Student Perspectives on WhatsApp Support for Developing School Experience e-Portfolios on Google Sites

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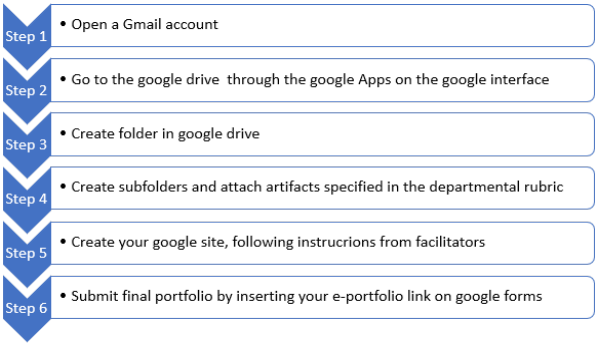
Abstract: This paper sought to reflect on the task of putting together an e-Portfolio of evidence under conditions of imposed emergency remote online teaching and learning with WhatsApp support. Student teachers in one institution had to undergo their school experience and practice teaching under emergency remote online teaching and learning. Further, these students had to produce and submit portfolios of evidence in an electronic format. Given that there were no contact lectures and tutorials during this period, WhatsApp support had to be relied on to assist these students with the development of their school experience portfolios. Informed by the e-learning ecologies framework, this study analysed the affordances of WhatsApp support in the development of e-Portfolios by student teachers in one university. First and fourth-year education students on school experience provided data through a qualitative survey in which their accounts and evaluations of interactions and support through WhatsApp were expressed narratively. Meaning units were extracted through content analysis and allotted to themes and categories suggested by the affordances framework. This study reports on the usefulness of the framework to evaluate WhatsApp support as well as the affordances that are most and least served by WhatsApp support on the development of an e-Portfolio of evidence on practice teaching. Recommendations on the efficacious use of WhatsApp support for e-Portfolio development, the practices that would foster the realisation of all the affordances, and enhancement of e-Portfolio development for the school experience are furnished.

Keywords: WhatsApp, School Experience, e-Portfolio, e-Learning Ecologies, Affordances

1. Background

The Portfolio Development team from the Teaching and Learning Centre of a University from which this study is conducted, introduced e-Portfolios of Fort Hare in 2019. The pilot was done with the Faculty of Education School Experience students. The faculty was at that time, receiving bulky hardcopy portfolios from students, and as a result, they had a challenge with storage space of these hard copy portfolios. The introduction of ePortfolios for school experience students was done, first and foremost, to provide a more practical and substantial solution to the storage challenge. This initiative changed the way of doing things as their portfolios were developed and submitted online. The rollout was in 2020 to all first and fourth-year education students on school experience. This rollout happened at the peak of the COVID-19 pandemic where there were no face-to-face or contact lectures or training sessions. The training sessions for this group of students were conducted online through Blackboard Collaborate, an official Learning Management System (LMS) that the University subscribes to. This LMS provides a function or the ability to have interactive online sessions where one can project and train students on how to develop their e-Portfolios on Google sites.

The two training sessions conducted with school experience students sought to address the following issues: (1) What is a Portfolio in general, and what an e-Portfolio is, (2) How to design and develop an e-Portfolio, (3) How to evidence an e-Portfolio, and how to align the required evidence to the School Experience rubric, (4) How to submit and publish the e-Portfolios to the assessors. These two sessions were followed by a mop-up session looking at the students' first draft of e-Portfolios and checking if they were able to apply the knowledge acquired in the first two training sessions. During these training sessions, there were no face-to-face sessions or consultations to supplement the training provided. It was, therefore, important that a different form of support for students be established. The support was to assist students with the daily challenges they face when developing their e-Portfolios through Whatsapp. A step-by-step process was developed to guide school experience students in the building up of their e-Portfolios. These steps are enumerated in a table format below:



