WhatsApp Messenger as a Supplementary Tool for School Curriculum Knowledge Transfer and Acquisition during COVID-19 Stricter Lockdown: Educators' Perceptions

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ABSTRACT
The COVID-19 pandemic is unarguably one of the most disastrous events whose detriment to the normalcy of the education and training sectors will never be forgotten. To salvage the academic year, the Department of Basic Education (DBE) encouraged historically disadvantaged schools to explore rotational learning. This was supplemented by mobile learning, with WhatsApp Messenger as the schools' most preferred application. However, in the face of the concerns that were raised by education commentators, student bodies and teacher unions about the lack of public schools' readiness for mobile learning, this social constructivist-oriented qualitative study adopted the technology acceptance model (TAM) as a lens to investigate educators' perceptions of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVID 19 lockdown at three historically disadvantaged schools in South Africa. This study drew on 12 educators' diverse and convergent views. The participants generally deposited positive feedback regarding the benefit of using WhatsApp Messenger to engender curriculum knowledge transfer and acquisition. However, they also detailed a few negative aspects of this pursuit, primarily on how the financially needy learners were excluded from participating in this process. Also, educators admitted that while going beyond the call of duty was necessary during the pandemic, the adoption of WhatsApp-mediated teaching consumed most of their leisure time. According to them, this was compounded by poor internet connectivity due to the country's power crisis. In some instances, this adversely affected the productivity of WhatsApp Messenger-mediated curriculum knowledge transfer and acquisition processes during the COVID-19 stricter lockdown regulations.
KEYWORDS
Knowledge transfer; knowledge acquisition; educators; stricter lockdown; WhatsApp

INTRODUCTION

Between 2020 and 2021, South Africa was brought to its knees by a pandemic whose effects on the livelihoods of the citizenry and the wellbeing of the economy were too dire to cope with. Besides causing scores of deaths, unprecedented hospital admissions, massive worker retrenchments and alarmingly high business closures in the country's recent history, the novel Corona Virus (COVID-19) also affected the normalcy of professional services, social welfare services as well as all forms of socially oriented public gatherings and leisure activities. After recording the highest infection rates in Africa, which saw cases skyrocketing from 61 to 402 in just several days, South African President Cyril Ramaphosa, acting on the advice of the National Corona Virus Command Council (NCVCC), imposed a nationwide lockdown effective from 26 March 2020. Likewise, all educational institutions were instructed to halt their operations until further notice. However, following a seven-week closure, schooling was finally allowed to resume on the condition that appropriate safety protocols and policies were to be followed. In the main, this included ensuring that the prescribed 1.5 metres of social distancing between learners was plausible by scaling down on the number of learners in attendance and ensuring that the Personal Protective Equipment (PPE) was procured and supplied to every learner and staff member. To maximally salvage what was left of the academic year, but without imposing major risks on the lives of learners and staff, the Department of Basic Education (DBE) proposed using radio, TV educational resources, and online learning (DBE, 2020). However, remote and rotational classes supplemented by mobile learning were touted as the most preferential avenues (Mutambara & Bayaga, 2021).

While most of the affluent schools opted for remote learning, a majority of the historically disadvantaged schools opted for rotational learning supplemented by WhatsApp Messenger. The DBE deemed a combination of rotational teaching and learning and mobile teaching and learning as equal to the task of sustaining the facilitation of curriculum knowledge transfer and acquisition while ensuring that safety protocols were observed. In addition, through the latter, learning material would be easily dispatched to learners (Mutambara & Bayaga, 2021). In practical terms, this implied that learners in historically disadvantaged schools were arranged into group formations, with each group guaranteed on-site learning for a specified number of days a week. WhatsApp Messenger was mostly used to ensure that those not scheduled to attend such classes could access recorded tutelage, acquire learning material, and liaise with educators via WhatsApp Messenger.

This bold move caused consternation among parents, teacher unions, education administrators, learners and student bodies (United Nations Educational Scientific and Cultural Organization [UNESCO, 2020]), especially around matters of how educators would be able to facilitate technology-mediated transferral of curriculum knowledge to learners. This is because they were not adequately skilled to do so (Skhephe, 2022).

