PRE-SERVICE TEACHERS' PERCEPTIONS OF USING WHATSAPP IN GROUP DISCUSSIONS

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ABSTRACT
This paper investigated the usefulness and challenges of using WhatsApp in group discussions from the pre-service teachers' perspectives. Quantitative design was used involving 73 pre-service teachers from a teacher education institute in Malaysia. Data were collected using a questionnaire and analysed using frequency counts and percentages. Findings from the study revealed that WhatsApp is a useful mechanism for group discussion due to its convenience, ability to boost confidence, facilitate group discussion and learning within and outside class hours, enhance language skills, and develop critical thinking skills. Among the challenges of utilizing WhatsApp Group encountered by the pre-service teachers were useful messages or explanations may get lost in long messages, mere acceptance of others' opinions based on the majority, time-consuming to type long messages, and long response waiting time slowed down the process of learning. Findings from the study provide useful insight into the future of education in the digital era as educators, relevant authorities and society need to move in tandem with the paradigm shift of using mobile applications, including WhatsApp to support traditional classroom teaching and learning.

INTRODUCTION

WhatsApp is an instant messaging tool used globally, especially for socializing and business communication. In the education sector, prior to Covid-19 pandemic, educators hardly used it as a tool for teaching and learning as students were banned from using smartphones while attending face-to-face classes, especially in Malaysia. However, the utilization of WhatsApp as a tool for teaching and learning has accelerated since the Covid-19 pandemic took the world by surprise in the year 2020. Many educators and students continue to use WhatsApp as a tool for teaching and learning during the post-pandemic era.

With the current scenario that students in schools, teacher training institutions and higher institutions of learning in Malaysia are returning to full capacity in post Covid-19 pandemic to attend face-to-face classes, the questions raised are: 'Do pre-service teachers perceive WhatsApp Application as useful in learning?' and 'What are the major challenges faced by pre-service teachers in using WhatsApp group for learning?' With these concerns and the lack of previous studies on pre-service teachers' perceptions in this area, the researchers embarked on this study to investigate the usefulness and challenges of using WhatsApp in group discussions from the pre-service teachers' lens.

This study was propelled and guided by the Technology Acceptance Model (TAM). TAM is a technology theory proposed by Davis in 1989. This theory postulates that a user's insight into the usefulness and comfort of using a certain gadget influences his or her acceptance of that technology. In this regard, this study aimed to investigate pre-service teachers' perceptions of utilizing WhatsApp in group discussions based on their experiences to better understand the potential of mobile instant messaging application in empowering them to be active and independent learners.

Research Questions
The research questions of this study were:
1) What are the usefulness of WhatsApp to support group discussion?
2) What are the challenges of using WhatsApp group for learning?

Literature Review
WhatsApp is a common mobile application utilized by smartphone users of all ages. Initially, WhatsApp was used as a medium for chatting with family, friends and for business communication. However, during Covid-19 pandemic, educators used this application as a means to reach out to learners and for teaching and learning as it is affordable and users are accustomed to it (Ajani & Khoalenyane, 2023; Indiran et al., 2022; Susilo & Sofiarini, 2021).

WhatsApp is a simple, common and an efficient means that is used by many instructors (Trevor, 2013). Past studies yielded mixed results on the effectiveness of using WhatsApp in teaching and learning. There were studies that yielded encouraging results on the use of WhatsApp in learning (Cetinkaya, 2017; Dashtestani, 2016; Hassan & Ahmed, 2018; Izyani Mistar & Mohamed Amin, 2016; Jafre et al., 2018; Preston et al., 2010; Purba & Sri Setyarini, 2020; Ta'amneh, 2017). Some studies showed that the use of WhatsApp helps to motivate learners in learning English (Justina, 2016; Hassan & Ahmed, 2018), enhance teamwork (Udenze & Oshionebo, 2020; Urien et al., 2019), develop their vocabulary and improve their learning skills in English (Hamad, 2017). However, there were also previous studies (Ajani & Khoalenyane, 2023; Cetinkaya, 2017; Jafre et al., 2018; Purba & Sri Setyarini, 2020; Suroto & Nandiyanto, 2021; Udenze & Oshionebo, 2020) that reported the challenges of using WhatsApp in teaching and learning. Studies by Rahmadi (2020) and Suroto and Nandiyanto (2021) showed that WhatsApp is ineffective in students' learning.