Putting together an e-Portfolio is a complex, challenging, and daunting task. Thus, a WhatsApp group was then utilised as a means to establish a community of practice where consultants would assist students with their challenges. In contrast, at the same time, the students learn from each other and share experiences and expertise. WhatsApp was seen to be the best possible option to support learning as all students have access to it, provides instant messaging, low mobile data costs, groups can have multiple active members, can easily track messages and respond to them, and students can send both voice and text messages. Al-Mothana (2017) states that WhatsApp is a commonly available, popular, and affordable electronic tool. The writer further states that it has been integrated into university students' learning in different ways to accomplish diverse educational tasks. It provides several educational advantages for university students. WhatsApp has sought to simplify the way instruction is given to students and how they receive it. It enabled the keeping-with-times approach and allowed students to work comfortably using the platform and devices they use daily. Martins and Gouveia (2018) state that when WhatsApp is used in an educational context, it can be used in a variety of ways, such as (1) environment for discussing subjects, (2) solving problems, (3) clarifying doubts and taking courses, (4) presenting several advantages such as increased motivation and interactivity, and improvement in student-teacher relations. WhatsApp has provided an environment where discussions can happen at any given period and allow students to be free and comfortable while learning also takes place. It is a platform that students can use to maximise their interactions, anytime and anywhere.

The school experience students who are teacher trainees attend their practice teaching at various schools situated in rural and urban areas of the Eastern Cape province in South Africa. Upon return from their practicals, the students need to submit portfolios of evidence in an electronic format. The problem which was identified, before COVID-19, was the storage of a number of hard-copy portfolios. The reason behind the study is that school experience students were submitting hard copy portfolios, the COVID-19 further imposed emergency remote online teaching and learning. This situation further accelerated the need and the resultant upscaling of e-Portfolios. Due to the above-mentioned imperative, a mechanism had to be put in place to support students remotely, to ensure they submit their electronic portfolios. WhatsApp support was then initiated as an e-learning platform that would allow students to develop e-Portfolio narratives, upload their lesson notes and videos of their teaching practices, as well as submission of their evidence of practice teaching to their lecturers and the school experience co-ordinator. The objective of this paper is, therefore, to evaluate demonstrable WhatsApp affordances in the development of e-Portfolios on Google sites by student teachers on school experience. Hence, the study makes use of the affordances theoretical framework. Below, is the research question that guided the study.

- What are the affordances of WhatsApp support in the development of e-Portfolios by Fourth-year B.Ed and PGCE school experience students?

2. Literature Review

2.1 WhatsApps and Mobile Technologies

Over the years we have seen the rise in the use of mobile devices for social activity and keeping with times and threads. Mobile devices have many features that can be used for teaching and learning. It is only in recent years that we see the introduction of mobile technologies to teaching and learning. During the COVID-19 pandemic, universities a drastic shift in teaching and learning making use of online tools to save the "academic year", even the non-techno-savvy academics had no choice but to join the new normal way of teaching and learning. Mobile learning makes learning to be easily accessible anytime and anywhere. Caudill (2007) looks at the use of mobile technologies and the advantages they possess, he states learners can have the opportunity to review course materials or correspond with instructors or colleagues while sitting in a restaurant or waiting for a bus; they are not made immobile by the restrictions of desktop computer technology. Intezari, Campbell & Harmer (2015) indicate that the diffusion and appropriation of mobile technologies have made it possible for information, knowledge, and service industry work to be performed from almost anywhere and at any time. WhatsApp affords students such an opportunity to instant interaction or correspond with fellow students in the comfort of their own spaces. For this to be realised students are required to have mobile devices that have access to the wireless internet and are compatible with WhatsApp.

The internet has been incorporated into all facets of life recently, including work, play, health, and education. The COVID-19 scenario and mobility constraints resulted in a noticeable rise in all four areas of mobile internet utilization connection to video games, social networks, and instant messages in the form of WhatsApp. There

has been a noticeable increase in the use of smartphones among these gadgets, which have taken over as people's preferred method of communication, employment, and pleasure.

