ASIAN PENDIDIKAN

Interpretative Phenomenological Analysis on Smart Phone Utilization for Education

Amoranto, Angelyn B.[1], Hutalla, Paul Daniel S.[1] & Adlit, Marlon F.[1*]

[1]Department of Education, Schools Division Office – City of San Pedro, San Pedro Relocation Center National High School Landayan Annex, City of San Pedro, Laguna, PHILIPPINES

*Corresponding Author: marlon.adlit@deped.gov.ph

Abstract: Technology continues to advance at an unprecedented pace in the 21st century; it has made an enormous impact and is undeniably ubiquitous in education. This is a qualitative study investigating the integration of smartphone applications in the teaching-learning process by teachers and students utilizing a phenomenological approach. Purposive sampling was utilized. Interviews and focus group discussions were employed to gather data through Google Sheets and Google Meet, respectively. The transcripts of these interviews, as well as reports from the focus group discussions, were analyzed using Interpretative Phenomenological Analysis (IPA). Findings revealed that senior high school teachers and students had positive perceptions of integrating and utilizing smartphone applications as a tool in the teaching and learning process in terms of accessibility, usefulness, convenience, and user-friendly and effective learning materials and resources. Interestingly, the integration and utilization of smartphone applications in each theme reveal something to be more examined, such as context, application version, lack of phone storage, and the distracting environment that dwells on the inflexibility of the curriculum and course scheme.

Keywords: Education, pedagogical perspective, phenomenological, senior high school, smartphones

1. Introduction

Utilizing the internet and smartphone applications in English as a second language, or ESL, has the potential to turn dreams into reality. Educators have become increasingly interested in leveraging mobile information and communication technologies to supplement traditional learning environments, as they offer new opportunities for innovation and enrichment in learning activities. The integration of these technologies can lead to heightened engagement and expanded learning experiences (Haleem et al., 2022).

As modern technology continues to advance, it's becoming increasingly common for both students and faculty to use mobile information and communication technologies such as smartphones in secondary and even tertiary education settings. This indicates that the trend is not only present, but it is also on the rise (Ifeanyi & Chukwuere, 2018). Darko-Adjei (2019) elaborates that smartphone use has increased dramatically, rendering all media virtually ubiquitous.

In this study, the definition of mobile learning is derived from the concepts established by Gikas & Grant (2013) and Adzifome & Agyei (2023). Their definition outlines four essential features that mobile devices must possess to facilitate effective mobile learning. These features include persistent internet access, the availability of a diverse range of downloadable applications, communication capabilities, and portability to enable users to conveniently carry the device in a pocket or handbag.

On the other hand, Oliveira et al. (2021) found that students use online apps more than they claim during class, which can be distracting during lectures. Numerous studies have been conducted to evaluate the social and psychological effects of smartphones, but limited research has focused on exploring their impact within cultural contexts (Sing & Samah, 2018). Smartphone addiction is a growing concern that is affecting many people, particularly younger generations, and has been shown to harm academic performance (Chaudhury & Tripathy, 2018). Prolonged or excessive smartphone usage among students has been shown to have potential negative consequences on both their physical and mental well-being, and may subsequently impact their academic performance and learning outcomes (Ramjan et al., 2021).

Smartphone addiction harms well-being by depleting a crucial personal resource, energy, leading to strain. The negative effects are more pronounced when smartphones are used for hedonic purposes (Moqbel et al., 2023). This finding has implications for identifying the negative impact of smartphone addiction on individuals' cognitive abilities (Li et al., 2023).

Though according to Hitcham et al. (2023), self-reported smartphone usage, behavioral addictions, and impulsivity are better predictors of smartphone addiction than logged behavior. This indicates that the amount of smartphone usage alone is not enough to explain problematic behavior and raises questions about the validity of smartphone addiction measurements.

Zhao and Watterston (2021) and Ali et al. (2015) suggest this shift has sparked a transformation in the way we approach education and has opened new opportunities for collaborative and personalized learning. This suggests that educators may need to consider incorporating and acknowledging these tools in their teaching practices to provide students with an optimal learning experience (Tiangco et al., 2021; Biddix et al., 2015). ICT integration in teaching improves the pedagogical approach, leading to effective time and classroom management (Akram et al., 2022; Matussin et al., 2015). This integration can improve the learning experience for students and provide more efficient ways of delivering educational content.

