Adopting WhatsApp to Reduce Transactional Distance During the COVID-19 Pandemic

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Abstract: Mobile devices have penetrated all levels of society worldwide, including what are predominantly considered inaccessible, low-income communities in developing nations. Mobile devices are frequently used for economic, political, and social interactions and even business transactions. In a similar fashion, teachers are slowly adapting to the use of mobile devices as a pedagogical tool in education. The aim of this study was to ascertain how a WhatsApp group, a messaging facility, could be used to enhance group interaction among pre-service teachers during the COVID-19 pandemic. Moore's Transactional Distance theory and Salmon's five-stage model guided this qualitative study. Twelve pre-service teachers, out of a class of thirty-five, were purposely selected to work on a group task using the WhatsApp application during the COVID-19 pandemic. They also participated in a focus group interview. WhatsApp artifacts and focus group interview transcripts were analyzed deductively; the results showed that the WhatsApp intervention helped improve pre-service teachers' engagement and the sharing of content to successfully undertake the group activity virtually. WhatsApp's social nature has proven to be an enabler for keeping people connected despite physical distance: reducing cognitive loneliness resulting from social isolation. It is recommended that teacher educators, academics, and researchers, as well as students working remotely take advantage of the usability of WhatsApp for learning and research purposes.

Keywords: COVID-19, Remote learning, Social media mediated learning, Transactional distance, WhatsApp

1. Introduction

The COVID-19 global pandemic, also known as the coronavirus pandemic, brought daily human operations to a standstill, after a lockdown was implemented to curb the spread of the disease (Gamage & Perera, 2021). Education was no exception. Given the abruptness of the effects of the pandemic, learning institutions were caught unprepared for such a disruption; they had to think fast and rationally to produce innovative interventions so that learning would continue. In many cases, institutions transitioned into remote and online learning systems. Students from privileged institutions and backgrounds, easily transitioned to the online environment. However, it was not the same case for students coming from vulnerable backgrounds with limited or no access to online learning resources (Gamage & Perera, 2021). The COVID-19 pandemic exposed the many inequalities within South African communities. Although the educational institutions made efforts to put learning management systems in place to support online learning during the pandemic, in many cases, educators and students relied more on their own resources, internet connectivity and digital devices. This was because during conventional face-to-face sessions, both educators and students used institutional facilities, therefore very few invested in their personal technologies. In addition, Learning Management Systems provided by the institutions were not easily accessible for all. This therefore highlighted a need for educators to make use of resources that were easily available to all students to facilitate learning. Mobile smartphones present such an opportunity.

Research has shown that worldwide there is a rise in access to affordable smartphones and data networks, therefore affording endless opportunities for the uptake of mobile-enhanced business, social and educational activities (Chigona, 2013). The use of technology such as mobile smartphones for learning reduces the tractional distance that is presented by remote and online learning. Transactional distance (TD) in this study is defined as a psychological and communications separation between a student, his peers, and learning content (Moore, 1993).

In higher education, specifically, in teacher training institutions, there has been insignificant adoption and use of technology in teaching and learning (Johnson, Becker, Estrada, and Freeman, 2015; Gachago et al., 2017). However, the COVID-19 pandemic became a catalyst for these institutions to embrace the opportunities technology brings to teaching and learning. Thoms and Eryilmaz (2014) revealed that the technology used in online learning does indeed still matter and have profound effects on students learning experience. Sun (2016) finds that support, accessibility, and usability of the course technology predicted satisfaction through the instruction-technology fit. This study adopted the use of WhatsApp to reduce TD.

It is hoped that the findings of this study will encourage educators to adopt the use of mobile-mediated technology in teaching and learning (Bhardwaj, 2016). Furthermore, education policymakers and administrators

may become aware of the importance of adopting social media applications in teaching and learning. The researchers also hope that pre-service teachers will see the benefit of engaging with mobile devices as educators' model mobile-mediated teaching strategies in their preparation programs.