The educational value of WhatsApp, its wide usage, and the variety of its applications are well documented in the literature. This is because of its immediate, fast, affordable, ease of use as a means of communication, connection and the fostering of a sense of belonging (van den Berg, et al, 2022). Studies show that WhatsApp has supported teaching and Learning immensely as a communication tool and for learner-centred teaching. Other researches show that it supported certain modes of teaching and learning such as blended learning and flipped classroom. Since it allows for the sending of text messages, pictures, audio and video files WhatsApp serve an important function of augmenting reality in education as it also offers the possibility of gamification in teaching and learning (Khodabandah, 2023). Other assessed possibilities with WhatsApp include the fostering of a community of inquiry where presence is felt irrespective of where students and teachers are (Zulkanian, et al, 2020).

The research by Suarerez-Lanton, (2022) found that the use of mobile tools was directly associated with student achievement, and the relationships formed in the WhatsApp group enhanced students' performance. Additionally, every single student concurred that the group talks enhanced their learning. This author made the point that using WhatsApp as a teaching tool made it easier to teach and study technical subjects such as chemistry. Additionally, efficiency, time management, active learning, decision-making, and motivation all reported significant improvements (Suárez-Lantarón, 2022)

2.2 e-Learning Ecologies and the e-Learning Affordances Theoretical Framework

The e-Learning ecologies framework is deployed as a tool to evaluate the range of possibilities and opportunities with WhatsApp which Cope and Kalantzis (2017) term affordances with technology tools and applications. The concept of “affordance” is central in the analysis of the properties of technology tools and applications that enable and/or enhance the possibility for action. The threshold criteria for an affordance are the (1) feature of technology, (2) outcome of technology use and (3) variability in the visibility of the proposed affordance. The e-Learning ecologies framework has been applied to evaluate the affordances of a number of technologies. These include smart classrooms (Montebello, 2018), digital media or new media (Montebello, et al 2018), and MUVE (Mantziou, 2018), Its applications are across disciplines and fields such as studies conducted in Computer-Mediated Communication research (Evans, et al 2017), analysis of digital language practices such as techno-discursive practices (Farias, 2021), and social media interventions for adolescent health (Moreno and D’Angelo, 2019).

Cope and Kalantzis (2017) suggest seven (7) pedagogical affordances of e-Learning, namely:

(1) **Ubiquitous Learning:** Learning is described as occurring anywhere and anytime.

(2) **Active Knowledge Learning**: This affordance described learning as an enabled process of designing meaning and making connections.

(3) **Multimodal meaning-making**: In this affordance e-learning tools and platforms expand tools for knowledge representation. These include texts, images, sound, data and embedded files.

(4) **Recursive Feedback**: Technology and/or e-learning tools enable formative assessment, timeous feedback, peer feedback, and successive and repeated support.

(5) **Collaborative Intelligence**: Digital tools and platforms afford opportunities for multiple collaborations, synchronous and asynchronous, support and teamwork opportunities.

(6) **Metacognition**: The digital tools and platforms afford opportunities for students to discuss their thoughts, self-assessment, strengths and weaknesses.

(7) **Differentiated Learning**: this affordance speaks about the technology tools and platforms enabling students to learn following their interests and needs, personalization of their learning experiences, whilst progressing at their own pace.

The actor-network theory has been used to critique the concept of affordance (Wright and Parchoma, 2011). They argue that trying to understand all possible affordances leads to a logical impasse since there exists a relationship between them and the actor. They are also critiqued for having a positivist origin, unclear usage, and logical inconsistencies. They argue that the properties that enable and enhance the possibility for action are relational and not deterministic. Nevertheless, the framework is widely used in the evaluation of the affordances

of e-Learning across disciplines. The possibility for agential action, variability within each specific affordance, and the persistence of these merit its use in the evaluation of WhatsApp support for e-Portfolio development.

