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A pathway to adapt hybrid learning for pre-service teachers as the new normal in curriculum practice: Using WhatsApp as a learning tool

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Abstract: The use of hybrid learning in curriculum practices to improve teaching and learning a recent initiatives in the package pedagogical reforms in South Africa. Nowadays, an increasing number of students have their own smartphones, and WhatsApp is becoming popular in terms of mobile learning and communication .WhatsApp is an application that can be used by students in post-secondary education to improve performance, and motivation to prepare for their learning . This article reflects on a pathway followed by pre-service economic and management sciences (EMS) teachers in their ability to adapt and sustain their learning through WhatsApp as a hybrid learning tool. The study is underpinned by connectivism theory. Qualitative research using Participatory Action Learning and Action Research (PALAR) approach as a form of critical education science is employed in research methodology and design . Semi structured Interviews were conducted with 30 Pre-Service EMS teachers to generate data. PALAR is relevant to the study as it pilgrimages three principles of responsible research innovations such as recognition of participants, establishing professional learning communities and critical reflections embracing diversity characterised in unequal education context in the South Africa. Critical discourse analysis was used to arrive at the finding that depicts close 96% of the participants are inclined to use WhatsApp as a learning tool as 84% had reliable access to Wi-Fi on campus. The paper concludes with recommendations that the hybrid learning is the future of teaching and learning in post Covid era and should be embraced .

Keywords: Pre-Service teachers , hybrid learning , curriculum practice .connectivism ,WhatsApp

1.Introduction and background

It has been a challenging few years for higher education institutions largely focused on teacher education since the outbreak of COVID-19 (Al-Asfour, Charkasova, Rajasekar, & Kentiba, 2022). There have been various challenges and shifts in the dimensions of traditional classrooms to conform to the new normal. There is an increasing trend that seem to suggest the new normal in the post pandemic era is approaching with scholars researching teaching and learning techniques that will be relevant for the post pandemic curriculum practice (Erdamar & Akpinar, 2022). In South Africa studies revealed that remote learning exacerbated inequities in supply of education (Mphuthi,Tshelane,2022; Nyoni & Ngqila, 2022; Duby, Jonas, Bunce, Bergh, Maruping, Fowler, Reddy, Govindasamy, and Mathews, 2022). Recent research indicated that remote learning was shadowed with challenges of access to remote learning , connectivity and environments that were not suitable for remote learning (Duby, et al., 2022) .Hybrid learning may be seen as the pathway to sustain learning without moving back to traditional face to face teaching and learning. New methodologies for teaching and learning have to be initiated to enable pre-service Economic and Management Sciences(EMS) teachers to sustain their learning in the post pandemic era . Compared to traditional learning, hybrid learning saves time and resources because

it combines face-to-face learning experiences with online and mobile technologies. In addition to saving time and resources, Bülow (2022) opines that hybrid learning enables students and teachers to access the modules whenever they wish as long as the internet signal reaches the area. The essence of hybrid learning is to combine the best aspects of face-to-face and remote learning to create an ideal learning environment.

African universities have endured a number of crises during the course of their history and have learned to quickly adapt to ensure the quality of teaching and learning (Tilak & Kumar, 2022). Adamantly ,Political turmoil, economic downturns, fiscal austerity, social conflicts, staff and student strikes, virus outbreaks and even civil wars have forced universities into circumstances that require difficult decisions in a context of great uncertainty and complexity (Tilak & Kumar, 2022). Technology integration is acknowledged as an important part of teacher education, yet these programs have struggled to develop effective strategies on both the program and instructional levels that prepare preservice teachers to integrate technology effectively in their future classrooms. (Wang, Schmidt-Crawford, & Jin, 2019).Mobile learning, on the other hand, combines a variety of learning methods and approaches across multiple contexts and social interactions through the use of learning technology. With the help of the mobile device, students are able to learn anywhere and anytime. The devices that can be utilized to enhance the learning experience include smartphones, tablets, and notebooks.

In Russia Ministry of Education issued Order No. 4452 "Methodology for the Application of E-Learning Technologies in educational Institutions of Higher, Secondary and Additional Professional Education in the Russian Federation" (Valenzuela, Thomas, & Katenga, 2022). The aim was to enable intuitions of higher learning to promote students learning in a flexible environment . In Asia there is continual and deliberate efforts to develop new strategies to sustain teaching and learning .Particularly looking at Malaysia ,Ignatius (2022) asserts the implementation of hybrid learning has always been sees as rudimentary .However , recently Qualcomm Technologies, Inc., designed a technology that will enable for the first time in Malaysia the use of hybrid learning .This initiative was achieved with collaboration with Multimedia University (MMU), one of Malaysia's leading universities where hybrid learning will be piloted (Ignatuis, 2022).