This study is guided by the following question: In *what ways can WhatsApp group interactions influence the reduction of Transactional Distance (TD) in a remote learning pre-service teachers' virtual group activity?*

2. Literature Review

Social interaction plays a critical role in teaching and learning. Peer-to-peer interaction has proven to be an optimal way for people to learn. In most cases, in a physical learning environment, students and educators interact face-to-face; however, the advent of COVID-19 and its interruption of physical meetings isolated students and educators, disrupting the status quo. Having to make do with what's available, social media platforms and Learning Management Systems were adapted into education institutions. In this study, due to the limited digital resources, the researchers explored the use of WhatsApp in a group project. The researcher chose WhatsApp because it is a widely and easily accessible social media platform (Tunjera & Chigona, 2021) which students could easily access on their mobile smartphones.

In 2009, Brian Acton and Jan Koun purposely invented WhatsApp to improve mobile mediated communication. The short messaging service that had been available to people at this point, had some challenges and was expensive as it was linked within a mobile service provider (WhatsApp, 2021). The duo created an independent multiplatform application that only required one to have an internet connection. In addition to being a text-based messaging application, WhatsApp application has the following collaborative features:

- Users can share videos, text, pictures, and audio (voice) notes as messages.
- WhatsApp group can be created to support unlimited synchronous and asynchronous interaction of up to 256 group members.
- Group administrators can restrict by opening and closing administration and user privileges
- Group audio or video calling features can host eight participants at one go.
- WhatsApp gives registered users an unlimited number of messages which one can share if they are connected to the internet.
- WhatsApp is a cross platform application compatible with different types of platforms android, iPhone, windows devices
- The WhatsApp desktop guarantees that one can have access to messages even when working on their laptop or desktop computer independently from their mobile devices.

All the above features' function when one has access to the internet.

However, before the COVID-19 pandemic, educators viewed WhatsApp as a social application, not a communication-enabling application, despite researchers highlighting its possible impact on teaching and learning (Sherine, Seshagiri, and Sastry, 2020). In their study investigating the impact of WhatsApp interaction, Ebireri, Kalli and Sakir (2021) found that using WhatsApp improved student access to information from anywhere and at any time. However, other studies found that WhatsApp negatively affected students' performance as they can be easily distracted from their learning tasks. The social nature of WhatsApp makes it easy to receive contain unimportant messages i.e., jokes, videos, memes and other content which may attract the learners attention away from the educational tasks (Asmara, 2020). In this study the aim is to explore WhatsApp influence in reducing transactional distance in remote and virtual group assignment.

2.1 Virtual Groups

Virtual WhatsApp groups collaborations have been researched, and studies have shown that younger generations are increasingly using social networks such as WhatsApp to chat with each other online and instantly (Nadeak, 2020; Aldoobie, 2015). It has also been observed that students share anything of interest to them and their peers within these groups (Rashid & Asghar, 2016; Gill et al., 2015). With regards to student engagement during the social isolation period due to COVID-19 pandemic, mobile mediated online engagements are said to have improved and increased interactions (Tunjera et al., 2015; Clayton, 2016). Active engagement and participation in group activities is fundamental. The more students participate in learning activities the more they gain knowledge. Student engagement is linked to high quality learning outcomes (Baishya & Maheshwari, 2020). Social interaction is an important means of learning, as it keeps them connected with peers. The following section, therefore, explores how WhatsApp helped increase social interaction during the COVID-19 pandemic.

2.2 Social Constructivist Learning Theory

Social constructivist philosophers has proven that knowledge is collectively created within students' shared communities (Timmermans & Tavory, 2016). This social sharing of information with their peers is how the conception of new information begins (Tunjera, 2014). Students within a virtual group form a collaborative team as they take turns sharing information on a common topic. Within the dialogues, group members apply four reasoning strategies: questioning, summarizing, clarifying and predicting (Gunawardena et al., 1997).

Moore (1993) argues that these dialogues advance key tenets of structure, discourse, and student self-regulated learning thus reducing the psychological gap that is created when students misunderstand some concepts. As the students are working in a team task, they co-construct knowledge within their group, mediated within a social media platform. The construction of new connotations is achieved through the sharing of different and conflicting perspectives through the WhatsApp group platform (Economist.com, 2012).