Results yielded from Cetinkaya's (2017) mixed method research showed that the use of WhatsApp was effective in assisting face-to-face teaching. The 10th graders learnt from the WhatsApp messages unconsciously. However, the minor hindrances were ill-timed messages that disrupted focus in other classes and the posting of redundant messages.

Purba and Sri Setyarini's (2020) study found that the use of WhatsApp improved students' reading and writing skills, enriched their vocabulary, helped them to learn from their classmates' mistakes, helped them to think in English, reduced their anxiety to use English, allowed immediate feedback, helped them to contact their instructor and classmates easily, and motivated them to learn English. The challenges faced by students in Purba and Sri Setyarini's (2020) study were mobile internet connection issue and distractions from other WhatsApp messages.

Findings in Jafre et al.'s (2018) study showed that the use of WhatsApp among polytechnic students helped to improve their communication skills, raise students' motivation and interest to learn English, reduce anxiety, encourage self-learning, foster collaboration with friends, and enable flexible learning time. However, the setbacks encountered were time-consuming for video recording of activity, costly as it requires the purchase of internet data and requires space in phone memory.

Similarly, findings yielded in a study by Alfiansyah et al. (2022) showed that WhatsApp discussion engaged lecturer-learners and learner-learner interaction, accelerated communication, was convenient, increased self-confidence and collaborative learning. The drawbacks of using WhatsApp as reported by the students were agitation over huge amount of messages, interruptions from social surroundings, and insufficient opportunity for speaking activities.

Likewise, pre-service teachers in a study by Alubthane and ALYoussef (2021) and majority of undergraduate students in a study by Udenze and Oshionebo (2020) preferred to use WhatsApp for learning due to its convenience, affordability to make voice calls, availability of instant messaging feature, being portable and flexible, as well as being a platform to enhance collaborative learning. Nevertheless, the major challenge faced by the students was the posting of inappropriate contents.

Another study by Wijaya (2018) found that many undergraduate students enjoyed using WhatsApp due to its various features such as document sharing, audio recording, video sharing, picture sharing and instant messaging that helped students improve their reading and writing skills. Majority of students in this study perceived that the use of WhatsApp supported their learning despite the difficulties faced in establishing internet connection. Results in Mohamed Yusoff et al.'s (2022) study also indicated the preference of using WhatsApp among undergraduates for learning because of its quick messaging responses, and that it consumed less internet data. Similar results were yielded in a recent study by Zakaria, Sabir Ahmad and Syed Mohammed Alhady (2022) in that the use of technology enhanced student learning and knowledge.

A past study by Izyani and Mohamed Amin (2016) revealed the benefits of WhatsApp application as a tool in language learning among pre-university students in Malaysia. Majority of the students displayed a high level of attitude, usefulness and behavior towards the use of WhatsApp. They perceived WhatsApp as easy to use, expediting the sharing of information, improving their confidence in language learning, and increasing their participation in learning. They expressed their interest to continue using this tool for language learning in the future. Likewise, Baishya and Maheshwari's (2020) study revealed that students predominantly used WhatsApp group for discussion related to educational matters; however, they also used this platform to convey wishes and matters related to extra curricular activities.

Additionally, the use of WhatsApp for synchronous group discussion was found to enhance students' understanding of concepts and theories, enhance team collaboration, promote independent learning, and develop communication competence (Paramasivam, 2021). In Paramasivam's study, the undergraduates exercised peer scaffolding as they were able to clarify, discuss, rephrase and reframe thoughts to make them clearer.

However, a recent study by Suroto and Nandiyanto (2021) showed that although majority of the students enjoyed using WhatsApp, their learning outcome via WhatsApp was not reflected in the assignments given to them. Students in this study faced problems such as limited mobile quota and limited electronic gadgets. Similarly, findings in Rahmadi's (2020) study revealed that although university students acknowledged WhatsApp as a useful tool for learning and they widely used it for daily life conversation, they were unprepared to use WhatsApp for collaborative academic learning.

Other than that, experimental studies by Hassan and Ahmed (2018) and Ta'amneh (2017) yielded positive results on the use of WhatsApp in helping undergraduate students to achieve better grades, motivate them to learn English Language, make them feel more confident and interact more with group members and course teachers, and they learnt and gained more about the topic of discussion. However, these studies only identified the effectiveness of using WhatsApp and did not investigate the challenges of using WhatsApp among the students. Thus, the present study investigated both the usefulness and challenges encountered by pre-service teachers in using WhatsApp as a tool for group discussions to have a deeper understanding of its potential to facilitate learning and how to tackle the challenges faced by pre-service teachers.