Yet, recent studies have shown that utilizing mobile phones can have a positive impact on a student's learning experience. Research specifically targeted senior high school students to evaluate the effectiveness of mobile phones as a learning aid. The results indicated that there was no significant difference in the overall assessment scores between males and females, suggesting that gender did not have a moderating effect. This highlights the potential benefits of mobile phone usage for students as a valuable learning tool (Adlit et al., 2023).

Although there has been a rise in the adoption of mobile information and communication technologies, such as smartphones, in education, there remains a significant knowledge gap. Specifically, it is unclear how faculty members incorporate these technologies into their teaching methodologies and the subsequent effect on both students and faculty members' educational performance. These are critical inquiries that necessitate additional research and examination.

The primary objective of this research is to offer a comprehensive understanding of the authentic application of cellular devices, such as cell phones or smartphones, for educational purposes among senior high school students. This study seeks to ascertain students' perceptions regarding the practicality and efficacy of mobile phones in enhancing their learning experiences. Therefore, the study aims to explore the mobile learning practices of students using cell phones and smartphones. It's important to note that some educational institutions prohibit the use of smartphones in classrooms, following Department Order No. 83, series of 2003 from the Department of Education. This creates what is known as generational conflict.

On the contrary, this study proposes a different approach - instead of prohibiting the use of smartphones, it suggests utilizing them as a teaching and learning tool. Doing so can unlock a wealth of learning resources and materials that can make the learning experience more enjoyable for students. Furthermore, research shows that students who engage in e-learning tend to process information better than those who stick to traditional learning settings. Consequently, due to recognizing the proliferating advancements and the role smartphones and other mobile devices can play in the teaching and learning process, engaging technologies have evolved in very recent studies reflecting the revolution expected to bring dramatic changes in the teaching-learning process. This study takes a holistic approach to explore the pedagogical perspectives of senior high school teachers and students regarding smartphone applications. The main aim is to gain insight into students' perceptions and practices when using smartphone apps during the teaching and learning process. Ultimately, this research seeks to propose policy reforms and interventions based on the findings.

2. Literature Review

Smartphones allow teachers and students to access educational materials. Teachers have adapted their teaching methods to create exciting and collaborative learning environments, promoting the exchange and analysis of knowledge among all parties involved, as non-traditional classroom settings become more common (Haleem et al., 2022; Cribbs & Linder, 2015).

Teachers must motivate and monitor their students to effectively use online resources. In doing so, students will be better equipped to apply their digital skills in both online and offline contexts (Santiago et al., 2021; Boyle & O`Sullivan, 2016). Teachers can encourage engagement by letting students use their smartphones to read and share articles, participate in e-group discussions, and present their findings to the class. This creates a collaborative learning environment that motivates students to take an active role in their education (Licorish et al., 2018; Au et al., 2015). They can provide explanations via board or screen, while also encouraging students to share relevant links with their peers during class (Nakamura et al., 2015).

The problems of maintaining attention among students in class were also reported by several studies (Biggs & Tang, 2017). According to Tanil & Yong (2020) and Williams & Pence (2011), smartphones have been perceived more as distractions in the classroom rather than learning aids. Since many features of these phones are designed for entertainment and pleasure purposes, teachers often ask students to put them away, keep them on silent mode, or turn them off. As a result, teachers may view smartphones as potential sources of learning interference rather than learning support. According to research, smartphones can be a hindrance to the learning process. For example, students who spend a lot of

time using electronic devices such as smartphones may experience a decrease in their understanding of course material and overall performance (Schmidt, 2020; Attia et al., 2017; Fried, 2008).

In some instances, teachers manually disconnect wireless transmitters to address students' engagement in non-academic activities on their smartphones. Understandably, this caused frustration since the students were not focused on the course material (Delello et al., 2016). The widespread use and advanced capabilities of smartphone technology have revolutionized the way people behave and take action to stay up-to-date (CourseSmart, 2016).

Mobile apps enhance teaching by utilizing visuals, interactive displays, and videos. This provides a more engaging and immersive learning experience than traditional lecture-based instruction (Choi, 2018). Integrating digital devices in a pervasive computing environment can improve classroom dynamics. This leads to increased interactions between faculty and students, improved in-class participation, greater engagement, and enhanced effectiveness of active learning strategies (Stephens, 2005).