Researchers reveal that access to online platforms such as WhatsApp, enhances students' engagement (Nadeak, 2020; Tunjera, 2014). Furthermore, Ally and Tsinakos, (2014) observed that the accessibility of mobile-mediated learning is growing, thereby boosting learning opportunities in developing nations. Rambe and Bere (2013) observed in their study great opportunities for advanced tools in social media that open mobile learning opportunities. Ngaleka and Uys (2013) and Tunjera (2014) assert that mobile-mediated social media, for instance WhatsApp, has the potential to increase dialogue as participants co-construct and generate new information.

However, El-hussein and Cronje, (2010) advised that mobile learning designers need to understand the students' context and the appropriate application of mobile-mediated social network useable for learning (Pachler et al., 2010). Additionally, Le, Janssen and Wubbels, (2018) observed that a lack of participation, and economic challenges should be anticipated in making use of mobile social networks in learning environments. While it could be true that social networks may have some challenges, it does not necessarily follow that all platforms carry these risks, as with the use of WhatsApp, which is available freely to download (WhatsApp_Inc, 2021).

WhatsApp acceptance, mostly in developing contexts, is attributed to its unique feature that allows enhanced interactions within a group - synchronously or/and asynchronously (Bouhnik et al., 2014). In addition to the usability and affordability of WhatsApp, unlimited data bundles are being offered by many mobile service providers in South Africa's such as Cell C mobile service provider (Akande et al., 2020). Hence, WhatsApp group facility was used in this study to enhance interactions, as well as nurturing social engagement inherently to the reduction of Transactional Distance (TD) effects.

2.3 Transactional Distance Theory

Moore's TD theory stands as the underpinning theory for distance education pedagogy. TD refers to the psychological or communication gap that arises when a student encounters a challenge in understanding a concept, and fails to get help (Moore, 1993). The current generation students easily gets anxiety as they expect instant feedback to complete a task (Tunjera, 2014). This implies that when help is sought and does not get resolved within a certain time, student disengage with the task. Moore's TD theory (1993) and Park, (2011) Pedagogical Framework for mobile learning highlights four types of mobile learning interactions that take place in a distance-learning context within a single continuum mediated by mobile devices.

Figure 1 illustrates that TD is either high or low, dependent on the structure of the learning activities. Secondly, he views learning activities as either individualized or socialized. This study's WhatsApp group activity was intended to fall on quadrant type three to reduce TD in a student-centred setting, the findings showed that the students had autonomy of the activity, although initially the tutor facilitated and initiated follow-up by encouraging direct discussion of the virtual group activity.
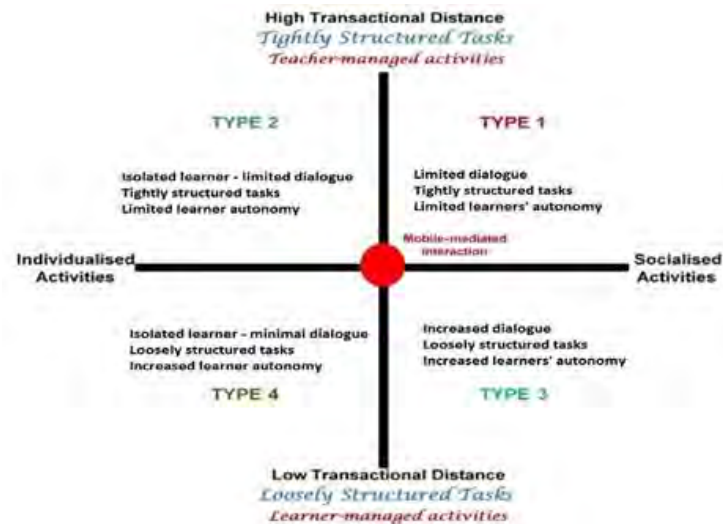
Figure 1: Pedagogical Framework for Mobile Learning (Park, 2011)

To help accomplish the virtual group activity with the aim of examining how TD could be reduced through increased virtual social interaction, Salmon's five-stage model was used to guide the group activity implementation.