3. Methodology

3.1 Research Design

The study employed a qualitative survey design to canvas the views of school experience students on their experiences of WhatsApp support in the process of developing their school experience ePortfolios. Qualitative surveys consist of open-ended questions administered in a fixed and standard order to all participants. They prioritise qualitative research values since they solicit data on the participants' subjective experiences, narratives, practices, positions, and discourses. The use of a qualitative survey is justified by the fact that they enable wide, affordable and quick access to a dispersed population (Braun, et al. 2020) as is the case with education students undertaking teaching practice in different schools and across geographic districts. The students shared the results of their engagements with the ePortfolio development tasks and elaborated on interactions with other students, documents and resources, as well as with other media. Students' narrative expressions, that is, their own words served as a source of data which was later analysed quantitatively. Qualitative survey designs involve the collection of narrative data and the transformation of qualitative data into figures (Nardo, 2003). During this process, meanings and experiences are described and quantified to establish significant variations, dimensions, and values within a larger sample, a qualitative survey is most suitable (Jansen, 2010). In this research, the researchers set out to lift the affordances and possibilities that WhatsApp support accorded school experience students in the development of ePortfolios.

3.2 Sampling

The sample consisted of 111 BEd 1st and 4th-year students who participated in the e-Portfolio development workshop using Google Sites. The participants who constituted the sample were conveniently included based on their availability and ease of access since they were workshop participants. According to Onwuegbuzie and Collins (2007), convenience sampling is the purposeful selection of settings, individuals and groups based on their availability and willingness to participate in the study. They further assert that it applies to qualitative and mixed modes of inquiry.

3.3 Data Collection

Data was collected through an online questionnaire using google forms. The questionnaire has structured questions for the demographic profile of the school experience students as well as open-ended questions on WhatsApp support. Due to practical constraints imposed by the fact that e-Portfolio development workshops were conducted online, as the participants were busy with school experience and not on campus, it was practical to canvass views on the affordances of WhatsApp support online. Creswell (2013) maintains that online data collection provides participants with time, space, and flexibility to consider and respond to requests for information in a convenient, comfortable, and non-threatening environment.

3.4 Data Analysis

The study employed a qualitative survey questionnaire. With this approach, data were first analysed narratively. The analysis steps included the identification of statements and meaning units significant to the analytic framework. This was followed by the clustering of themes and textual description of extracted data (Creswell, 2013). These were then summarised into etic categories suggested by the e-Learning affordances framework. This enables one to see the functions that are better served by WhatsApp support from the representative quotes embedded in the narrative of themes.

4. Results and Discussion

4.1 Ubiquitous Learning

The WhatsApp digital platform allows for learning to occur anywhere and anytime. Given that the e-Portfolio development workshops were conducted when students were on school experience (teaching practice) in different locations, and could not be on campus, it was felt that WhatsApp should be used to support the

process. The sentiments expressed by the students show that WhatsApp enabled them to access materials and support anytime and anywhere. For example, one of the students opined that "*The WhatsApp support I got has helped me a lot because anytime I needed help, I could ask for help and get help immediately".* The learning occurs irrespective of the place is underscored in the following experience of the student, namely:" *The support that I got made it easy for me to be able to answer all the portfolio questions very easily with just using the WhatsApp that is on my phone, instead of using a laptop that needs a WiFi because i'm not always on Campus for the WiFi, so I just use data*".