Chuchu and Ndoro (2019) assess students` attitudes toward using mobile applications in the classroom. The research findings indicate that attitudes towards mobile applications, evaluations of their usability, perceived ease of use, and the extent of users' desire to utilize them, were all key predictors of how frequently students incorporated mobile applications into their learning process.

Leveraging mobile devices for educational purposes, also known as mobile learning, has been considered significant. Hence, insights into the use of smart mobile devices, examine differing perspectives on the impact of mobile learning in education, and propose key features for mobile applications (Drolia et al., 2020).

Due to the development of information technology and digitalization, education must now embrace new learning models and develop cutting-edge instructional approaches. All educational institutions are now required to provide online instruction due to pandemic constraints. Learning is favorably impacted by the application (Andrés, 2021).

Mobile game-based learning (MGbL) can enhance teaching and learning, using technology and creativity (Krouska et al., 2022), example is a NoiseCapture app that helps measure noise levels easily. By collaborating, this data can be used to construct a collective noise map. With this innovative tool, anyone can help contribute to a healthier and more peaceful environment (Guillaume et al., 2022).

3.   Methodology

The purpose of this study is to investigate the integration of smartphone applications in the teaching-learning process by teachers and students. Specifically, it focuses on students' perceptions and practices about their learning experiences. This qualitative research utilized the phenomenological approach, allowing for an in-depth exploration of the participants' perceptions and attitudes. By analyzing the extent of actual practices, the study aimed to provide a comprehensive understanding of the integration of smartphone applications in the teaching-learning process by teachers and students (Creswell, 2014).

To enrich the data gathered, qualitative information was obtained through interview questionnaires and a focus group discussion. The questionnaire was meticulously designed and integrated into Google Sheets, an efficient platform for text collection and analysis. A link to the questionnaire was then disseminated through Facebook, utilizing a purposive sampling technique, to five senior high school teachers and five senior high school students in San Pedro. To ensure that only highly knowledgeable participants were selected. Additionally, the research goal, estimated duration, and expected usefulness were clearly explained to all participants (Adlit, 2021). Google Meet was used for unstructured interviews and focus group discussions among teachers and students.

The researchers ensured that participants fully completed questionnaires and were processed and analyzed for accuracy. Before beginning the study, we thoroughly explained its purpose to all participants and made it clear that they had the right to decline participation at any time. We valued their autonomy and respected their decision-making throughout the research process.

Comprehensive security measures to uphold the confidentiality and privacy of participant's personal information, guaranteeing that it would not be disclosed to any unauthorized individuals, were observed. Following that, each participant provided written consent by signing a form that clearly explained the details of their involvement in the study and how their data would be handled.

Next, we collected data from participants through semi-structured interviews. The transcripts of these interviews, as well as reports from the focus group discussions, were analyzed using Interpretative Phenomenological Analysis (IPA). This technique allowed us to gain an in-depth understanding of the participant's experiences and perspectives, enabling us to extract meaningful insights from their narratives.

4.   Results

4.1   Perceptions of Students and Teachers on Smartphone Applications

The Tables 1, that follow provide the results of the conducted interviews referring to the perceptions of students and teachers on smartphone applications. Table 1 shows the participant's responses to the prompt question, tell me more about these educational applications that you usually use for your studies.

Table 1. Teachers' perceptions of smartphone applications

Theme	Sentences/phrases	Participants	Line no.
Students and teacher's perceptions of smartphones applications	"They are free, online, accessible, and user-friendly." "…useful and exciting."	T-P 1	18, 28
	"Well, like on Google, I can easily get what I need to know most, especially when I search for something, and it also gives me the right website…" "It was very useful and easy to access."	T-P 2	19. 20, 21, 29
	"…I use Free Make Video Downloader to download educational videos from YouTube. I use it in my literature and English class." "I like all the mentioned apps except for Share It, which suddenly crashed though I'm not deleting it yet, even the data."	T-P 3	22, 23, 24, 30, 31
	"…I usually get/provided in information I need; however, it doesn't fully provide the utilization I need since it requires an internet/data connection." "It is convenient and effective to use every day most especially when I need to search for data or information urgently."	T-P 4	25, 26, 27, 32, 33