2.4 Salmon's 5-Stage Model

Salmon (2000) designed a five-stage model for e-modelling online presence activities for learning. The model (Figure 2) was used in the setting up of the study's mobile online activity and consists of five stages in an interactive activity.
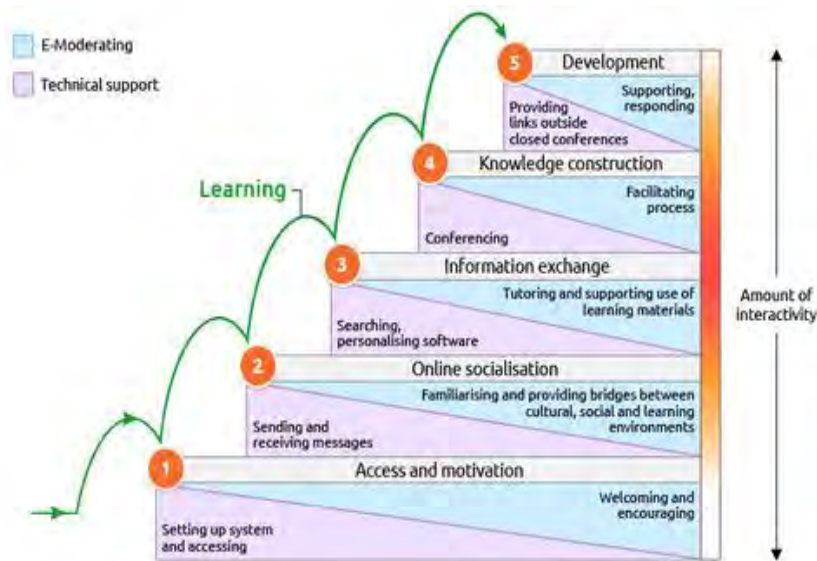

Figure 2: Salmon's 5-Stage Online Learning Interaction Model (Salmon, 2000) Used With Permission

Stage 1, 'Access and Motivation', is the initial phase in the online engagement process. According to Salmon, Nie and Edirisingha, (2010; p.....?), "gaining access is an essential precondition for learning in any online environment", the group administrator ensures that participants have access to the online environment (Tunjera, 2014).

Stage 2, Online Socialization, Gregory and Salmon, (2013) indicate stage 2 as when participants are familiarising with the system and finding other group members to interact with. At this stage, individuals are trying to understand and explore how to use the platform for learning as well as building trust and mutual respect for working in a group.

Stage 3 is Information Exchange, in which Salmon, Nie and Edirisingha (2010) indicate that online engagements are characterized by enquiries and responses taking place in continuous succession. Similarly, Moore (1993) agrees that group members share and exchange ideas as they master overcoming communication barriers.

Stage 4, Knowledge Construction, Salmon (2000), posits that group members value each other's contribution as a knowledge construction community. The group leader's role is to amalgamate and combine members contribution guiding group members toward the attainment of the group task. The group members are actively engaging at this stage.

Finally, in the fifth development stage, Salmon, Nie and Edirisingha, (2010), note that group members are able to accomplish individually allocated tasks as they aim to integrate current learning experience from the activity into other forms of learning in their own space This last stage allows group members to apply and test their gained knowledge in their own setting (Gunawardena et al., 1997; Moore, 1993).

3. Conceptual Framework

To understand the identified principle that guides remote learning, the researchers created a conceptual framework guided by the reviewed literature. Figure 3 illustrates how the learning concepts guiding this study, virtual group (Anderson & Elloumi, 2008), social constructivist pedagogical approaches (Sadeck & Cronjé, 2017), and transactional distance (TD) (Moore, 1993) are mapped together. These concepts are discussed in detail in the following sections.