The significance of this study is tied to addressing the apparent paucity of scientifically documented feedback detailing the resilience of schools in salvaging the academic year via

technology applications (Engzell et al., 2021). In this spirit, it investigated how educators in three historically disadvantaged South African schools perceived their adoption of WhatsApp messenger to supplement the transfer and acquisition processes of curriculum knowledge to learners during the stricter COVID-19-induced lockdown period.

Problem Statement

It is widely accepted that COVID-19 has had a detrimental effect on the world's schooling systems. It left governments scrambling for solutions to palliate its unprecedented aftermath, which gave credence to a temporary suspension of face-to-face tutelage in schools across the globe. According to the statistics provided by the United Nations (UN, 2020), it affected no less than 95% of the world's learner population—and by far, constitutes the largest disruption to education in history. In South Africa alone, 400,000 to 500,000 learners had dropped out of school in a space of 16 months at the coalface of the pandemic (United Nations Children's Fund, [UNICEF, 2020]). This is demonstrative of the impact of the unexpected pervasion of the pandemic on school operations and learners' learning agency. For most learners, learning devices were out of reach, while provisions for technological resources and guidance on how to use them were made to the fortunate few. In low-income bracket families/households, learners were confronted by the scarcity of data and skills necessary to access and operate online learning applications (UNICEF, 2020).

In response to the slow "emergence" of research shining a spotlight on how "during the lockdown" period, schools supported learners to navigate the tide of COVID 19 (Engzell et al., 2021, p. 118), the study elucidates how in South Africa, the incurred 54 per cent curriculum knowledge deficit that came about as a result of a rigidly designed rotational school time-table, emergency closure of schools and a temporary suspension of learning activities for specific grades (Spaull et al., 2020, p. 1) was addressed. Therefore, the paper draws out educators' perceptions of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVID 19 lockdown. The significance of this paper is double-edged; not only does it contribute first-hand data on the extent to which schools catered for learners' learning needs at the height of one of the world's most recent catastrophic events (Engzell et al., 2021), it also contributes a body of knowledge on the pros and cons of mobile learning in a local schooling context, which at this stage is a topic that is far from being exhaustively researched (Chibisa & Mutambara, 2022). The paper's overriding objective was to understand educators' perceptions of the ease of use and usefulness, as well as their overall experiences of the adoption of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition during COVID-19 stricter lockdown at selected historically disadvantaged schools in South Africa. The following research questions informed the achievement of the research objectives:

- What are the perceptions of educators regarding the ease of use of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition

during the stricter COVID-19 lockdown at selected historically disadvantaged schools in South Africa?

- How do educators perceive the usefulness of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVID-19 lockdown at selected historically disadvantaged schools in South Africa?
- Which factors do educators consider as having negatively affected the selected schools' adoption of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVID-19 lockdown?

Structurally, the paper embodies three sections: literature review, theoretical overview, research methods, ethical issues, findings and discussions, the closing and recommendations.

THEORETICAL OVERVIEW

The Post-apartheid State of Affairs in Historically Disadvantaged Schools

Historically disadvantaged schools are also referred to as township schools or under-resourced schools. They "are historical settlements designated for blacks and are characterised by poor socio-economic conditions and poor educational infrastructure and resources" (Xaba & Malindi, 2010, p. 75). They situated in densely populated neighborhoods and can be likened to *ghettos* in the United States and *favelas* in Brazil. The prevalent infrastructural conditions and productivity trajectories of these schools are a reflection of the legacy of apartheid and are also a depiction of how unequal the South African society is. Typically, these schools face an uphill battle in maximising their levels of teaching and operational efficiencies due to a range of challenges. Recent statistics paint a gloomy picture of most of these schools. Accordingly, the Department of Basic Education and Training (Equal Education [EE], 2018) divulged that for the year 2018 alone, out of 23,471 public schools, 20,071 had no laboratory facilities, while 18,019 were reported to have had no library, whereas 16,897 did not have internet connectivity. Furthermore, close to 1,000 schools were without sports facilities, and about 4,358 were still using latrines for ablutions instead of proper flushing toilets. In addition, 1,027 were not fenced to protect educators and learners from criminal and violent elements. Meanwhile, 239 were not electrified, and 37 had non-existent ablution facilities (EE, 2019).