For instance, to the question "How did you start those applications?", prompt questions were asked as follows (What do you like about it? What don't you like about it? Do you still use it? Why? What made you stop using it? ", Teacher-Participant 3 replied, "*What I like in this application (Cam Scanner) is its ability to store a lot of pictures. I almost forgot to mention Keep Notes, where I save all our minutes of the meetings and church teachings during Bible study and service.*" Teacher-Participant 4 described smartphone applications: "*I started using these applications a very long time ago, but mostly the reasons, why I used these applications, have come from suggestions, referrals, and advertisements. I like Wi-Fi as I've mentioned; it enables me to access a vast area and platform to read and see various knowledge I needed to enhance.*"

Meanwhile, Teacher-Participant 1 responded, "*It all started when I browse my smartphone using Play Store. It is accessible, yet it requires data connection or Wi-Fi to access the totality of the Play Store.*" Moreover, lastly, Teacher-Participant 2 noted that "*Well, of course, it was a built-in application in my smartphone, so I used it when I need to search for something informative and helpful to my teaching delivery and my students' learning materials.*" As explained by Darko-Adjei (2019); Ifeanyi & Chukwuere (2018) and Smith et al. (2011), smartphone is useful for academic work, there is no common operational perception of smartphone applications' use in the teaching and learning process (Dahlstrom & Bichsel, 2014). However, all the teacher participants perceived that the smartphone application is a useful and user-friendly teaching and learning tool (Akram et al., 2022).

Table 2. Students' perceptions of smartphone application

Theme 1	Sentences/phrases	Participants	Line no.
Students and teacher's perceptions of smartphones applications	"…I only use English and Math related applications. The applications are fantastic because they help us to comprehend even more the lessons that we find difficult." "The applications were great! However, some of its facets should be paid, so that its entire function can be used."	T-P 1	154, 155, 156, 162, 163
	"I only use YouTube and Google for additional learning." "It kept me entertained while gathering information for the school."	T-P 2	157, 164
	"YouTube is not just a learning tool for studies, but also a platform for content makers to earn monetization." "It is very satisfying."	T-P 3	158, 159, 165
	"These kinds of applications have so much to offer to students like me in term of expanding and assisting our education." "For me, these apps are beneficial because they combine education with entertainment so that students can enjoy the learning process."	T-P 4	160, 161, 166, 167

For instance, to the question "How did you start those applications?", prompt questions were asked as follows (What do you like about it? What don't you like about it? Do you still use it? Why? What made you stop using it? "Student-Participant 3 replied, "*Actually, it came from an old website., I didn't hesitate to download it and use it just like in the old times, and that is the start of how I used a smartphone. What I like about it is that it's easy to use and updated. And what I don't like about it is that it needs a strong internet to connect it to work efficiently. I learn something using my smartphone applications.*"

Student-Participant 4 described smartphone applications as "I started using these applications when I was introduced to their uses and benefits. A smartphone is a friendly gadget that has made everything reachable through a single touch. The thing I like about it is, it keeps your loved ones in touch, either through call or text, you may have known where you are and find an easy way and routes to go anywhere, especially when you're in an unknown place, it can entertain you with games, music and even movies, you can also order the things you want to purchase online, it can even book flight tickets, hotel accommodations in just one click away and lastly, you can even chat down notes when listening to the teachers' lecture."

Meanwhile, Student-Participant 1 responded, "My sister and I are curious regarding how to download applications that we think might help us in our research and schoolwork. What I like about it is that it helps me to gain knowledge and comprehend difficult lessons."

Lastly, Student-Participant 2 noted that "I started using these applications because of my lacking educational resources like books when I'm home, so I have decided to use the platform of smartphone applications to gain more information about a particular thing. They keep me entertained while gaining knowledge, and it also makes my learning less boring because of the visuals that I am seeing."

It indicates that students use technology for academic resources and related information (Dobbin et al., 2011). Adzifome and Agyei (2023) and Gikas & Grant (2013) supported the finding that students are learning optimally in formal and informal settings, enhancing their academic engagement. On the other hand, Romero et al. (2013) said that there appeared to be a mismatch between students' opportunities presented by the new technologies and teachers' intentions to implement them in academic contexts and other adverse effects (Moqbel et al., 2023; Ramjan et al., 2021; Chaudhury & Tripathy, 2018).