Tunjera (2014) used the conceptual framework (Figure 3) to illustrate how the different variables relate with each other in a virtual interaction activity. A virtual group indicates that the participants are physically separated, due to varied circumstance, in this study, the COVID-19 lockdown forced people to stay behind closed doors. Moore (1993) argued that a transaction distance is created when a student is separated from the teacher or other learners. However, due to the accessibility of mobile mediated interactions the psychological gaps are seen to reduce thereby increasing learner autonomy.
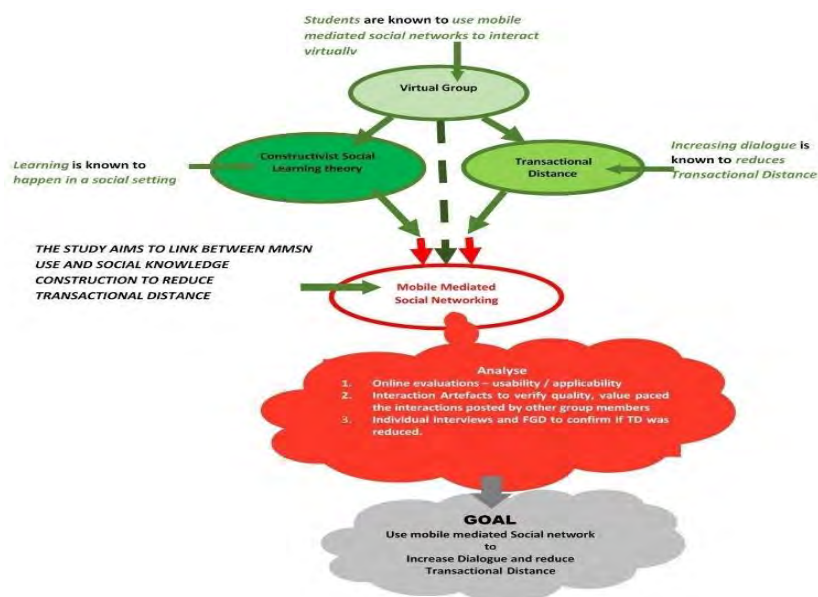

Figure 3: The Conceptual Framework (Tunjera, 2014)

Young people are known to connect and interact with one another using their mobile phones, as they keep each other updated on what is happening (Hwa & Peck, 2020) Studies reveal that social media plays a big part in young people's lives. Global statistics show that 97% use social media such as WhatsApp, YouTube, and Facebook constantly (Hwa & Peck, 2020). On the other hand, social learning theorists suggest that learning is a social activity that happens within a social setting using available and appropriate social tools (Manca & Ranieri, 2016). This research further reveals how the advent of social media has changed social interaction and human engagement (Manca & Ranieri, 2016). Therefore, keeping students engaged using social media tools within their social learning eco system helps alleviate the increase in TD.

4.   Research Design

The study followed a qualitative interpretative paradigm using an in-depth interpretation of a single case. Data was collected using the WhatsApp transcripts, and a focus group interview. A post evaluation survey was developed as a follow up on participants' experiences on using WhatsApp group activity. The reason for using the qualitative paradigm was that participants can constitute a rich and valuable source of information (Creswell, 2008). Qualitative research provides rich and in-depth data that aids in exploring the meanings of the phenomena under study.

This study is part of the longitudinal 21st Century project (21CP), is a project funded by the National Research Fund (NRF) that is exploring how pre-service teachers could be adequately equipped with 21st Century skills for ICT integration. The ethical approval obtained from the Institutional Ethics Committee guided this study. Thirty-five third year education students who were registered for the Information Communication Technologies (ICTs) in Education course, which is part of the Professional Studies Course, consented and volunteered to participate in this study. The ICTs in Education course aims to equip pre-service teacher with theory technology integration skills.

4.1   Participants

The study was conducted online on WhatsApp messenger application over a duration of 6 weeks. The researchers divided the 120 students into groups of five students each. A group leader was appointed to create, administer a WhatsApp group, and send invite links to join. Due to the lockdown and social distance, students were physically separated, therefore the assigned group activity was accomplished virtually. The researchers were part of the WhatsApp groups but were non-active observers.