Hybrid learning in Africa is increasing becoming popular, although it is at its infancy stage (Bubou & Job, 2021) .Recent studies indicates an increase in internet penetration rate in Africa compared to a year before the pandemic .Morocco has seen a rise of active internet users up to 84% of the population , with Seychelles at 79% while South Africa at average of 70% of the population actively accessing the internet (Statistica, 2022). Statistics South Africa reports that there is growing access to internet through use of mobile phone, up to 67% of the active internet users access internet through mobile phone in South Africa.

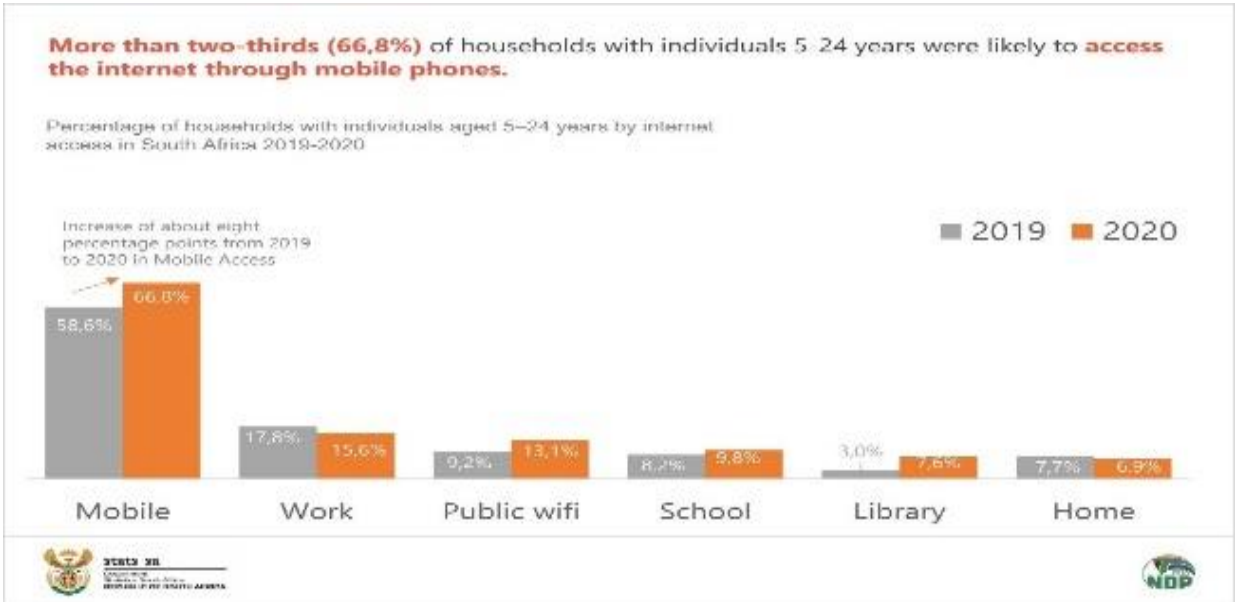

Figure 1 Access to internet through mobile phones (Statistics South Africa, 2021)

2. Problem Statement

The concept of mobile learning generally refers to the use of new technologies and applications to support or facilitate learning, as well as educational content or learning experiences provided or enabled by electronic technologies. Researchers in Africa use the term "mobile learning" to refer to learning experiences that can take place in synchronous or asynchronous settings using multiple devices (including mobile phones and laptops.) (Alubthane & ALYoussef, 2021). Studies conducted in the Southern African Development Community (SADC)specifically in South Africa reveal that social media platforms like WhatsApp can help students interact and learn more effectively. Madge, Breines, Dalu, Gunter, Mittelmeier, Prinsloo, and Raghuram, (2019) discovered that students in the teacher education studies in South Africa, use of social media correlates positively with their perception of relationships with other learners and teachers, as well as their self-reports of learning experiences. In addition, Mittelmeier, Rienties, Rogaten, Gunter, Raghuram, (2019) opines that WhatsApp can build peer to peer relations .Students from different countries and backgrounds were able to connect and interact through WhatsApp, enabling them to gain a deeper understanding of other countries' conditions and practices. Furthermore, studies found that 60% of University of South Africa`s students used WhatsApp to collaborate and enhance their learning experience (Venturino & Hsu, 2022).

