students' project work and internship at the University of Education, Winneba, Ghana. A study by Iksan and Saufian [26] indicated that several techniques can be carried out on Telegram, including attendance, discussions, pictures, drawings, and audio. Additionally, Telegram usage enables students to acquire new experiences, be more innovative, spontaneous, and genuine in sharing ideas, and become more excited and passionate about their studies. Also, a study by Alakrash et al. [12] found that using social media was encouraging and effective for teaching and learning language features. Ghaemi and Golshan [9] found that using short message service (SMS) via social networks as a teaching tool had a positive impact on students' vocabulary learning. Similarly, Alakrash et al. [12] noted that Telegram is an effective teaching tool that motivates students to learn vocabulary more enjoyably. In determining the usefulness of the internet and, for that matter, Telegram, Adzharuddin and Ling [22] and Aikins and Akuffo [21] measured it by the frequency of use.

Thus, the rate of use determines its usefulness. The literature from Sub-Saharan Africa indicates that universities worldwide are establishing and implementing electronic learning platforms as a fundamental need in academic institutions [4]. This could be a means of preventing generational catastrophe and prioritising education recovery, which is fundamental [25]. The global quest for skills in Information and Communication Technology (ICT) is crucial to a nation's development. In this regard, governments in both developed and developing countries endeavour to create opportunities for citizens to engage in ICT training, skills acquisition, and the application and use of ICT tools to solve problems. Ghana, as a nation, is not left out in the quest for ICT development. In recent times, the need to strengthen ICT in schools, especially in higher education institutions, has come under serious discussion due to the COVID-19 pandemic. Studies have shown that technology (Telegram) is incorporated at higher levels of education, with a focus on utility, ease of use, ease of learning, and satisfaction [24]. Telegram was also seen as a great way to improve students' talents, abilities, disciplines, and self-directed learning by providing them with teaching materials. Similarly, Aikins and Akuffo [21] found that ICT methods were the most effective way for teaching and learning during the COVID-19 pandemic and similar situations. More significantly, the use of ICT (Telegram) has become imperative, as teaching universities offer Distance Education (Institute for Distance and eLearning) programs at the higher education level, such as the University of Education, Winneba. Such institutions must adopt social media platforms to support their teaching and learning programmes. A study by Owusu-Mensah et al. [10] on the views of Post-Graduate Diploma in Education Distance Students on the delivery of learning modules through Telegram revealed that the Telegram App facilitates the timely delivery of learning modules and is very convenient for distance learning.

2. Theoretical Framework

The Technology Acceptance Model (TAM) served as the theoretical framework for the current study [8]. TAM determines the acceptance capabilities of technology in connection with the behaviour of the end user. The model explains the link between beliefs (usefulness and ease of use) about the user's attitude and actual usage: 1. Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), and 2. Users' attitude (A), behavioural intentions (BI), and actual technology usage behaviour. PU refers to the degree to which students believe that using Telegram would go a long way toward enhancing supervision during the period and the final project work. The majority of students are mature students who use Android phones, which support the Telegram App. Thalluri and Penman [16] have shown that using social media for teaching and learning fosters innovation in learning, promotes greater interaction among co-students and staff, and effectively engages them with course content. Telegram Apps, depending on their features, can be very useful for teaching and supervising students on internships and project work. Adadi

[6] indicates that the effectiveness of online supervision (eSupervision) depends on interns (eInterns), environmental characteristics, the leadership approach, and the motivational factors involved. Many studies have shown that perceived usefulness can significantly influence the use of social media Apps such as Telegram [11]; [7]. PEOU, as perceived by PE students, is depicted by the effort they put into using the Telegram App. This is seen as key because the app's use can be determined by ease of use, which is more likely to lead to satisfaction. As reported by Nwagwu et al. [7], the ease of use of the internet helps staff and students access literature and communicate academically. Telegram app's ease of use has been documented. According to Michael [11], Telegram's growth to 100 million monthly users is due to its simplicity and ease of setup, its intuitive interface, its very rich feature set, and its security. As noted by Saldana [20], using Telegram was easy and fast, enabling him to build a large contact base of over 13,000 active members. Security-wise, the use of Telegram allows one to get in touch with people without people knowing your contact as well as you, customise stickers, import any file, and, more importantly, block people from adding you to a group without your consent as a way of staying away from scam groups and unwanted individuals.