A survey was sent to all students to evaluate the course, students were asked to indicate if they volunteer to participate in focus group discuss to indicate by selecting a volunteer to participate in FGD/ interview. 40 out of 120 students indicated that they were willing to voluntarily participate, however 5 participate withdraw due to technical difficulties. The participants were further randomly divided to groups of 5 to afford in-depth discussion on the WhatsApp intervention. A schedule for each group FGD was created in MS Teams. Each member was given a chance to respond to every discussion question.

4.2   Data Collection and Analysis

The WhatsApp group's interactions were transcribed verbatim to help categorise the emerging themes (Tunjera, 2014), concentrating on the quality of the interactions exchanged (Moore, 1993). Participants volunteered to participate in a focus group discussion to reflect and discuss WhatsApp usability and applicability for group activities.

The participants were asked, in their groups, to work on a task to develop a teaching podcast on a topic of their choice. Students had to work virtually with a variety of technological resources or tools and interact within a WhatsApp group.

The final podcast and WhatsApp chats were submitted to Blackboard for assessment. WhatsApp dialogues artefacts were analysed using indicators from the Interaction Analysis Model (IAM) (Gunawardena et al., 1997). The IAM uses statements of observations or opinions, agreeing on clarification of statements. The group members firstly shared and compared facts as they interact. Secondly, as the discussion continued to grow, discussions moved on to indicators such as agreement and disagreement statements, and then moved further on to consensus on new understanding. In the fourth phase the discussion moved up to evaluating the validity of the new information in their setting, and in the final stage, the application of new knowledge in their own contexts. The emerging categories were fitted onto five-stage and IAM models (Gregory & Salmon, 2013; Gunawardena et al., 1997).

Focus group interviews (FGI) conducted on the usability and applicability of WhatsApp in the group activity context, were transcribed verbatim. The transcribed data was allocated codes categorizing viewpoints common to the central purpose of the study (Lynch, 2013). The codes were summarized into themes used for reporting findings. All the collected data was analysed thematically.

To ensure that the process of data collection and analysis was credible and trustworthy, transcribed data was sent to participants to verify the accuracy of the data. The raw data was discussed with participants for member checking to ensure that it represented what they had said. Participants verified the accuracy of transcribed WhatsApp artefacts as well as FGI and interview transcriptions.

5. Findings and Discussions

The study explores the use of a mobile-mediated social media, WhatsApp, in a group activity during the COVID-19 pandemic lock down. The findings reveal that pre-service teachers accomplished the group activity using WhatsApp interactions. The pre-service teachers indicated that the group projects ran smoothly and reduced a lot of anxiety previously experienced when they were in physical classrooms.

The findings are presented under the following themes:

- Increased connectedness
- Enhancing exchange of ideas
- Usability and accessibility of mobile-mediated WhatsApp

5.1 Increased Connectedness

The focus group and interviews revealed that the WhatsApp application enabled group members to stay connected and kept up to date as one could read through the synchronous conversations. The interactions pattern happens continually as the group members engage on what they already know about the subject under discussion (Tunjera, 2014). This observation is in agreement to Salmon, Nie and Edirisingha (2010) findings that reveal that interactions in online discussions are characterized by questions and responses occurring in succession. Similar patterns were observed in this study as participants socially engaged with each other to accomplish the given task. This is in line with TD theory in that as group members share and exchange ideas, communication barriers are overcome. Virtual group members shared information relevant to the group's assigned task. Teamwork happened as group members shared and supported each other, working towards achieving their virtual group's task goal.

The pre-service teacher revealed that even though lockdown physically isolated them, however, through the virtual WhatsApp groups made them feel connected with others. One pre-service teacher highlighted how the advancement of WhatsApp features such as group video call helped her/him to connect with others,

> *I felt very much part of a team, or I can say classmates… I never felt lonely, although the group was meant for ICTs project*

WhatsApp Inc website reveals that it managed over thirty billion messages every 24 hours during the COVID-19 pandemic. It is managing over a billion monthly active users and over seven hundred million photos and videos shared every day, Researchers have also revealed that WhatsApp is the most popular messaging application (Udenze & Oshionebo, 2020).