Although these schools receive a subsidy from the government to remain operational, it is often insufficient to enable them to leverage positive academic outcomes and best operational practices fully. This view is in consonance with Amnesty International (AI, 2020), whose investigation concluded that learners from the lowest income brackets are prone to performing poorly in the twelfth grade. Literature claims that the status quo is exacerbated by these schools' high concentration of educators deprived of quality training, often passive and pessimistic school communities, low parental involvement, incoherent monitoring evaluation systems, and accountability measures (Mouton et al., 2013). Instead of the normal 1:35 teacher-learner ratio, in many instances, most schools must contend with a double dosage of that ratio (AI, 2020). Also, worth noting is that while it is generally accepted that the middle-class bracket

has increased exponentially among Black South Africans (a term used to refer to Africans, Coloureds and Indians), in most of these schools, hunger is still very much the order of the day. Most learners come to school on an empty stomach and are reliant on the one meal per day provided to them by the school through a government-funded National Nutrition Programme (NSNP) while in attendance (Nkambule, 2020).

Much of what has been discussed above, along with the fact that only 4000 (15 per cent) of the country's many schools utilise the Internet to facilitate teaching and learning processes (DBE 2021), as pointed out by Chetty (2020), exposes the duality of the country's public educational service. It is housed under the deceptive guise of an integrated/inclusive education system (p. 245). This was also prevalent at the height of the pandemic; most learners from rural and township schools struggled to keep up with technology-mediated learning due to either not having the devices and access to data or skills required to partake in it; whereas their counterparts in affluent schools had all the necessary technological devices and guidance needed (Muhigana, 2020). This situation largely contributed to the schools' below-average performance (Moloi, 2019, cited in Mokoena & Hlalele, p. 11) at the coalface of the stricter COVID-19 lockdown regulations (Mokoena & Hlalele, 2022).

Linking Knowledge Management Processes with Institutional Learning

As the world draws closer to the Fourth Industrial Revolution (4IR), knowledge becomes the world's nations' strategic wealth. While the importance of knowledge to the prosperity of nations is undebatable and articulated, the same cannot be said about its definition. According to Nkambule (2020), knowledge is generally hard to define and is a concept that is fiercely debatable. Despite these uncertainties about what constitutes knowledge, Nonaka and company (i.e., Nonaka, 1994; Nonaka & Takeuchi, 1995, 2001; Nonaka & Konno, 1998, Nonaka et al., 2000; Nonaka & Toyama, 2003, 2005) are adamant that knowledge appears in two interrelated forms, namely explicit and tacit. Explicit knowledge takes a physical shape and can be drawn from documented materials such as books, computers, files, billboards, chalkboards, newspapers and more. However, tacit knowledge is intangible and is nurtured and safeguarded by people's minds. Nonaka and Konno (2003) argue that since tacit knowledge dwells in people's minds, its externalisation from these minds requires adopting the concept of Knowledge Management (KM). In the context of education, Akpan (2015, p. 25) defines KM as an activity of creating "an enabling environment in which both staff and students in schools carry out learning activities and share knowledge with one another within the school environment".

It is generally accepted that KM is underpinned by four processes: knowledge creation, knowledge transfer, knowledge acquisition and knowledge application (Altaher, 2010; Intezari et al., 2017). While all four processes have an intermingling relationship, knowledge transfer, also known as knowledge sharing (Nkambule, 2020, 2022, 2023; Nonaka, 1994; Nonaka & Takeuchi, 2001; Nonaka & Konno, 2003; Petrides & Nordene, 2003) and knowledge acquisition (Andreeva et al., 2011; Chen et al., 2011; Matar & Raudeliūnienė, 2021; Nishihara, 2018) are

singled out as more aligned with active learning and knowledge innovation (Nguyen & Pham, 2020).

Knowledge acquisition can be characterised as learners' consumption of tacit and explicit knowledge through various interventions (i.e., teaching, reading, studying, and more) using face-to-face teaching in a classroom or a virtual platform. Knowledge transfer can be viewed in light of it being a series of educational experiences during which educators, learners, administrators and schools engage one another "through various channels such as classroom teaching, conferences, staff or board meetings, mentoring, formal and informal interactions and networks, best practices and databases and social media platforms" (Akpan, 2015, p. 34). Concisely, on the one hand, knowledge processes facilitate access to information/knowledge to the intended recipients so that it can be acquired and explored to derive lessons from it. On the other hand, KM is a strategy to support the facilitation of these knowledge processes.