2.1. Purpose of the Study

The purpose of the study was to explore final-year PE students' perceptions of the usefulness and ease of use of the Telegram App for supervising their student teaching (internship) and project work. The results of the study would provide teacher educators with an understanding of the prospects and challenges of using the app for supervising internship and/or project work.

2.2. Research Questions

The following research questions guided the study:

- What is the perceived ease of use of the Telegram App among final-year PE students?
- How useful is the Telegram app for supervising final-year PE students during student teaching?
- How useful is the Telegram app for supervising final-year PE students' project work?

3. Methodology

3.1. Design

The study was qualitative and situated within the interpretive paradigm. A descriptive design was adopted to explore PE student teachers' perceptions of the use of the Telegram App by university supervisors during teaching practice and project work during internship, as a journey towards the development of 21st-century teachers [19]. In addition, the descriptive design sought to understand the meaning participants have constructed, as well as the process by which they attributed meaning to the phenomenon, including reflecting, interrogating, and redefining their perceptions [19].

3.2. Participants

19 PE student interns from the University of Education, Winneba (UEW), Ghana, participated in the study. These participants had content knowledge and pedagogical content knowledge in physical education but lacked pedagogical experience in teaching physical education. The sample comprised 19 PE interns (14 males and five females) selected purposively. They were selected based on their experience with Telegram and their consent to participate in the study. Of this number, nine (9) were individually interviewed. In contrast, the rest were interviewed in a focus group about the appropriate use of the Telegram platform during their supervision and final project work. The reason for following up with a semi-structured interview with a focus group was to supplement the data collected from individual interviews and to ensure the crystallisation of the data collection methods [19]. Furthermore, the focus group interviews were based on the assumption that group interactions would elicit broad responses by giving the student-interns freedom to express their views [19].

3.3. Instrument

The instrument employed for this study was a self-developed semi-structured interview guide. An audio recorder was used, and a mobile phone served as backup to the data collection process. The recorder was pre-tested, and suggestions were made to improve the instrument's validity. The audio recorder was tested to ensure the battery lasted longer than the interview. The researcher also ensured the recorder was fully charged before each interview. The semi-structured interview allowed further probing to clarify issues and gather in-depth data [20]. Furthermore, focus group interviews were used to understand the assumption that group interaction would yield a wider range of responses and provide student teachers with an enabling environment in which to interact and share their views without intimidation [19]. Table 1 shows the different types of people who were PE student interns in the study.

Table 1: Demographic characteristics of participants

Variable	Category	Frequency (n)
Gender	Male	14
	Female	5
Total Participants	—	19
Interview Type	Individual Interviews	9
	Focus Group Interviews	10
Institution	University of Education, Winneba	19
Academic Status	PE Student Interns	19
Experience with Telegram	Prior Experience	19

The interview guide comprised fifteen items in total. The interview guide was divided into four (4) sections. The first section comprised two (2) introductory questions, such as "What is your name?" "Which school did you practice your internship at? The second section comprised seven (7) items, including questions on the usefulness of the Telegram during the internship and on supervision of final project work. For instance, "Practically, how useful was Telegram during your internship? Section three delved into the perceived ease of use of Telegram, comprising three (3) items. For instance, "How easy was it for you to download and use Telegram? And finally, section four concerned the actual use of Telegram, comprising five (5) items. The question posed was: "How useful was Telegram in the submission of project works?"

3.4. Data Collection Procedures

The researcher first sought consent from each participant using a form that included the purpose, significance, mode of data collection, and confidentiality statement. The consent form was given to each participant to read and decide whether to participate in the study, allowing participants to build trust and establish rapport with the researchers [13]. Participants were allowed to use pseudonyms of their choice for confidentiality. Before the interviews were conducted, participants were contacted earlier for their approval of the interview schedule date. An audio recorder was used, and a mobile phone served as backup to the data collection process. The recorder was pre-tested, and suggestions were made to improve the instrument's validity. The audio recorder was tested to ensure the battery lasted longer than the interview. The researcher also ensured the recorder was fully charged before each interview. All individual and focus group interviews were conducted in the researcher's office, which was free of interruptions to ensure independent responses. The individual and focus group interviews lasted on average 35 minutes and 56 minutes, respectively. The interviews were conducted face-to-face and audio-recorded with the participants' permission.