METHODOLOGY

This study employed quantitative research design. A total of 73 pre-service teachers from two programmes willingly participated in this study and they were taught by the same lecturer. The participants were convenience sampling.

The instrument used was a google form questionnaire designed by the researchers. The use of questionnaire provides a fast, efficient and cost-effective means to collect data from participants (Bougie & Sekaran, 2020). The questionnaire consists of 3 sections: Section A collects information related to respondents' demography, Section B collects information on the benefits of utilizing WhatsApp group for discussion (25 items), and Section C collects information on the challenges of utilizing WhatsApp group (12 items). The variables examined include convenience, confidence, motivation, nervousness, group discussion, content learning, language skills, and challenges of using WhatsApp Group. Responses to all the items in Sections B and C were based on a five point likert scale of '1 = strongly disagree', '2 = disagee', '3 = neutral', '4 = agree', and '5 = strongly agree'. The questionnaire was pilot tested with 30 students outside the actual study sample. Cronbach's Alpha was calculated to establish inter-item reliability of the 37 items in the questionnaire. Cronbach's Alpha coefficient value of .948 was attained and this is an acceptable value since it is above .70.

The questionnaire was validated by two experts. Based on the remarks and suggestions given by the experts, several items were rephrased and refined. The item 'Utilizing WhatsApp enhances deep learning' was rephrased to become 'Utilizing WhatsApp enhances deeper understanding of the course content.' The word 'Sometimes' from items 'Sometimes WhatsApp interactions are hindered by weak Internet connection' and 'Sometimes, I face difficulty in expressing my thoughts in English via WhatsApp' was deleted. The item 'Some of my friends have difficulty in expressing their thoughts in English via WhatsApp' was rephrased to become 'My friends have difficulty in expressing their thoughts in English via WhatsApp'.

Data collected from the questionnaire were analyzed using SPSS Version 24. Subsequently, the results were reported using frequency counts and percentages.

RESULTS AND DISCUSSION

Data for this study were collected from 73 respondents via a questionnaire on the use of WhatsApp group for discussion. The general profile of the respondents is displayed in Table 1.

Table 1
Profile of respondents

Gender	Frequencies	Percentage
Male	19	26%
Female	54	74%
Total	73	100%

Age	Frequencies	Percentage
18 – 20 years	69	94.5%
21 – 23 years	4	5.5%
Total	73	100%
Programme	Frequencies	Percentage
PISMP TESL	33	45.2%
PPISMP	40	54.8%
Total	73	100%

As illustrated in Table 1, 54 respondents were female, while 19 respondents were male. Majority of the respondents were aged between 18 and 20 years old. Only 4 respondents were aged between 21 and 23 years old. 33 respondents were taking Bachelor Degree of Teaching (Hons.) (PISMP TESL) while 40 respondents were taking Foundation Programme for Bachelor Degree in Teaching (PPISMP). They were convenience sampling taught by the same lecturer. These respondents were chosen for this study because majority of them were using WhatsApp group for discussions as compared to other online platforms. This is shown in Table 2.

Table 2
Types of electronic device and online applications used by respondents for group discussion

Electronic device	Frequencies	Percentage
Smartphone	72	98.6%
Laptop	70	95.6%
Tablet or ipad	6	8.2%
Desktop computer	3	4.1%
Online Applications or Platform	Frequencies	Percentage
WhatsApp	67	91.8%
Telegram	1	1.4%
Google Meet	5	6.8%
TOTAL:	73	100.0%

As shown in Table 2, most of the respondents used smartphone (98.6%) and laptop (95.6%) for group discussion. WhatsApp is the most popularly used application by majority of the respondents (91.8%) for group discussion as compared to telegram (1.4%) and google meet (6.8%). This provided the rationale for the selection of these respondents for this study related to the use of WhatsApp group discussion for learning.

Parents' Monthly Income

Table 3 shows that 30% of the parents' monthly income is RM4,000 and above; 24.7% of the parents are earning between RM1,000-RM1,999; 20.5% of the parents are earning less than RM1,000; 13.7% are earning between RM2,000-RM2,999; and 11.0% of them are earning between RM3,000-RM3,999.