Much of what is discussed above is in consonance with ground-breaking theoretical perspectives of renowned KM scholars, most notably Nonaka and Konno (1998), who often speak about the concept of "Ba", referring to it as shared spaces for people to explore knowledge processes socially. These authors indicate that such spaces (or Ba) are provided to facilitate the conversion of tacit into explicit knowledge or vice versa, either through face-to-face (one-on-one and group-based social experiences) or cyber-mediated (one-on-one and group-based social experiences). Based on "Ba", it can be deduced that intensified and meticulously planned strategies of *transferring* knowledge to learners are crucial to *acquiring* learning outcomes that will endow them with the agency for immersing themselves in self-regulated and collaborative knowledge creation and application processes.

Little did the world know how in years to come, the utilisation of cyberspace would herald a paradigm shift around matters of exploring alternative teaching and learning methods to salvage the academic year and spark debates about the future outlook of South Africa's education system. As was witnessed in how before the pandemic most historically disadvantaged schools facilitated the transferral and acquisition processes of curriculum knowledge via face-to-face (one-on-one and group-based) type of social experiences, versus how during the pandemic they had to abruptly migrate the facilitation of these (one-on-one and group-based) social experiences to the cyber/digital space—for which they were caught unexpectedly. Hence it was of interest for this paper to gain an insight into how educators navigated these uncharted territories of mobile learning, facilitated via WhatsApp Messenger.

Theoretical Framing: Technology Acceptance Model

The paper adopted the Technology Acceptance Model (TAM) as a theoretical lens. Initially propagated by Davis in 1989, who adapted it from Ajzen and Fishbein's Theory of Reasoned Action (TRA) (Venkatesh & Bala, 2008). Also, over the years, TAM went through a series of reinforcements by Davis and collaborators (i.e., Bagozzi, Davis & Warshaw 1992; Davis 1989). Essentially, TAM was a breakaway from TRA's attitude measures. It instead replaced them with technology acceptance measures—*ease of use* and *usefulness* (Venkatesh, 2000). Wenger and

collaborators decided on this based on their observation that as technology pervades the world, people often apply their senses before embracing technology. These authors further argue that people might be apprehensive about it due to a lack of information, self-doubt, or fear of the unknown. Hence, they hypothesised that by infusing *ease-of-use*, and *usefulness,* the model would be reinforced cognitive indicators that would project the need for the management of external dynamics (i.e., social influence, peer pressure and rumours) that can potentially put people's efforts of adopting technology in harm's way.

To that end, they formularised the model as follows: **BI** (for Behavioural Intention) is determined by the wellbeing of **A** (for Attitude) towards technology, as demonstrated by the following attitudinal indicators: *Perceived usefulness* (PU) (Davis, 1989): This speaks to the potential user's conjuring of the benefits that adopting technology stands to yield for their work performance. *Perceived ease-of-use* (PEOU): This relates to the extent to which they consider the effortlessness of using the application and their inclination towards it over the convenience it can bring to their work performance (Venkatesh & Davis, 2000).

In practically terms, the adoption of this theoretical position enabled the researcher to frame the interview questions around the key components of TAM (i.e., BI, A, PU, PEOU) to generate feedback that would lead to the fulfilment of the study's objectives. Applying an all-encompassing approach to investigating participants' perceptions of the adoption of WhatsApp as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVID 19 lockdown in their respective schools, meant that the researcher had to pay equal attention to documenting data that emerged through participants' verbal utterance and body language. Hence, besides having used a tape recorder the researcher also carried with him an observation instrument (i.e. a notepad) to record participants' body and facial gestures to ascertain their behavioral aspects and attitudinal characteristics towards the issue in question. In that sense, basing this social inquiry on TAM descriptors (i.e., BI, A, PU, PEOU) facilitated the generation of rich and context specific data, and also drew the investigation and the analysis of the findings closer to addressing the research problems/questions. A practical manifestation of the influence of TAM on the proceedings of the investigation and research questions is lucidly demonstrated in the format of the findings.