"WhatsApp (from the English phrase 'What's up?', meaning 'What's new?') is an instant messaging application for smartphones. It allows users to exchange images, videos, and audio or written messages using their Internet connection" (Barhoumi, 2015). Alubthane and ALYoussef (2021) asserts that WhatsApp can have a number of benefits if it is incorporated in the lesson for pre-service teachers .Scholars further argue that in a hybrid learning lecture, the mobile devices promotes online conversations and cooperation from pre-service teachers they can readily discuss many subjects connected to the course being presented face-to-face in the classroom during a blended mobile lecture. Through participation in collaborative and cooperative online activities connected to the course being taught in the classroom, the technology makes it possible for students to create a class magazine that they may modify and publish. It invites students to add text and messages so they may quickly exchange knowledge and information about the course being taught in-person using a hybrid mobile lecture. Students can incorporate videos, podcasts, chats, texts, photos, and audio files into their blended mobile learning process with the use of WhatsApp learning technologies.

The aim of the paper was to reflect on the pathway that was followed by pre-service economic and management sciences (EMS) teachers in their ability to adapt and sustain their learning through WhatsApp as a hybrid learning tool. Through WhatsApp, educational content (including video and podcasts) can be delivered to mobile devices via mobile devices as part of mobile learning. South African study by Thaba-Nkadimene (2020) also identified that mobile learning promotes learning regardless of location, helps reach communities that lack physical resources, encourages collaboration through online social interactions, and provides students with a personalized learning experience. Majority of the participants in this study have WhatsApp app installed in they smartphones which would enable them to participate fully in hybrid learning through mobile phone.

"Teaching is a complex activity that is premised upon the acquisition, integration and application of different types of knowledge practices or learning. A purely skill-based approach…will produce technicians who may be able to replicate performance in similar contexts, but who are severely challenged when the context changes" (Department of Higher Education and Training National Gazette No. 38487, 2015)

3. Theoretical framework

The study is underpinned by connectivism learning theory as the lens that guide the study. Connectivism learning theory was developed by Gorge Siemens (Wu & Cui, 2022).In 2004 George Siemens narrates that connectivism becomes inevitable when students consider technology as an integral part of their problem-solving mechanism (Siemens, 2006). this narrative was further strengthened by the discoveries shared by Stephen Downes (2022) that connectivism involves using digital technology to solve problems, such as searching for educational resources on the internet , exchanging educational text messages with classmates , or using social media to search for topic related to the content. The connectivism theory emphasizes the importance of technology in our learning

process. Using social media including WhatsApp, forums, videos as learning channels, connectivism explains why technology is such an important part of our learning process (Downes, 2022).

As a teaching strategy, connectivism allows students to connect with one another using social networking or collaboration technologies. Some educational theorists believe that a person's mind is where learning takes place (O'Toole & Simovska, 2022). To store, access, and retrieve knowledge and to encourage its application while Siemens contends that modern learning is too complicated to be focused on individual mindsets. Instead, siemens asserts that students need a connected web of network of people to share information. Learning is seen as having multiple facets, and certain activities determine which learning strategy is best for the learning (O'Toole & Simovska, 2022).

An increasing number of students in the information age which permeates in the institutions of higher learning prefer the curriculum practiced reflecting and reciprocate the way they live. As such they find it difficult to concentrate in lesson that does not incorporate the technologies they often use. The students bring to the lecture room their mobile phones, laptops, and tablets to class as a display that students are constantly connected to the changing world. The theory is relevant to the study as WhatsApp is intentional and allows students to share social and educational information form the palm their hands and the study encourages connectedness among pre-service EMS teachers for the promotion of quality teaching and learning through collaborations.

4. Methodology and research design

The study used qualitative research methodology to address the aims of the research. The study employed participatory action learning and action research (PALAR) approach as a form of critical education science to generate data. PALAR allowed participants to share their lived experiences and critical reflections, in this case, by deliberately embracing diversity in the unequal context of South African education (Mphuthi & Tshelane, 2022). The study used purposive study where 50 pre-service teachers were sampled for inclusion in the study. This sampling technique was intentionally used to harness the perceptions through discussion and interviews to design pathway for pre-service EMS teachers in the faculty of education. 30 participants were able to fully participate in the study . The data collected through semi-structured interviews with responses provided by economic and management sciences pre-service teachers. Economic and management sciences teacher education is intended to empower student teachers to teach Grades 8 and 9 learners focusing on financial literacy, business studies and economics (Mphuthi & Tshelane, 2022).