Table 3
Parents' Monthly Income

Income range	Frequencies	Percentage
Less than RM1,000	15	20.5%
RM1,000-RM1,999	18	24.7%
RM2,000-RM2,999	10	13.7%
RM3,000-RM3,999	8	11.0%
RM4,000 and above	22	30.1%
Total:	73	100.0%

RESEARCH QUESTION 1: What are the usefulness of WhatsApp to support group discussion?

Convenience of utilizing WhatsApp Group

Results from this study revealed that majority of the respondents favoured using WhatsApp for group discussion due to its several benefits. Most of the respondents like using WhatsApp for group discussion due to its ease of contacting classmates; convenience; accessibility via smartphone or laptops; accommodate many users; freedom of expressions; convenience to share files, media, videos and send short messages; and make WhatsApp video calls. This is illustrated in Table 4.

Table 4
Convenience of utilizing WhatsApp Group

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
I like using WhatsApp as it is easier to contact my classmates.	3 (4.1)	0 (0)	0 (0)	16 (21.9)	54 (74.0)
Utilizing WhatsApp is convenient as it can accommodate many users via WhatsApp Group.	3 (4.1)	0 (0)	6 (8.2)	24 (32.9)	40 (54.8)
Utilizing WhatsApp is fun as it allows freedom of expressions.	2 (2.7)	2 (2.7)	8 (11.0)	29 (39.7)	32 (43.8)
Utilizing WhatsApp saves time as I can read and type messages at any time and place.	3 (4.1)	0 (0)	1 (1.4)	22 (30.1)	47 (64.4)
WhatsApp is easily accessible via smartphones or laptops.	3 (4.1)	0 (0)	2 (2.7)	20 (27.4)	48 (65.8)
Utilizing WhatsApp is easy	3 (4.1)	1 (1.4)	8 (11.0)	26 (35.6)	35 (47.9)

and convenient to share files, media, videos and send short messages.					
Utilizing WhatsApp video call eases communication.	2 (2.7)	3 (4.1)	8 (11.0)	34 (46.6)	26 (35.6)

As demonstrated in Table 4, majority (95.9%) of the respondents, that is 74% strongly agreed and 21.9% agreed to use WhatsApp due to its ease of contacting their classmates. This finding coincides with the finding of Purba and Sri Setyarini's (2020) study that WhatsApp helped students to contact their classmates easily. Likewise, 94.5% of the respondents (64.4% of the respondents strongly agreed and 30.1% agreed) perceived that utilizing WhatsApp saved time due to its convenience to read and type messages at any time and place. This finding confirms the finding in Jafre et al.'s (2018) study that WhatsApp provided flexible learning time. Ease in accessibility via smartphones or laptops is another benefit that WhatsApp is favoured by 93.2% of the respondents with 65.8% strong agreement and 27.4% agreement. This finding is in line with a study by Udenze and Oshionebo (2020) that WhatsApp provided flexibility and convenience. Other than that, 87.7% of the respondents (54.8% strongly agreed and 32.9% agreed) reckoned the utilization of WhatsApp Group as convenient to accommodate many users. Besides that, 83.5% of them (47.9% strongly agreed and 35.6% agreed) considered the utilization of WhatsApp as easy and convenient to share files, media, videos and send short messages. This finding substantiates the finding of Alubthane and ALYoussef (2021) that WhatsApp eased the sharing of materials. Similarly, 83.5% of the respondents (43.8% strongly agreed and 39.7% agreed) perceived the use of WhatsApp as fun in allowing the freedom of expressions. Additionally, 82.2% of them (35.6% strongly agreed and 46.6% agreed) were of the view that WhatsApp video call eased communication. These findings correspond with the same findings on the convenience of those WhatsApp features available in previous studies done by Ajani and Khoalenyane (2023), Mohamed Yusoff et al. (2022), and Wijaya (2018). These findings from the present study indicate that the ease and convenience of using WhatsApp, alongside the practical features built-in WhatsApp have attracted and benefitted students' learning experience.

Utilizing WhatsApp Group increases confidence, motivation and reduces nervousness

Results from this study showed that utilizing WhatsApp group helped to boost the respondents' confidence, reduce nervousness and was motivating. This is manifested in Table 5.