RESEARCH METHODS

Research Approach and Paradigm

This qualitative inquiry was underpinned by social constructivism. The social constructivism paradigm complements qualitative research and makes the researcher a co-constructor of participants' lived experiences (Lincoln & Guba, 2013). The symbiosis between qualitative research and social constructivism enabled the researcher to draw data through participants' verbal (Creswell, 2016) and non-verbal impressions (Denham & Onwuegbuzie, 2013) in a natural setting. The researcher's stance of paying equal attention to verbal and non-verbal communication thickened data "description and interpretation" (Denham & Onwuegbuzie,

2013, p. 670), and drew the researcher closer to gaining participants' first-hand experiences (Silverman, 2016) concerning their perceptions of the usefulness of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVID-19 lockdown period, at selected historically disadvantaged schools in South Africa.

Sample Selection

Tavakoli (2012) defines a sample as the number of participants selected from the population of items or people for data collection purposes. As a sample, the paper focussed on 12 educators sourced from three participating schools.

Table 1. *Interviewed Participants*

Participant	Gender	Age	Field Experience	Additional Role	Highest Qualification
Educator 1	Male	47	23	Head of Department	Honours Degree
Educator 2	Male	52	29	Head of Department	Postgraduate Diploma
Educator 3	Female	34	10	Sports Co-ordinator	Bachelor's Degree
Educator 4	Female	33	07	Netball Coach	Bachelor's Degree
Educator 5	Female	37	15	SBST Member	Bachelor's Degree
Educator 6	Male	51	24	Head of Department	Honours Degree
Educator 7	Female	47	23	SGB Member	Postgraduate Diploma
Educator 8	Male	46	18	Life Skills Coordinator	Honours Degree
Educator 9	Male	57	37	Head of Department	Honours Degree
Educator 10	Male	29	03	Soccer Team Coach	Bachelor's Degree
Educator 11	Female	52	28	SBST Member	National Diploma
Educator 12	Female	34	09	Netball Coach	PGCE

White (2004) states that the researcher uses purposive sampling to capture the participants of interest to the investigation purposefully. Educators were selected to participate in the investigation based on their occupation's alignment with the topic. Also, the researcher purposefully selected educators of different ranks. For example, six participants were ordinary classroom educators who do not perform supervisory duties, while the other six were Heads of Departments (HoDs) who doubled as classroom educators and curriculum supervisors. Likewise, schools were purposefully selected based on the distance between the researcher's locality and that of the three schools.

Data Collection

Literature promotes the employment of more than one data collection method as it effectively increases data credibility through data triangulation (Bernard, 2002) or crystallisation (Stewart et al., 2017). In keeping with this, data were collected through various means, specifically through semi-structured face-to-face interviews and document analysis. Fundamentally, interviews came in handy around bringing the researcher closer to how participants (educators) perceived their engagement with WhatsApp Messenger to supplement curriculum knowledge transfer and acquisition at the height of the pandemic. Also, documents that were analysed either confirmed or contradicted (or, in some instances, substantiated) what participants

already mentioned during their interview sessions. These documents included circulars directed to schools from the circuit, district and national education offices. In addition to this, the researcher retrieved policy documents from the websites of both national and provincial education department that were of relevance to the investigation (e.g., COVID 19 protocols, the COVID 19 trimmed Curriculum Assessment Policy Statement [CAPS]). Furthermore, educators' files were inspected by the researcher to get a sense of how lesson planning and rotational timetables were structured.

Data Analysis

According to Silverman (2016), data analysis accounts for how the researcher interacted with raw data, and subsequently converted it into a useful and context specific body of scientific knowledge that is in tandem with the research questions. The researcher was determined to keep an audit trail of data collected during various stages of the inquiry. An audio tape was used to record all the interviews to capture the discussions held with participants during the interviews. The narratives of participants were transcribed and analysed. Subsequently, the researcher listened to the audio-recorded material and began transcribing the data verbatim according to the "expressions of the participants" (Chetram, 2017, p. 65), in terms of which he initiated the coding process.