During the COVID-19 lockdown and social distancing restrictions, WhatsApp was the cheapest and most accessible technology available to most students. Internet service providers had social media uncapped bundle that could last for a month available for purchase

> *Using WhatsApp was a relief for me. I am from a small town outside Eastern Cape. I have challenges of poor network access to Blackboard and other platforms being used. I am happy using WhatsApp allowed me to participate in this group assignment. I used WhatsApp monthly bundles…which made me fully connected…*

Researchers have raised concerns of widening of the digital-divide that is caused by online learning (Chigona, 2017; Pieri & Diamantini, 2010), however in this case WhatsApp group activity revealed its inclusivity as all the participants had access to WhatsApp and were happy to use it for learning. In their study, Udenze and Oshionebo (2020) state that WhatsApp was very useful for undergraduate students to actively participate in class activities.

5.2 Enhancing Exchange of Ideas

The participants in this study reported that they enjoyed and were able to accomplish the assigned group task using the WhatsApp group, which enhanced not just the knowledge they generated but the connectedness and sharing that took place amongst them. This is consistent with Udenze and Oshionebo (2020) who report that there was a noticeable increase in the use of social media in the 15 - 29 age group. Studies reveals that young people are known to connect and interact with one another using their mobile phones (Zachos et al., 2018; Hwa & Peck, 2020). Therefore, it is not surprising that pre-service teachers adopted the use of WhatsApp groups as they use it socially to keep each other up to date with current affairs.

In this study, students engage in a group activity, knowledge is constructed through the shared platform. According to Gregory and Salmon (2013), each member of the group is valued for their critical role as a group member. Each group member has an integral role of bringing their individual ideas to contribute towards achieving the group task goal. Here, the group leader's role is to help in directing participants toward the completion of the group task. Sherine, Seshagiri and Sastry (2020) predicted that enhancing interaction is the process of exchanging and sharing ideas and has the potential of reducing TD. One participant revealed that the WhatsApp group activity helped her understand things better,

> *Participating in this group, helped me understand some difficult content that had taken me long to understand during face-to-face classes*

In this study, group members worked together, sharing ideas to accomplish a common goal. Udenze and Oshionebo (2020) assert that in enhancing mobile-mediated interactions, group members can motivate each other; responding to each other's posts is extremely critical at this stage.

> *…I liked the use of audio chats; we were talking as if we were in the same room…*

WhatsApp features such as audio, video and group call were also highlighted as the features that helped students construct and share ideas on the group activity. However, contrary to these benefits, (Udenze & Oshionebo, 2020) have indicated that WhatsApp was distractive and caused problems related to spelling and grammar use. However, in this study it was observed that the students used Textism notation in the WhatsApp group interaction. Textism consists of the abbreviations and slang often used in internet-based conversations (Oreoluwa & Omotayo, 2022). However, it was interesting to note that this had no impact on the final submission as the pre-service presented their work in proper academic writing.

The analysis of the interaction revealed the needed intensity and active participation of every group member. Both formal and informal conversations held with the goal of achieving their group assignment were observed. The observation showed that each group member was critical for the successful completion of the given task. Each member was assigned a task to accomplish towards the group task from initial conception through to completion. One group leader noted,

> *In our group we first discussed on ground rules, we, together identified key concepts and assigned each member a concept to research prepare to report back to the group during our meet-up scheduled time, we used WhatsApp to interact with each other on any urgent arising matters…*

The above extract reveals the importance of group members playing their part as a team to achieve the goal. Final assessment involved peer assessments, in which each member assessed other group members. This helped to grade individuals on team skills and contributions. This implies that every group member participated to successful completion of the group task.

WhatsApp provides educational affordances of immediate feedback, therefore reducing the TD that is created when students cannot get immediate feedback. Also, note that using WhatsApp for discussion provided deeper clarity on abstract concepts. A student has this to say about using WhatsApp for studying

> *… enjoyed using WhatsApp in this group activity, we only used it informally with friends, using it as a class project, it made it more exciting as everyone was ready to share and assist in whatever way. This immediate support reduced the stress of waiting to have someone respond promptly…*

The participants appreciated that using WhatsApp afforded them immediate feedback from the educator and peers as students started exchanging information. At this stage, students were exchanging course material to support learning towards the achievement of the learning goal. In their study, Bouhnik, Deshen and Gan, (2014) observed that students shared video links and website links to build towards the learning goals.