Table 5
Utilizing WhatsApp group increases confidence, motivation and reduces nervousness

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Utilizing WhatsApp motivates me to learn English Language.	1 (1.4)	1 (1.4)	23 (31.5)	31 (42.5)	17 (23.3)

WhatsApp helps to boost my confidence in using the English language.	3 (4.1)	0 (0)	11 (15.1)	31 (42.5)	28 (38.4)
Utilizing WhatsApp reduces my nervousness to use the English language.	3 (4.1)	2 (2.7)	13 (17.8)	23 (31.5)	32 (43.8)

As exhibited in Table 5, 80.9% respondents (38.4% strongly agreed and 42.5% agreed) perceived that WhatsApp helped to boost their confidence in using the English language. The finding that WhatsApp enhanced self-confidence corroborates with the findings in studies by Alfiansyah et al. (2022), Hassan and Ahmed (2018), Izyani and Mohamed Amin (2016), Ta'amneh (2017), and Jafre et al. (2018). Moreover, 75.3% of the respondents (43.8% strongly agreed and 31.5% agreed) felt that using WhatsApp reduced their nervousness of using the English language. Similar finding was yielded in past studies by Jafre et al. (2018) and Purba and Sri Setyarini (2020) that WhatsApp reduced anxiety to use English. Furthermore, 65.8% of the respondents (23.3% strongly agreed and 42.5% agreed) perceived that WhatsApp group motivated them to learn English Language. Akin to that, the finding that WhatsApp motivated them to use English concurs with findings of previous studies (Hassan & Ahmed, 2018; Justina, 2016; Ta'amneh, 2017; Purba & Sri Setyarini, 2020). These findings from the present study revealed that WhatsApp Group is a useful platform to increase students' confidence, reduce their anxiety and motivate them to learn the English language.

WhatsApp enhances group discussion and learning

Results from this study revealed that the respondents valued the use of WhatsApp in enhancing group discussion and learning. This is portrayed in Table 6.

Table 6
WhatsApp enhances group discussion and learning

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Utilizing WhatsApp allows me to participate actively in group discussions	2 (2.7)	2 (2.7)	8 (11.0)	28 (38.4)	33 (45.2)
Utilizing WhatsApp is useful for group discussion during class hours.	1 (1.4)	1 (1.4)	4 (5.5)	31 (42.5)	36 (49.3)
Utilizing WhatsApp is useful for group discussion outside of class hours.	2 (2.7)	0 (0)	2 (2.7)	24 (32.9)	45 (61.6)
Utilizing WhatsApp helps me to get instant feedback from my classmates.	2 (2.7)	1 (1.4)	6 (8.2)	32 (43.8)	32 (43.8)
Utilizing WhatsApp	1 (1.4)	1 (1.4)	11 (15.1)	32 (43.8)	28 (38.4)

enhances collaborative learning experiences.					
Utilizing WhatsApp enhances deeper understanding of the course content.	2 (2.7)	4 (5.5)	15 (20.5)	30 (41.1)	22 (30.1)
Utilizing WhatsApp provides opportunity to learn from others' mistakes.	2 (2.7)	0 (0)	15 (20.5)	34 (46.6)	22 (30.1)

As gathered from Table 6, majority of the respondents valued the usefulness of WhatsApp for group discussion outside of class hours and during class hours. 94.5% of the respondents (61.6% strongly agreed and 32.9% agreed) perceived WhatsApp group as useful for group discussion outside of class hours. Likewise, 91.8% of the respondents (49.3% strongly agreed and 42.5 agreed) perceived WhatsApp as useful for group discussion during class hours. Findings on the flexibility of using WhatsApp for group discussion coincide with the findings of Jafre et al.'s (2018) study. Besides that, 87.6% of the respondents (43.8% strongly agreed and 43.8% agreed) felt that WhatsApp enabled them to get instant feedback from their classmates. This finding substantiates the same finding in studies by Purba and Sri Setyarini (2020) and Wijaya (2018). In addition, 83.6% of the respondents (45.2% strongly agreed and 38.4% agreed) remarked that WhatsApp facilitated active group discussions; and 82.2% of them (38.4% strongly agreed and 43.8% agreed) felt that WhatsApp enhanced collaborative learning experiences. These findings are consistent with the findings in studies by Alfiansyah et al. (2022), Alubthane and ALYoussef (2021), Izyani and Mohamed Amin (2016), Jafre et al. (2018), Paramasivam (2021), Udenze and Oshionebo (2020), as well as Urien et al. (2019) that WhatsApp promoted active discussions and collaboration among the group members. However, these findings were the opposite of the findings in Rahmadi's (2020) study which showed that participants were unprepared to use WhatsApp for collaborative academic learning. This indicates that students in the present study were able to keep abreast with the digital era by exploiting the usefulness of using WhatsApp for collaborative learning.