According to Creswell (2015, p. 156), coding refers to the disintegration of "qualitative data" into various clusters of factors that appear to be aligned to the objectives/questions tabled in the study "before putting the data back together in a meaningful way". Rather than following the contemporary norm of using software applications to fast-track data coding processes (Welsh, 2002), the researcher opted for manual coding. Accordingly, St John and Johnson (2000, p. 393) assert that, in instances where the researcher endeavours to intensely immerse themselves in the experience of exploring "depth and meaning" rather than "the volume and breadth" of qualitative data, software coding should be shirked in favour of manual coding. This is because the latter helps the research to avoid "deterministic processes, privileging of coding and ratification".

Therefore, all the transcribed views were inspected "line-by-line" using a highlighter pen to highlight themes of interest (Maree et al., 2007, p. 105), and notes were written in the margins of the transcript (Nkambule, 2020). This culminated in tentative themes and patterns that were subsequently compared to the research objectives/questions, upon which it was determined that they could be used to catalyse the reporting of the paper's findings (Erlingsson & Brysiewicz, 2017).

Ethical Issues

Research ethics pertain to the expected norms and practices from the researchers as they embark on a research journey to ensure that the rights and wellbeing of participants are not trampled upon (World Health Organisation [WHO, n.d]). In research, by setting guidelines on how the researcher is expected to treat the process, as well as by making it mandatory for participants to be oriented on the nature of the investigation, both parties are safeguarded from

unknowingly engaging in a dubious research process (Shamoo & Resnik, 2015). Hence, one's research plan needs to be vetted by an impartial body before the researcher commences with it.

Similarly, all due processes were followed to ensure that the research proceedings moved in tandem with research ethics. Prior to engaging in data collection processes, the proposal version of the study was brought to the attention of the ethics review committee and was found to have sufficiently espoused ethical intentions. It detailed how participants were to be informed about the purpose of the study and the implications of their participation in it; and how the researcher would ensure the anonymity of participants and respect their right to withdraw from the investigation should they no longer desire to continue participating in it. The second lap of ethical compliance occurred through the researcher sending the proposal along with the ethical clearance certificate to the relevant provincial education department. The department also assessed the investigation's merits and suitability to the interest of schools under their purview. To show satisfaction with the inquiry's merits, they issued a letter in which the researcher was granted permission to conduct data collection at three selected schools.

RESULTS AND DISCUSSION

The discussion of results embodies the findings that came to light after the finalisation of the thematic analysis. This thematic discussion is aligned with the paper's objectives (i.e., To understand educators' perceptions of the ease of use and usefulness of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVID-19 lockdown at selected historically disadvantaged schools in South Africa), as thematically demonstrated below.

Perceived Ease-of-use of WhatsApp Messenger as a Supplementary Tool

Participants generally exhibited positive reaction concerning the ease-of-use of WhatsApp Messenger during the stricter COVID 19 lockdown. This is consistent with Munir et al. (2021) who declared WhatsApp as one of the most user-friendly applications for the education sector. This was evident in their verbatim responses, as stated below.

Educator 2 commented: It is very easy to go around the application and does not need special training.

Educator 6 added: In the beginning, I was scared, but now I can use it anytime. We still use it now after the pandemic.

Educator 9 concluded: I am comfortable with using WhatsApp, and I think I am doing a good job. Even my learners are happy with how things are working out.

During data analysis, it was evident that even the older generation of educators who admitted that although there were 'teething' problems initially, they were thankful for the support and guidance given to them by young people around them; in terms of which, they commented:

At first, although I had smartphone for years, but I had never been on WhatsApp. So, I was very blank, but my 20-year-old son coached me how to do it. Although I am still not perfect but at least I am able to perform basic teaching function on WhatsApp.

In the same breath, Educator 11 stated:

I don't know what I would have done had it not been for the assistance I received from assistant teachers. Those guys are young and good with these things. They made it seamless to operate WhatsApp for learning purposes.

Participants also mentioned how using WhatsApp enabled them to facilitate social communication and educational communication with minimal complications and teething problems (Fattah, 2015). Based on participants' responses, it is evident that they perceived the ease-of-use of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition in a positive light.