5.3 Usability and Accessibility of Mobile-Mediated WhatsApp

The WhatsApp application enables limitless interactions and access to other students at anytime and anywhere. Social media platforms offers both synchronous and asynchronous interactions as indicated by one of the pre-service teachers,

> *The WhatsApp really made my life stress free…. I would send a message to our group in most times I would get someone responding instantly or within 10 minutes… it's always a challenge when you are far, and you need help but do not get it… it is stressful…*

Social media has been heralded as having a negative influence on the young generation. However, when they are physically separated and in need of help, its these platforms that give them access to peers and other sources of knowledge and support which reduces anxiety. There are contradicting observation on the effect of social media on mental health; in this case, the students used ~~social~~ media to alleviate their worries that, if unresolved, would trigger anxiety. On the contrary, studies assume social media as a trigger of anxiety due to overwhelming messaging and sometimes uncensored communication (Chaturvedi et al., 2021) It is important however, to note that social media skills when guided and refined can produce better learning outcomes as it gives more freedom to connect and collaborate beyond the physical spaces.

The WhatsApp interaction are key to provide structure, share content and increase student autonomy as the could actively participate in their assigned group activities. Table 1 below shows the results of participant evaluation on using WhatsApp for interacting and sharing content.

Table 1: Feedback Evaluation After the Group Assignment

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
WhatsApp helped me in gaining knowledge	15	17	3	0	0
WhatsApp was Engaging	26	8	1	0	0
WhatsApp group chats motivation to learn	24	9	1	1	0
WhatsApp group activity encouraged collaborative learning and participation	28	7	0	0	0
Easily available and downloadable	35	0	0	0	0
Learning anytime, anywhere	32	3	0	0	0
High volume of message was overwhelming	0	0	3	12	20
Bad language use	0	0	0	0	35
Straining and time consuming	0	0	0	15	20

The participants were mostly satisfied with WhatsApp as they were strongly agreeing on the advantages of using WhatsApp for the group assignment. All participants strongly agreed that WhatsApp is easily accessible and downloadable.

> *WhatsApp is freely downloadable and easy to use. I liked this group activity, as it was focused on a goal, the members were focused on achieving this unlike other uncontrolled WhatsApp groups… I end up muting some groups*

Students take advantage that it is a free downloadable application; hence, it is available to most people and devices. Furthermore, internet service providers offer WhatsApp data bundles which are cheaper and convenient to use (Jackson, 2020). This implies that WhatsApp can be a tool that can be used in education without worrying about the prohibiting cost of such technology. It should be noted that taking advantage of the digital technologies that are accessible, even in remote and marginalised communities, empowers interaction and engagement that is critical in reducing transactional distances.

6.   Implication of the Study

The study implies that if pre-service teachers are exposed on how to appropriately use social media platforms in their teaching and learning, it will be easy for them to use such in their future classroom. Offering students diverse choices of platforms to use can develop self-determination, pride in accomplishment, and increase the degree to which they feel connected to their learning.

7.   Conclusion

Overall, the WhatsApp platform has proven that, although it is designed as non-academic social media application, it fit the current needs of pre-service teachers' interaction during the COVID-19 lockdown. WhatsApp improved features and accessibility was a convenient and supportive tool which should be introduced into the formal setting of teaching and learning, as revealed by this study. This implies that WhatsApp can be adopted for flexible learning and effectiveness in providing instant support whenever it is needed. The

researchers recommend educators take a critical look at mobile mediated social network model available that can be used for supporting and improving the current educational practices for remote learning. Adapting social media platforms into curriculum delivery gives access to those in marginalised communities who experience lack of advanced technology infrastructure and connectivity barriers. The researchers recommend that further studies be done on how WhatsApp diverse features can be exploiting effectively in teaching subject specific content.

Acknowledgements

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