It was found that 76.7% of the respondents (30.1% strongly agreed and 46.4% agreed) perceived that WhatsApp provided an opportunity for them to learn from others' mistakes. This finding is akin to that of Purba and Sri Setyarini's (2020) study. Moreover, 71.2% of the respondents (30.1% strongly agreed and 41.1% agreed) were of the view that WhatsApp enhanced a deeper understanding of the course content. This finding concurs with findings in earlier studies by Hassan and Ahmed (2018), and Ta'amneh (2017).

Hence, the positive respondents' perceptions on the usefulness of WhatsApp in group discussion and learning are in line with the Technology Acceptance Model (TAM). The optimistic thoughts of the respondents have led them to accept WhatsApp as a mechanism to facilitate learning.

WhatsApp enhances Language Skills

Results from this study garnered that more than half of the respondents perceived that utilizing WhatsApp enhanced their language skills. This is evident in the responses provided by respondents in Table 7.

Table 7
WhatsApp enhances Language Skills

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Utilizing WhatsApp helps to improve my vocabulary.	1 (1.4)	1 (1.4)	20 (27.4)	30 (41.1)	21 (28.8)
Utilizing WhatsApp helps me to improve my writing skills	1 (1.4)	5 (6.8)	19 (26.0)	26 (35.6)	22 (30.1)
Utilizing WhatsApp helps me to improve my reading skills	3 (4.1)	2 (2.7)	11 (15.1)	28 (38.4)	29 (39.7)
Utilizing WhatsApp recording function helps me to improve my listening skills.	1 (1.4)	6 (8.2)	22 (30.1)	24 (32.9)	20 (27.4)
Utilizing WhatsApp recording function helps me to improve my speaking skills.	3 (4.1)	4 (5.5)	22 (30.1)	24 (32.9)	20 (27.4)

As evidenced in Table 7, majority (78.1%) of the respondents (39.7% strongly agreed and 38.4% agreed) felt that WhatsApp helped to improve their reading skills; 69.9% of the respondents (28.8% strongly agreed and 41.1% agreed) reported that WhatsApp helped to improve their vocabulary. In addition, 65.7% of the respondents (30.1% strongly agreed and 35.6% agreed) felt that WhatsApp helped to improve their writing skills. Moreover, 60.3% of the respondents (27.4% strongly agreed and 32.9% agreed) reported that the WhatsApp recording function helped to improve both their listening and speaking skills. The findings that WhatsApp helped to improve reading and writing skills as well as develop their vocabulary coincide with findings in previous studies by Hamad (2017), Purba and Sri Setyarini (2020), as well as Wijaya (2018). Additionally, the finding that WhatsApp improved their speaking skills reinforces the finding in past studies by Alfiansyah et al. (2022) and Jafre et al. (2018) that WhatsApp improved communication skills among the participants. Thus, findings from the present study indicate that WhatsApp is a useful tool to enhance language skills.

WhatsApp enhances Content Learning and develops Critical Thinking Skills

Results from the study revealed that utilizing WhatsApp helped the respondents to learn content and develop their critical thinking skills. This is exemplified in Table 8.

Table 8
WhatsApp enhances Content Learning and develops Critical Thinking Skills

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Utilizing WhatsApp helps me to seek answers to certain concepts, theories and issues	1 (1.4)	5 (6.8)	20 (27.4)	27 (37.0)	20 (27.4)
Utilizing WhatsApp helps me to develop more creative ideas and think critically.	2 (2.7)	2 (2.7)	17 (23.3)	29 (39.7)	23 (31.5)
Utilizing WhatsApp helps me to solve problem of given tasks.	2 (2.7)	3 (4.1)	18 (24.7)	30 (41.1)	20 (27.4)

As elucidated in Table 8, 71.2% of the respondents (31.5% strongly agreed and 39.7% agreed) viewed that utilizing WhatsApp helped them to develop more creative ideas and think critically. Additionally, 68.5% of the respondents (27.4% strongly agreed and 41.1% agreed) perceived that WhatsApp helped them to solve problems of given tasks. Other than that, 64.4% of the respondents (27.4% strongly agreed and 37% agreed) were of the viewpoint that WhatsApp helped them to seek answers to certain concepts, theories and issues. The finding that WhatsApp enhanced understanding of theories and concerns is in agreement with finding in Paramasivam's (2021) study. Hence, findings from the present study revealed that WhatsApp Group discussions provide students the platform to broaden their thoughts to think creatively, find solutions to problems together, and learn from one another.