The Perceived Usefulness of WhatsApp Messenger as a Supplementary Tool

Equal Distribution of Curriculum Coverage

Participants described the usefulness of WhatsApp Messenger within the contours of it having enabled them to dispatch instant text and voice messages, images, video, and audio content to learners, and among themselves as co-workers This was expressed by Educator 1 in his capacity as an HoD, who said:

WhatsApp is very useful, and I honestly think it is the way to go. In our school, teachers were able to teach in class after which, (during free periods), had the opportunity to record a summarised version of the same content that was taught in class to groups of learners at home (Educator 8).

Educator 5 added:

WhatsApp made sure that, between those attending classes and those at home, no learner was left behind.

This finding was pre-empted by public sector education strategists who, amidst criticism, called for public schools to blend various modes of mobile learning with rotational learning to augment teachers' curriculum delivery efficiency to ensure that learners benefited maximally from it (DBE, 2020). This finding was also replicated in a study by Chibisa and Mutambara (2022), which projected WhatsApp as one of the mobile learning applications that have the propensity for sustaining active teaching and learning activities in crises such as COVID-19.

Creation of Collaborative Learning Opportunities

Collaborative learning occurs when two or more people are engaged in shared learning experiences (Asterhan & Schwarz, 2016). Participants extended their appreciation for the application's propensity for yielding collaborative learning opportunities among learners. This sentiment was deposited as follows:

Learners recorded questions which they had to answer during our spare time. The nice thing about it is that it makes it a lot easier to chat with learners and explain what they missed in class. As a result, only a few learners made excuses for not doing their homework due to

having not understood the content (Educator 4). Back-and-forth texting was educational to learners because it abled them to find solutions by discussing among themselves via WhatsApp (Educator 12).

This finding demonstrates what has already been recorded in previous studies, most notably Alshayeb (2018) and Fattah (2015), both of whom underscore that besides it being one of the popular mobile learning platforms, WhatsApp has the gravitas for energising student engagement and collaboration in teaching and learning processes.

Creation of Teacher-mediated Learners' Self-directed Learning Opportunities

It further emerged that not only did mobile learning provide learners with the agency for exploring and their intake of curriculum knowledge through WhatsApp sessions. In that way, learners took charge of their learning (Mutambara & Bayaga, 2021) but without side-steeping the mediating role of the teacher who guided them every step of the way during these processes.

Also, one-on-one or individual attention was given to learners earmarked as needy of special attention, as indicated below.

I had about six learners who needed extra attention, so I always made sure that on days when they did not attend classes, after sending school work to them, I would WhatsApp call them to guide them on how to approach the work. And I can tell you, most of the times after guiding them, they would do better than they did in class. I found that when working with them through WhatsApp, they were more active and not afraid to ask questions (Educator 9).

This was supported by Educator 2, who mentioned:

I was amazed by how even shy learners were actively participating in group chats about the content. [To which she smilingly added:] WhatsApp has really unleashed the beast in them.

The above narrative is a sheer display of learning agency, which Badura (2003) defines as an individual learner's self-efficacy and "the power to originate action" (p. 3) to participate in their own learning experience actively.

Perceived Negative Factors Associated with the Adoption of WhatsApp Messenger

Research illustrates that while WhatsApp benefits teaching, learning and administrative functions of education, it does have some disadvantages (Munir et al., 2021). The findings encapsulated in this theme are as follows.

Deprives Learners from Low-Income Families

Participants conceded that WhatsApp ruled out some learners from low-income households who could not participate in mobile learning on days when they were not scheduled to participate in rotational learning. Some of the reasons for this are characterised as follows.

In four classes that I taught of about 67 learners, 13 learners did not have smartphones. Therefore, they were always behind (Educator 1).

Them not having smartphones made them feel vulnerable and their confidence in the process diminished as they felt excluded (Gusuringa, 2018). Furthermore, Educators 6 and 11 shared how:

Some of these learners could not afford to buy data (Educator 6), and how parents did not buy data because their parents thought they wanted to chat with friends and not study (Educator 11).

These findings typify the digital divide that UNESCO (2020) discussed in their investigation on the state of readiness for South African schools to conduct digital education amidst COVID-19.

Consumes Educators' Leisure and Family Time

Participants unanimously agreed that while they understood the significance of their role in saving the learners' academic year, this did not happen without an inconvenience. Educator 7 argued:

I am not as healthy as I used to be a few years ago. I get tired easily, but I had to stretch myself to try and prevent these learners from not learning anything. Although that is what I am paid for, but it should have never happened like it did during the pandemic.