4.1 Participants and selection procedure

The participants in the study were pre-service EMS teachers who are registered in one of the twenty-six institutions of higher learning in South Africa. The pre-service economic and management science teachers in this study varied from first of study to final year of study in teacher education under the specialisation economic and management sciences, Bachelor of Education: Economic and Management Science (B. Ed EMS). Acronym "PTS" is used as a pseudo name to represent pre-service economic and management science teacher for the purpose of the study. Their profile is depicted below:

Table 1 Descriptive Summary of Participants` Demographic data

Detail	Category	Frequency	Percentage
Gender	Females	22	73
	Males	11	27
Type of school attended	Rural	5	27.9
	Farm	0	0
	Public	21	60.5
	Private	4	11.6
Year of Study	1st year	3	10
	2nd year	8	27
	3rd year	15	50
	4th year	4	13

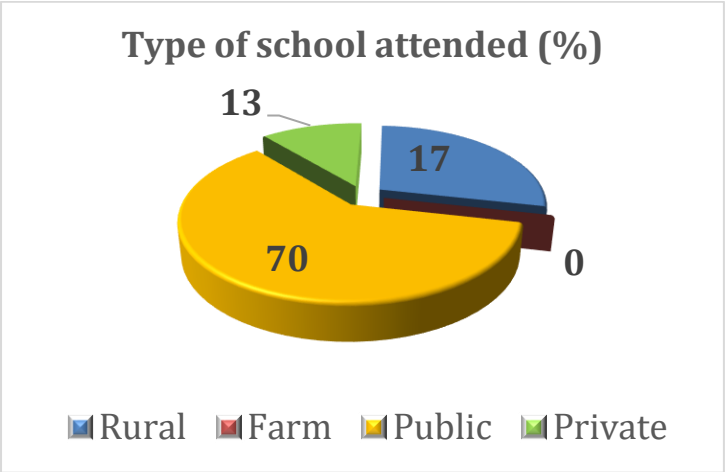

Figure 2 Type of school attended by %

4.2 Ethical Consideration

The participants in this study we guaranteed their freedom to contribute to a free attitude discussion and offer their view in the interview without prejudice. The participants were also informed that they are free to withdraw from the study at any point they feel uncomfortable. We also took extra measures to hide the identities of the participants throughout the study. For the purpose of confidentiality we use pseudo names to identify pre-service economics and management science teachers as participants in the study : Pre-service teacher as participants are identifies as (PST) throughout the study. The term pre-service economic and management science teachers and participants will be used interchangeably through the study. This study needed to be credible in the same way that reliability and validity are monitored. Although no approval was requested, the data gathering process was carried out with the highest honesty and respect in order to ensure quality, credibility, trustworthiness, reliability, conformability, and transferability. Because no funding was provided for the study's conception or execution, the researchers did so at their discretion.

5. Finding and Discussions

Semi-structured Interviews were conducted with 30 Pre-Service EMS teachers to generate data The interview was designed to gather the responses of the participants in the semi-structured questions divided into two categories:(i) Section A which focused on the demographic background of the participants . (ii) Section B which focused on the on the accessibility of remote learning gadgets and institutional support with remote learning resources , access to data which enables access to internet. Critical discourse analysis was used to arrive at the finding that depicts close 96% of the participants are inclined to use WhatsApp as a learning tool as 84% had reliable access to Wi-Fi on campus. The Steps to incorporate WhatsApp are also discussed as reflections from the discussions by Pres-service EMS teachers .The aim was to find relevant pathway that will be in line with the participants lifestyle and learning pattens .

Section A
Demographic data

- Year group of the student
- Population
- Gender
- Type of school attended

Section B

Use and access to smart phone

- Do you own a smartphone
- Do you have a WhatsApp on your phone
- How much on average do you spend on WhatsApp per month
- How often do you use WhatsApp in a day
- Do you have access to reliable Wi-Fi at home
- Do you have access to reliable Wi-Fi on Campus
- Do you have a group where you chart about academics on WhatsApp
- How often do you communicate with your classmates to get academic information updates using WhatsApp
- Do you think use of WhatsApp for academic purpose can enhance your academic work

5.1 Steps in Using WhatsApp for academic purpose

Through WhatsApp, educational content (including video and podcasts) can be delivered to mobile devices via mobile devices as part of mobile learning. South African study by Thaba-Nkadimene (2020) also identified that mobile learning promotes learning regardless of location, helps reach communities that lack physical resources, encourages collaboration through online social interactions, and provides students with a personalized learning experience.