RESEARCH QUESTION 2: What are the challenges of using WhatsApp group for learning?

Results yielded from the study showed that among the challenges encountered by more than half of the respondents in utilizing WhatsApp group were 'Useful messages or explanations may get lost in long messages in WhatsApp', 'I just accept an opinion given based on agreement by majority of my friends in the WhatsApp', 'It is time-consuming to type long messages via WhatsApp as compared to face-to-face discussion', 'Utilizing WhatsApp slows down the process of learning as I need to wait for my group members to respond', and 'It is time-consuming to scroll through long messages in WhatsApp'. This is shown in Table 9.

Table 9
Challenges of Utilizing WhatsApp Group

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Utilizing WhatsApp consumes a lot of my mobile data.	7 (9.6)	20 (27.4)	23 (31.5)	17 (23.3)	6 (8.2)
WhatsApp interactions are hindered by weak Internet connection	1 (1.4)	13 (17.8)	26 (35.6)	22 (30.1)	11 (15.1)
It is time-consuming to type long messages via WhatsApp as compared to face-to-face discussion	2 (2.7)	10 (13.7)	18 (24.7)	29 (39.7)	14 (19.2)
It is time-consuming to scroll through long messages in WhatsApp.	3 (4.1)	10 (13.7)	22 (30.1)	22 (30.1)	16 (21.9)
Useful messages or explanations may get lost in long messages in WhatsApp.	2 (2.7)	6 (8.2)	19 (26.0)	26 (35.6)	20 (27.4)
Utilizing WhatsApp slows down the process of learning as I need to wait for my group members to respond.	2 (2.7)	9 (12.3)	22 (30.1)	26 (35.6)	14 (19.2)
My friends do not respond to messages in WhatsApp.	6 (8.2)	14 (19.2)	26 (35.6)	22 (30.1)	5 (6.8)
I face difficulty in expressing my thoughts in English via WhatsApp.	11 (15.1)	21 (28.8)	27 (37.0)	8 (11.0)	6 (8.2)
My friends have difficulty in expressing their thoughts in English via WhatsApp.	8 (11.0)	24 (32.9)	26 (35.6)	9 (12.3)	6 (8.2)
My friends like to post unrelated messages, pictures and videos in WhatsApp.	6 (8.2)	14 (19.2)	27 (37.0)	14 (19.2)	12 (16.4)
Explanations or messages delivered via WhatsApp lack details.	4 (5.5)	9 (12.3)	33 (45.2)	21 (28.8)	6 (8.2)
I just accept an opinion given based on agreement by majority of my friends in the WhatsApp group.	2 (2.7)	5 (6.8)	21 (28.8)	32 (43.8)	13 (17.8)

As shown in Table 9, 63% of the respondents (27.4% strongly agreed and 35.6% agreed) perceived that 'Useful messages or explanations may get lost in long messages in WhatsApp'. In addition, 61.6% of the respondents (17.8% strongly agreed and 43.8% agreed) reported 'I just accept an opinion given based on agreement by majority of my friends in the WhatsApp'. Besides that, 58.9% of the respondents (19.2% strongly agreed and 39.7% agreed) remarked that 'It is time-consuming to type long messages via WhatsApp as compared to face-to-face discussion'. Moreover, 54.8% of the respondents (19.2% strongly agreed and 35.6% agreed) felt that 'Utilizing WhatsApp slows down the process of learning as I need to wait for my group members to respond', and 52% of them (21.9% strongly agreed and 30.1% agreed) opined that 'It is time-consuming to scroll through long messages in WhatsApp'. These findings are in agreement with the finding in Alfiansyah et al.'s (2022) study that an enormous number of messages posed as a disturbance.

Besides that, findings revealed that 45.2% of the respondents (15.1% strongly agreed and 30.1% agreed) perceived that 'WhatsApp interactions are hindered by weak Internet connection'. This low-band width issue was also experienced by the pre-service teachers in Alubthane and ALYoussef's (2021) study and the students in Wijaya's (2018) study. This finding indicates that a solution is needed to overcome this problem to keep level with the cyber world.