Educator 2 added:

My wife and I were just blessed with our first-born child, and she was very upset with me for not helping her out with the baby. I wanted to help her, but I couldn't at the time due to me being online after hours trying to help my learners.

Learners' Irresponsible and Posting of Inappropriate Content

Participants were generally unhappy with how learners would sometimes upload material that did not relate to the learning outcomes. Educator 1 indicated:

Some learners were out of the way. They would chat about personal things that is why I often scolded them for doing so.

In the same breath, Educator 4 said: I had to ask parents to monitor if their children were really studying whenever they claimed to be online and studying.

Poor Connectivity Issues Due to Load-Shedding and Load-Reduction

Townships are usually where municipal services are not rendered to communities appropriately. While most educators understood the logic behind load-shedding, they did not understand how load-reduction, a wave of power cuts that usually lasts for up to five consecutive hours per day, only affected their neighbourhoods and not also the affluent ones. They commented that as a result of the latter, they were often unable to service learners when most of them were likely to be online. Educator 2 stated:

By the time electricity would come back, I would be in bed already.

Educator 3 mentioned:

Load-reduction was very bad for me as I had to post lessons and only hear the buzz of my phone much later when I would be planning to put the day to rest.

This finding demonstrates that the country's ongoing electricity crisis which has escalated into regular power outages, also known as "load shedding, is severally and jointly liable for some challenges confronting the education sector" (Matsheta & Sefoka, 2023, p. 216).

CONCLUSION AND RECOMMENDATIONS

The paper investigated educators' perceptions of WhatsApp Messenger as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVID-19 lockdown at three historically disadvantaged schools in South Africa. Interviews with 12 educators illuminated that WhatsApp was easy enough to use overall. Participants also deposited positive feedback regarding the benefit of using it to engender curriculum knowledge transfer and acquisition. They further shared how not everything was positive about using WhatsApp to facilitate knowledge transfer and acquisition. Not all learners could be actively involved in learning via WhatsApp, mostly due to socio-economic reasons and lack of parental support.

Also, educators admitted that while going beyond the call of duty was necessary during the pandemic, the adoption of WhatsApp-mediated teaching consumed most of their leisure time. Interviews were concluded by their dissatisfaction with poor connectivity caused by load-shedding and load-reduction, adversely disturbing their pattern of facilitating curriculum knowledge transferral and acquisition during the stricter COVID-19 lockdown regulations.

Based on the above findings, the paper recommends that, in case of a similar pandemic, plans be set aside to accommodate learners who do not possess smartphones or do not have the means to purchase data so that they too can actively participate in mobile learning. Parents must be urged to monitor their children's online activities, so they do not post irrelevant material. Educators need to be prepared psychologically for the task ahead by orienting them with best practices to emulate and by making them realise the importance of the teaching profession in developing a crop of future ready technocrats, artisans and entrepreneurs who will carry forward the economic development agenda of the country. Induction programmes for educators should illustrate how South African teachers can possibly learn from their counterparts in the developing world who work longer hours and go an extra-mile to serve their respective nations. The study further recommends that the government sees how best to normalise the grid, especially during pandemic situations, so that education does not become a casualty.

The researcher noted some limitations of the study. Interviews were conducted between August and September 2020, shortly after the COVID 19 stricter restrictions were relaxed and infection cases were on a gradual decline. Even during that period, there was a still a noticeably high semblance of apprehension among participants, which in some instances, made some of them express how they preferred keeping their individual interview sessions short by providing concise responses to questions posed to them by the researcher. Two participants shared how they had lost colleagues and how that activated their fear of catching the virus. This can thus be considered as one of the limitations that deprived the study of thick descriptive data. Despite the researcher acting in consonance with the social distancing rule, even so, four participants insisted on wearing masks throughout their respective interview sessions. This limited the researcher's accuracy in observing and interpreting their facial gestures and (re)actions towards thought provoking questions.

For purposes of heightening the generalisability and transferability of the findings, the researcher concedes that using a mixed methods approach would have facilitated the inclusion of many more participants whose schools also adopted WhatsApp as a supplementary tool for curriculum knowledge transfer and acquisition during the stricter COVI 19 lockdown.

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