4.2   On the Lived Experiences of Teachers and Students in the Utilization of Smartphone Applications

Table 3 represents the lived experiences of teachers and students in the utilization of smartphone applications. General practices for using smartphone applications as a teaching and learning tool were derived from the codes that emerged from the analysis of data through interpretative phenomenological analysis. In line with the interviews, participants remembered and described their experiences with using smartphone applications, whether or not they have utilized them as a communication tool, an entertainment tool, or an educational tool. Generally, this table represents the participants' responses, such as, "What do you generally use your smartphone for?" and the prompt questions for this interview were, "What types of smartphone applications do you use? What made you start using educational applications? What are the reasons you would consider stopping using educational apps? How can educational requests be made more popular among teens? And what do you think will be the future of educational applications among teens?

During the interviews, the teacher-participants responded to different semi-structured questions referring to the general practices for using smartphone applications, where Teacher-Participant 1 noted, "I would stop using educational applications if there were enough educational resources, well-funded instructional materials, and much better educational applications that can be used for free. It became popular among teens because application developers integrate these smartphone applications with games. Teens will be more engaged in using educational applications on smartphones, but students must be guided properly in accordance."

Teacher-Participant 2 recalled: "The reason why I would stop using these educational applications, maybe if I found more complex, relevant, and reliable educational applications. I think it is because of its easy-access features on some applications. Today's' applications were one click away, and you can view what you are looking for. I think the future of educational apps will be in trend, most notably in this new millennium. New technologies arise, arrive, and discovered more advanced features that will make these young people arouse and eager to have and download these applications."

Teacher-Participant 3 explained it "Slide Share is a handy and helpful application I have and even on my laptop, but I do not have this application on my smartphone due to its limitations and restrictions to store too many slide files. And the possibility of these educational applications on teens' applicability may be most similar to what with I have mentioned applications only, a more simplified than and not as complicated as adults used it also."

On the other hand, Teacher-Participant 4 stated: "I would stop using these educational applications on my smartphone if the developer of these applications does not fix the bugs and a need to update the application in a higher version. Because of students' too much exposure to social media networks, these applications are becoming popular among teens, where different advertisements are being flashed and pop-up on their Facebook and the likes as they already have this so-called artificial intelligence."

Table 3. Teachers' general practices on smartphone applications used

Theme 2	Sentences/phrases	Participants	Line no.
General practices for using smartphones	"First is for communication, next is for teaching purposes." "Photography games social media and dictionaries." "I don't have a high-quality phone yet that requires a higher version of android to install the applications." "…the profession also requires knowledge about technology."	T-P 1	1, 9, 58, 59, 65, 66
	"Well, I'm more on surfing on the internet like browsing on Google and YouTube." "Facebook, Instagram, Twitter, YouTube, and Google." "Maybe, because I don't have any smartphone before, but the I can access it through a computer."	T-P 2	2, 10, 60, 61, 67, 68
	"First, I need it personally; second, this is the easiest way to get the more valuable and exact information that I need in my class." "It is very useful and always available for sending pictures to my lessons, which my students need to do in case I may be available for certain reasons." "The usual smartphones application that I use is the Cam Scanner." "I started using educational applications when my students are learning…" "Nowadays, e-learning technologies is in; I would resort using."	T-P 3	4, 5, 6, 11, 69, 70
	"I use smartphone applications utilizing communicating and developing my skills." "Social media applications, media applications, and educational applications." "I wasn't fully aware of the beginning." "I use these applications based on its reviews."	T-P 4	7, 8, 12, 71, 72

Some of the Teacher-Participants seem to be in accord with the various reasons why they stopped using smartphone applications as a teaching and learning tool. This consideration is supported by a model for curricular integration of Information and Communication Technology, which has shown some transferability in related contexts and was used as a means of framing the findings of this study. Also, Wang (2008) introduced a generic model that has provided some guidance for the design and implementation of ICT in teaching and learning. The three components include pedagogy (i.e., how to use resources effectively), social interaction (i.e., creating opportunities for students to work collaboratively), and technology (i.e., accessible, convenient, and easy-to-use interface). The model is underpinned by constructivism as a learning theory, interactivity, and usefulness for the student.