Furthermore, 37% of the respondents (9.6% strongly disagreed and 27.4% disagreed) did not feel that 'Utilizing WhatsApp consumes a lot of my mobile data'. This finding contradicts the finding in Jafre et al.'s (2018) study which revealed that the students were burdened by the high cost in the purchase of internet data. Some respondents from the present study did not feel the pinch on the purchase of internet data as their parents were from the high-income group.

Other than that, 43.9% of the respondents (15.1% strongly disagreed and 28.8% agreed) perceived that 'I face difficulty in expressing my thoughts in English via WhatsApp.' Similarly, 43.9% of the respondents (11% strongly disagreed and 32.9% agreed) opined that 'My friends have difficulty in expressing their thoughts in English via WhatsApp'. This shows that more than half of the respondents did not face problem interacting with one another by using the English language.

Only 37% of the respondents strongly agreed and agreed that 'Explanations or messages delivered via WhatsApp lack details', and 36.9% observed that 'My friends do not respond to messages in WhatsApp'. Furthermore, only 35.6% of the respondents strongly agreed and agreed that 'My friends like to post unrelated messages, pictures and videos in WhatsApp'. These findings indicate that the respondents were able to utilize WhatsApp appropriately and they participated actively in group discussion. The result also denotes that most of the respondents posted related messages, pictures and videos in WhatsApp for the benefit of their group members. These findings are in contrast to findings in studies by Cetinkaya (2017) and Udenze and Oshionebo (2020) that students posted irrelevant materials in WhatsApp group.

CONCLUSION

It can be concluded from the findings of this study that majority of the respondents perceived WhatsApp as useful for group discussion mainly due to its ease of contacting classmates; convenience; accessibility via smartphone or laptops; ability to accommodate many users; being a platform for freedom of expressions; convenience to share files, media, videos and send short messages; as well as easiness to make WhatsApp video calls. Besides that, WhatsApp group helped to boost the respondents' confidence, reduce their nervousness and motivate them to learn. Additionally, WhatsApp enhanced active group discussion, and provided opportunity for them to learn from others' mistakes. Moreover, WhatsApp improved their language skills, particularly reading and writing skills as well as their vocabulary. Furthermore, WhatsApp enhanced their creative and critical thinking skills.

The major challenges of using WhatsApp as encountered by the respondents in the study were useful messages or explanations may get lost in long messages, mere acceptance of others' opinions based on the majority, time-consuming to type long messages via WhatsApp as compared to face-to-face discussion, time-consuming to scroll through long messages, and weak Internet connection hindered interaction.

Thus, it can be concluded that easily accessible media, such as WhatsApp Group with its various useful and practical features can be used to support traditional classroom learning. In addition, it is paramount that educational institutions need to provide high-speed internet connectivity to support learning via electronic devices. Even telecommunication agencies can create affordable internet packages for both students and educators to lighten the burden of the high cost of purchasing mobile data.

Several implications are gathered from the findings of this study. Findings indicate that mobile instant messaging application plays a pertinent role in supporting education in this digital era. In this regard, educators need to change their mindset to embrace the co-existence of human and technology for effective quality teaching and learning remotely beyond the classroom. In other words, they need to progress with the advancement of technology by embracing blended learning which incorporates the use of mobile applications into their classroom teaching. To accomplish this end, educators need to empower pre-service teachers and students by engaging them in active collaborative learning via tools available in electronic gadgets. In this way, their knowledge can be broadened and learner autonomy can be achieved.

Other than that, pre-service teachers and students need to be briefed on the proper usage of smartphones and electronic gadgets in class for effective and purposeful learning. Besides that, educators, researchers and programmers can create more innovative and user-friendly features in mobile applications to support the new teaching and learning atmosphere in this cyber world.

Hence, findings yielded from the study provide useful insight into the future of education in the digital era. Educators, relevant authorities, and the society need to move in tandem with the paradigm shift of using mobile applications, including WhatsApp to complement traditional classroom teaching and learning. Future research can consider a larger sample size to compare

the effectiveness of teaching and learning via mobile applications. In addition, subsequent research of this nature can also compare the respondents' age, gender and locality to have a better understanding of the usefulness of mobile applications in teaching and learning.

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Conflict of Interest

All authors declare that they have no conflict of interest.

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Authors' Contributions

All authors have equal contribution in each part of this work.

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