5.1.2 Creating WhatsApp Group

In this step the lecture creates WhatsApp group and set the role as group administrator. The administrator will set rules that will guide communication in the group with pre-service EMS teachers. The administrator of the group will also communicate the restrictions on content that should be shared in the group

5.1.2 Setting the Teacher educator`s

Techer educator as the main leader will post the content that will be shared with pre-service EMS teachers for learning purposes , the teacher educator will facilitate the discussions however most learning through the discussion will be learner centered and not teacher centered to promote self-directed learning.

5.2.3 Setting the Pre-service EMS teachers' role

Pre-service teachers will play a big role in the interactions as marks will also be awarded based on participation . Teacher educator and pre-service EMS teachers may stay in touch even outside of designated study times through WhatsApp's provision for free voice and video calls. To keep students interested in the lessons and the subject, teachers can also send timely reminders or notifications about exams, homework due dates, etc.

5.2 Demographic data

The bigger portion of the participants seems to have attended the public school which is mostly in the township areas. While 30% came from the rural and private schools respectively . private schools are predominantly established in the most urban areas. The majority of the participants were female and mostly represented the 63 % of the students who were well progressed in the year of study and had been exposed to both face-to-face traditional teaching and learning and also become part of the group that transitioned to remote learning. This may suggest that their view may represents the actually experiences of shift from face to face and remote learning .

5.3 Use and access to smartphone

The participants in the indicated that they had access to a smartphone even from their first year of study. The participant who constitutes the 3% indicated that at the time of the study the smartphone was actually at the repair shop and does not necessarily indicate absence of ownership of smartphone.

Table 2 Access to smartphone

Detail	Frequency	Percentage
Yes	29	97
no	1	3

5.4 Daily use of WhatsApp

The table below indicates that the most part of the day , the participants are able to access WhatsApp through their smartphones , while a very minimal number will be is said to not use the WhatsApp during the day. This depiction does not necessary mean that the participants are not using WhatsApp for the rest of the day. It only suggests that they are not often on WhatsApp however they may still be able to access information as communique is sent in the WhatsApp academic group.

Table 3 Daily WhatsApp usage

Detail	Frequency	Percentage
often	23	77
Not often	7	23

5.5 Access to reliable Wi-Fi on campus

The results below indicate a major number of pre-service EMS teachers have reported to be connected to Wi-Fi during the time when then are on campus and supposedly engaged in teaching and learning.

Table 4 Campus access to Wi-Fi

Do you have access to reliable Wi-Fi on Campus		
Detail	Frequency	Percentage
Yes	25	83
No	5	17

The finding in this study indicates that pre-service economics and management sciences teachers had greater interest in the subject matter due to the use of WhatsApp in teaching and learning. Social media provides a platform for more contact between students and teachers. Through their interactions on social media, students learn collaboratively from one another. In order to ensure a deeper comprehension of the concepts, it also enables the sharing of media assets and other information related to the course material. Thus, the method of incorporating WhatsApp into the teaching and learning is seen as a pathway to adapt and sustain pre-service teachers in curriculum practice.

6.Conclusion

The paper has shared a pathway that was used by pre-service economic and management sciences teachers . According to the results of this study, WhatsApp is a useful, practical, and simple-to-use tool that improves interactions, conversations, collaboration, and communication between pre-service EMS teachers as well as between pre-service EMS teachers and their teacher educators. pre-service EMS teachers and teacher educators can exchange ideas, news about their courses, and educational resources via WhatsApp. As a result, the study encourages and advise pre-service teachers

to use WhatsApp as a pathway A pathway to adapt hybrid learning for pre-service teachers as the new normal in curriculum practice using WhatsApp as a learning tool. To also interact and communicate academic information by setting up groups and enticing them to talk about pedagogical content and exchange resources, ideas, and relevant information about curriculum practice.

There exist is a fear of deviation from learning and using academic time for social purposes however through collaboration with other pre-service learners the fear can be minimized. Additionally, the connected network is filled with a tremendous amount of information and it changes rapidly, so it is imperative for individuals to know how to filter content so that they can determine what information is most valuable to them. As well as filtering content, it is believed that the new information can also change the individual's thinking in order to make future decisions on the basis of the latest data.

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