The WhatsApp affordance of learning wherever and whensoever is validated by one of the students who revealed that "*Links were sent through WhatsApp so that it will be easier for everyone to submit even if he/she is not at school".* One student indicated that "*When we had to create our portfolios, some of us did not know how to do it but because of the whatsapp platform we got people in the group who offered to help. Also when we had to send it, we helped each other on whatsapp, we didn't have to meet. Whatsapp made everything easy and now we are more enriched and developed".*

4.2 Multimodal Meaning

In the e-Portfolio development process, WhatsApp demonstrated its ability to expand tools for knowledge representation. These include texts, images, sound, videos, data and embedded files. In addition, the development of multiple literacies was found to be one of the affordances of WhatsApp. For example, one of the students opined that *"communication skills and teamwork skills as we learnt to ask for help and help each other".* The other student mentioned, *"a bit of computer skills because I didn't know anything about creating an e-Portfolio and managing it".* One of the literacies acquired using WhatsApp for e-Portfolio development is captured in the following passage *"I developed correct use of spelling through autocorrect on WhatsApp. WhatsApp enabled me to share my ideas with my colleagues easily and enhanced good skills of working with people".* Some of the skills and literacies acquired through WhatsApp support include information processing and the use of the Internet. For example, one of the students related that *"It has enabled us to understand and share information, it has developed the mind of understanding, and it has enriched us to the level of being able to use internet device"*. As regards the multiple tools for knowledge representation one of the students mentioned that *"At times the help given on the WhatsApp groups was really helpful as there were even pictures of demonstration"*. The use of embedded files in the development of e-Portfolio with WhatsApp support is captured in the following sentiment *"It was an easy way of accessing links using WhatsApp web".*

4.3 Recursive Feedback

The recursive feedback concerns formative assessment, timeous feedback, peer feedback and learning support. The students' responses suggest that WhatsApp allowed them to get instant and developmental feedback from their peers. One of the students remarked that *"The WhatsApp support I got has helped me a lot because anytime I needed help I could ask for help and get help immediately".* The feedback received was able to point out what the students needed to do differently and thus directing the students to the appropriate course of action in the e-Portfolio development process as expressed by the following sentiment: *"[WhatsApp] kept me updated and guided me on what I do wrong. For example, I re-did my portfolio because I did it incorrectly the first time".* This feedback came mostly from the peers thus fostering peer-to-peer learning as illustrated in the following excerpt from one of the students, *"It was developing and enriching as everyone would throw in support and comment on parts where others felt confused. Sometimes the coordinators would be busy but among us students, some would answer in helping others. Enabling good communication skills and teamwork in helping each other".* Similarly, one of the students opined that *"It was developing and enriching as everyone would throw in support and comment on parts where others felt confused. Sometimes the coordinators would be busy but within us students some would answer in helping others thus enabling good communication skills and teamwork in helping each other".* The above sentiments expressed show the successive or repeated feedback and support sessions offered by peers through the WhatsApp platform and the significant learning that occurs each time a comment is made on the work of others.

4.4 Collaborative Intelligence

This affordance concerns multiple collaborators, synchronous and asynchronous, support and teamwork opportunities. Through WhatsApp the students were able to work collaboratively, drawing on each other's strengths. The benefit to come from this working together is captured in the following sentiment "*It's easy when*

we work in groups rather than individuals, I developed fast as I got assistance". In addition, achieving the outcome of developing an e-Portfolio in the shortest period, the development of skills such as collaboration, communication and interaction were mentioned. Some of the students made videos of themselves whilst busy with the processes of developing their e-Portfolios and these were very helpful for some of the students as is illustrated in the following excerpt "*I have gained a lot of help through my WhatsApp because some of the skills I know I got them on WhatsApp, things like how to submit the portfolio because some of my colleagues would make videos while doing the process*". Thus, transactional learning and transfer of skills and the development of other attributes are gained through WhatsApp support.

4.5 Metacognition

This affordance deals with opportunities for students to discuss their thoughts, carry out self-assessments, and reflect on their strengths and weaknesses. Though not much was said about this affordance, a few students mentioned self-study and independent learning as some of WhatsApp's affordances in the e-Portfolio development process. For example, one of the students remarked that "*We developed being independent, doing work on your own… and improved it [e-Portfolio]"*. Another student remarked about the intellectual stimulation associated with WhatsApp support by expressing that *"The details needed are provided in steps, in a manner that is understandable... This develops us as students intellectually. It makes us pay more attention to what we're doing and focus*". Thus, it can be said that WhatsApp support enabled some of the students to marshall their thoughts as regards the processes involved in the development of e-Portfolios.