3.5. Data Analysis

The audio tapes of the interviews were transcribed verbatim and returned to participants to review, to ascertain whether their views were captured appropriately and to ensure the validity of the data [17]. The researcher independently coded the interview transcripts. Next, tentative themes were compared, and any disagreements were addressed. Finally, the tentative themes were given to two qualitative research experts to assess their accuracy and resolve disagreements in the coded data. Based on the experts' comments, the themes were revised [14]. Data were analysed thematically, research question by question. The thematic coding strategy was employed in this study because the research questions needed confirmation during data screening and accuracy checks [14]. This study utilised an interpretive research paradigm to comprehend the lived experiences and views of PE student interns. A qualitative descriptive research design was utilised to furnish comprehensive, detailed accounts of participants' perspectives.

The research aimed to elucidate supervision procedures during internships and final project work. A purposive sampling method was employed to select individuals directly engaged in the internship program. Nineteen PE student interns participated in the study. This sampling method ensured that the data gathered were useful and informative. Researchers used semi-structured individual interviews to collect data. Focus group interviews were also held to encourage people to talk to one another and express their thoughts. These strategies facilitated a more profound examination of events and perspectives. To ensure accuracy, all interviews were recorded and transcribed word-for-word. Before the analysis, the transcribed data were carefully reviewed. To lessen researcher bias, independent coding was used. New patterns were found and grouped into themes that made sense. Theme development was carried out systematically to reflect participants' viewpoints. Lastly, expert validation was conducted to enhance the credibility and reliability of the research results (Figure 1).

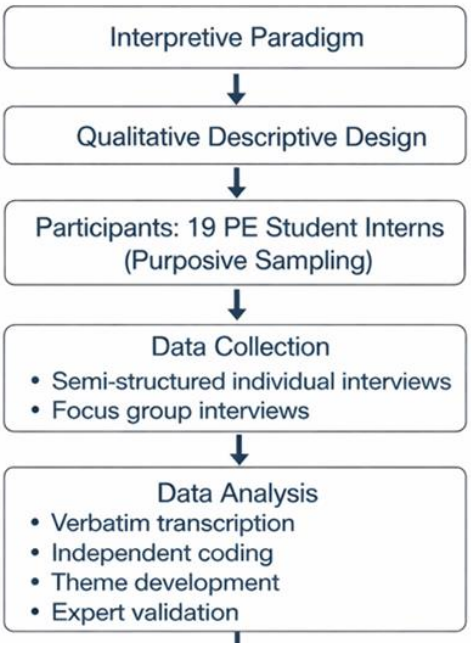

Figure 1: Overview of the research methodology

4. Results

The present study explored final-year PE students' perceptions of the usefulness and ease of use of Telegram for supervising their teaching and project work during the internship. The results revealed three themes: simplicity, suitability, and efficiency. For confidentiality, participants were assigned pseudonyms. The Perceived Ease of Use of Telegram Among PE Student Teachers.

The first research question examined the perceived ease of use of the Telegram App among final-year P.E. students and found that it was very simple and easier to use than other platforms. As Duk indicated, "the Telegram Apps usage is very simple and can be used to send large documents such as projects to the supervisor for vetting." Another participant, called Brah, stated that: "… it was very easy on our phones and laptops. It helped me complete my project before returning to campus for the last semester.

The Usefulness of Telegram to PE Students During Supervision of Student Teaching: The second research question explored the perceived usefulness of Telegram apps for supervising final-year PE students during student teaching. The results were easy information transmission, including monitoring their supervisor's movement, checking timetables and making adjustments, sharing ideas through videos and pictures, and discussing their strengths and weaknesses. Supporting excerpts were:

- "… Researchers also used the platform to assist one another in giving feedback. (Kiv)
- "…my other colleagues were putting their teaching and learning materials on the page, and researchers tapped their experiences" (Fiifi)

Effectiveness of Telegram to the PE Student During Supervision of Final Project Work?

The third research question investigated the effectiveness of the Telegram in supervising final-year PE students' project work. It was revealed that Telegram was an effective medium for supervising student project work.