Participants were asked if there was any other way to utilize the usage of smartphone applications in schools. Some participants assumed that nothing could be done to make use of it when they needed it, with some believing that was a fact of life. Other possible methods of utilization and general practices mentioned within the interviews included: they used it as a communication tool, an entertainment tool, and even an educational tool that they most needed in times of researching for something, although some senior high school students believe that schools could assist in informing them on the proper use of smartphones and their applications during class hours to utilize the integration of information and communication technology in every teaching and learning process effectively.

In close to half of the interviews, the participants expressed that they felt that smartphones and their applications are very useful for integrating into the teaching and learning process, as the curriculum mandates the integration of information and communication technology as one of the pedagogical approaches in the teaching and learning process. Adlit et al. (2023), Haleem et al. (2022), and Ali et al. (2015) support the claims of the participants that education has gone through an evolution of learning solutions through the adoption of technology, from a system where schools or even universities store teaching materials online and students retrieve them for learning, to a technology that enables multiple channel interactions that generate knowledge from various means. Users (teachers, students, and the community) are empowered to create content through online learning tools and share it with others. Besides, interactions between teachers and students, as well as interactions among students to enhance learning, can be quickly done using available and affordable devices such as laptops, tablets, and smartphones. This implies that nowadays, technology heavily influences the learning process, especially for 21st-century learners.

Table 4. Students' general practices on smartphone applications used

Theme 2	Sentences/phrases	Participants	Line no.
General practices for using smartphones	"I've never had a smartphone before… I use it for my school work and my family and friends… communicate with them." "I use games and entertainment and health and fitness apps." "I didn't know that were education-related apps." "I think it was when I started to struggle with my studies."	S-P 1	117, 118, 119, 126, 127, 224, 225, 231
	"I use it for communication and researching." "I also use social media application… while YouTube, Google, and dictionary are source of education." "… I believed before using a smartphone for education is a distraction." "The different resources would be one of the reasons why I started using these smartphone apps."	S-P 2	120, 128, 129, 130, 226, 227, 232, 233
	"… I use my smartphone for leisure." "YouTube and social media applications." "I don't access to it and book were the most accessible educational materials back then." "It is handy. I don't have to go to an internet café to access what I need to access if I have everything I need on my smartphone already."	S-P 3	121, 122, 131, 228, 229, 234, 235, 236
	"I use my smartphone to communicate, browse, capture moments, play games, listen to music, and do online shopping." "I use social media apps and entertainment." "I'm familiar yet to other apps." "I will still use I even now and the."	S-P 4	123, 124, 125, 132, 134, 135

4.3 Data from Focus Group Discussion Regarding Smartphone Applications as a Teaching and Learning Tool

Based on the qualitative data obtained from the focus group discussion as encoded in Table 5, it was inferred from the debate among the group individuals that 4 participants (T-P1, T-P2, T-P3, and T-P4) were to a high degree in favor of using smartphone applications as a tool-based technique in teaching senior high students at SBMSC, Inc. and labeled them as an accessible, user-friendly, convenient, efficient and interactive tool for learners into the teaching and learning process. However, Teacher-Participant 3 was cautious about accepting this kind of technique, stating, "I like all the smartphone applications installed on my phone except for one (Share-It), it suddenly makes my smartphone crash every time I used it. File transferring suffers every time I use it to send presentations as a reference for my students." Teacher-Participants 1, 2, and 4 agreed that Smartphone applications are an exceptional tool for the teaching and learning process.

Table 5. Focus group discussion encoded

T-P 1: MQ 5 - They give quick answers with examples and updates PQ5.1 - It is accessible and user-friendly PQ5.2 - Poor privacy setting	T-P 2: MQ 5 - First is the size of the application and second is the feedback of the user. I always read feedback if the application is not slow to use and if bugs are always fixed PQ5.1 - Easy buttons on the applications and not that confusing at all PQ5.2 - slow when in use, big apps' size, and confusing buttons and stuff
General Perceptions Moderator: MQ: "What features would make you want to download an educational application on your smartphone? (PQ5.1: What features would keep you continually using it? PQ5.2: What features would make you avoid those apps?)"	
T-P 3: MQ 5 - Convenient PQ5.1 - Cam Scanner's ability to measure and scan the exact object or page and make it appear to be more vivid than the actual picture captures	T-P 4: MQ 5 - Efficient, convenient, and interactive PQ5.1 - If it meets or exceeds my expectations. Most likely if it gives me a greater number of data storage to provide exactly what I need PQ5.2 - Countless pop-up ads, the system keeps crashing down, poor pace, dull colors, and redundant information