4.6 Differentiated Learning

This affordance is concerned with learners' interests and needs, the personalization of learning experiences, and students' progress at their own pace. The sentiments expressed show that some of the students were able to display their unique personal touch in the development of e-Portfolios. For example, one of the students remarked *that "I got ideas on how to develop my portfolio and make it more attractive from the group members"*. The fact that some of the students developed their e-Portfolios at their own pace is discerned from the following comment from one of the students: "I *acquired the skill of being a fast learner and my multitasking skills were nurtured through WhatsApp*". This differentiated learning affordance allowed students to be more expressive of their creative abilities and capacities.

The results of this particular study on the students' perspectives on the affordances of WhatsApp support for the development of e-Portfolios on Google Sites, confirm the the applicability and the usefulness of the Affordances Framework across platforms, applications and disciplines (Montebello, et al 2018; Mantziou, 2018; Moreno and D'Angelo, 2019: Farais, 2021). As students have suggested, the differentiation and personalisation functions (differentiated learning) through WhatsApp were played out in the e-Portfolio development process. The self and independent learning (metacognition), as well as the sharing of ideas, resources, and resourcefulness as students draw on each others' strengths, is testimony to collaborative intelligence fostered by WhatsApp. This finding corroborates van der Berg, et al (2022) and Zulkanian, et al (2020) findings on WhatsApp ability to foster a community of inquiry and a sense of belonging. In the same manner, that WhatsApp was found to be affording instant, formative and iinteractive feedback (recursive feedback). The multimodal messages through texts, images, sound, videos, data and embedded files, as well as learning anywhere and anytime (ubiquitous learning) enabled by WhatsApp is in line with the findings of Khodabandah (2023) assertion that through WhatsApp the augmentation due collation and integration of text, pictures, audio and videos. The manifestations of these affordances, though in varying degrees of intensity, in the development of e-Portfolios through WhatsApp support, corroborates and confirms the use-value of WhatsApp in supporting the development of e-Portfolios on Google Sites.

5. Conclusion

Having analysed data, the variability and persistence of the visibility of the affordances of WhatsApp support for e-Portfolio development was observed. In particular, ubiquitous learning, multimodal meaning-making, recursive feedback, and collaborative intelligence were very much intensive leading us to conclude that WhatsApp allows for learning and development of competencies to occur anytime and anywhere. It allowed for the use of multiple modes of learning delivery with repeated and timeous feedback and collaboration among and between students. We conclude that WhatsApp support for e-Portfolio development is active to a limited extent on the aspects relating to personalisation of learning experiences, reflective and high-level thinking as

well as active knowledge learning and independent thought as reflected by limited visibility of students' narratives that address active knowledge learning, metacognition, and differentiated learning.

6. Recommendations

The affordances of WhatsApp in the learning and execution of complex tasks have been assessed in the development of e-Portfolios on Google Sites for school experience students and found to be effective. This paper recommends the scaling up of WhatsApp support for the development of e-Portfolios, the execution of other complex tasks, and the showcasing and evidencing of other Work Integrated Learning (WIL) practices, activities and engagements. This particular study on the affordances of WhatsApp support can be extended to other disciplines that make use of portfolios such as the Health Sciences and Social Work, especially those that are yet to transition to e-Portfolios. Careful attention and effort need to be expended on the affordances that are reported to be less served by WhatsApp support whilst consolidating those that are better served. The contemplative capacities of students engaged in professional development need to be tapped into through the use of WhatsApp for journaling purposes and active knowledge through drawing connections and meanings from their interactions with practice. The potential uses of WhatsApp for personalisation need to be deliberately and purposefully explored through further studies, particularly those that consider one affordance at a time.

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