According to Kiv: "…submission of project work to my supervisor via Telegram was useful and economical."

Similarly, Babs indicated that: "the corrected projects were always put on the platform for students to have access wherever researchers were.

Results from the focus group also revealed that the telegram platform is a very simple, useful, and effective medium for students to present their reflective practice, as well as the philosophy of teaching through video for the supervisor to access before

students return to campus, hence a reduction in workload on the part of the student as well as the supervisor. In the final analysis, students can focus, conduct effective research, and eventually complete their project work on time.

5. Discussion

The purpose of the study was to explore final-year PE students' perceived usefulness and ease of use of Telegram Apps in supervising their teaching and project work during the internship. Themes related to the research questions organised the discussion of the study's results. This included: the theme, evidence, and conclusion. The themes that emerged from the study included simplicity, suitability, efficiency, and effective application. The theme of simplicity highlighted how easy it was to use Telegram Apps, including downloading and installing, uploading and downloading large files, and connecting quickly over the internet. It was evident from the PE students' expressions that using this platform was very simple, not only for communication but also for integrating it into practical physical education lessons [7]. According to Murad et al. [23], this aligns with the trend of 21st-century education. The use of Telegram during supervision of PE students in this study was appropriate, in the sense that they (PE students) were able to monitor the movement of their supervisors in terms of which school and student to be supervised. It also enabled the rearrangement of PE periods on the timetable when necessary to suit supervision times, as well as enhancing the sharing of teaching methods through videos, which, in turn, strengthened team cohesion among the PE students.

These were indicators of how appropriate and effective the Telegram App was during the supervision period. This finding was confirmed in an earlier study that found that social networks motivate and improve students' performance during internships [16]. The theme, which concerned effective communication between pre-service students and their supervisor regarding final project supervision and suggested corrections, was addressed through discussions on the Telegram platform. It also included access to seminar videos on the platform. Interestingly, when discussing future possibilities for Telegram use, all participants were very positive about its functionality and effectiveness for supervision. They suggested using Telegram to assess students on internship, especially in very remote areas that were not easily accessible to supervisors. Furthermore, the use of the Telegram app allowed supervisors to provide feedback through live-streaming videos and to present seminars before the interns returned to campus [6]; [15]. These, among other suggestions, would help reduce pressure on both pre-service students and supervisors.

5.1. Suggestions for Future Research

A major limitation of this study was the small sample size. Future research may extend the study to cover PE interns in other physical education teacher education programmes in Ghana. Two, interns in content areas other than PE could also be studied to determine whether the benefits and challenges of using the Telegram app are content-specific. Three, it is suggested that a mixed-methods approach utilising both closed- and open-ended questionnaires be used to obtain a large sample for both quantitative and qualitative data.

6. Conclusion

The research examined the efficacy of utilising Telegram, a social networking platform, to monitor Physical Education (PE) students during their internship and final project endeavours. The results showed that using Telegram made pupils much more interested and involved during supervision. The portal was straightforward for students to use and convenient, which led to regular communication and active participation during the monitoring process. Because of this, using Telegram in real life helped calm students' nerves, especially during internship supervision and final project guidance, where rapid feedback and reassurance are very important. The study also showed that Telegram improved teaching and learning. Supervisors might share teaching materials, give rapid feedback, and plan activities more effectively. This constant engagement strengthened the team among students and supervisors, helping everyone feel they were working together and supporting each other. Also, the platform's flexibility made it easy for students to stay on top of their work, which helped them finish their final projects on time. These results show that Telegram can be a useful and trustworthy digital tool for monitoring students' work.

The research also showed that Telegram might work as a Learning Management System (LMS) at colleges and universities. It is effective for teaching and learning activities because it is easy to use, affordable, and aligned with 21st-century global education. Using these kinds of new and creative tech solutions is especially helpful for addressing problems that arise while teaching practical subjects like Physical Education, where constant support and contact are important. However, several factors affect how well online supervision works on Telegram. These include how interns feel about the technology, the state of the surroundings (such as whether the network is available), the supervisor's leadership and communication style, and the factors that motivate students to participate. So, while Telegram is a good tool for keeping an eye on things, these things need to be carefully considered to get the most out of it.

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