PQ5.2 - I will avoid using Share It for its unreliable feature for it no longer receives and fails to send important data

Table 6 shows that the group members tended to agree on proper utilization and integration during class discussions, group activities, and even individual activities. The majority of the Teacher-Participants straightly mentioned that they still use these smartphone applications, T-P1, and T-P2 where these smartphone applications are accessible. A very useful tool for the teaching and learning process.

Table 6. First category, utilization of available resources

T-P 1: It is accessible. Yes, I still used it because my profession requires knowledge about technology, as a 21st century teacher, I must have a 21st century skills also	T-P 2: It was very useful and easy to access. Yes, because this is the easiest way to get more valuable and exact information that I need on my class.
First Category Moderator: "What do you like about these smartphone applications? (Do you still use it? Why?)"	
T-P 3: Its storage capacity. Yes, because it is widely used. and I really need it as an easy access tool for learning many new things	T-P 4: It enables me to access a vast area and platform to read and see on various knowledge I need to enhance

With regards to the data present in Table 7, concerning the atmosphere of the learning environment during class lectures and activities, it was significantly stated that the whole group or the teacher-participants highly supported the use and integration of information and communication technology in fostering students' social skills and confidence. They described these smartphone applications as useful and helpful, effective in releasing anxiety among students, easy to access, and convenient to help shy students to express themselves in an anxious-free environment as every educational institution aims to be recognized as a learner-centered, child-friendly, gender-sensitive environment conducive to learning.

Table 7. Second category, learning environment

T-P 1: Very useful and exciting	T-P 2: Very useful and easy to access
Second Category Moderator: "How do you described your classroom when you integrate these smartphone applications in the teaching and learning process?"	
T-P 3: I like the learning outcomes of my students	T-P 4: It is convenient an and effective to use every day

On the other hand, for the third category of smartphone applications as an aid for the teaching and learning process, Table 8 presents the qualitative data obtained from the focus group discussion, It was found that the majority of the teacher participants positively perceived the use of such smartphone applications in enhancing students' social skills through collaborative work. The teacher-participants labeled these smartphone applications as fruitful, good, excellent, productive, and fantastic in integrating and utilizing them in everyday class activities in the proposed intervention for smartphone applications' integration in classroom settings.

Table 8. Teachers' reflections on the smartphone applications' utilization in the classroom setting

T-P 1: Good, to some extent, but I still insist on real-life situations. These applications may fail in achieving the set target	T-P 2: They are fruitful. Smartphone Applications helps students to work independently and collaboratively. Students really enjoys it
Third Category Moderator: "How do you reflect upon utilizing these smartphone applications for improving students'"	
T-P 3: I completely agree with these excellent tools. Students learn to socialize with other students. But for few students this is a hard mission with regards to their smartphones' storage capacity	T-P 4: Fantastic aids. They are really attractive to students and engage them effectively into the teaching and learning process

5. Conclusion

The ways of using a smartphone are highly determined by smartphone versatility, multi-functionalities, size, and portability, Participants use smartphone applications for communication, socializing, finding quick information for

everyday needs, and entertainment purposes such as reading. Very shortly; every student in every educational institution will be using an array of smartphone devices in their formal and informal educational experiences. Considering smartphone usage in the teaching and learning process, especially in the classroom setting, is challenging, it offers benefits of rich content delivery, knowledge sharing, and dynamic learning activities where students can expect to experience multiple channels of interactions in learning.

The study suggests stakeholders design interactive activities with the aid of smartphone applications, allow flexibility in the least academic competencies, and encourage teachers to apply such applications effectively. Provide intensive orientation and training for both teachers and students on using smartphone applications. It is highly recommended that future researchers engage further in this study to uncover more findings with a broader range of samples and target the different types of smartphone respondents with more question specifications and anticipated solutions as the outcome; experimental studies are highly recommended.

Acknowledgement

Conflict of Interest

The authors declare no conflicts of interest.

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