

# WhatsApp Support for School Experience e-Portfolio Development: A Conversational Approach

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**Abstract:** This paper reflects on the different ways of learning fostered by WhatsApp in the development of school experience e-Portfolios. Student teachers in one institution went through their school experience and practice teaching with an expectation to submit portfolios in an electronic format as evidence of their engagement with the theory and practice of teaching. WhatsApp interactions between student teachers, the school experience co-ordinator, and the practitioners in the Academic Development Centre, supporting the development of e-Portfolios, had to be relied on during the process of developing e-Portfolios. Informed by Laurillard's conversational framework on the six ways of learning, this study analysed the possibilities 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 qualitative data on the ways of learning that are best and least served by WhatsApp. Their accounts and evaluations of their interactions and support through WhatsApp were expressed narratively. Meaning units were extracted through content analysis and allotted to themes and categories suggested by the conversational framework. This study reports on the usefulness of the framework to evaluate WhatsApp support as well as the ways of learning that are most and least served by WhatsApp support on the development of e-Portfolios 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 six ways of learning, and enhancement of e-Portfolio development for the school experience are furnished. Suggestions are also proffered on further research about purposive use of WhatsApp and the conversational framework on e-Portfolio development.

**Keywords:** WhatsApp, School experience, e-Portfolio, Conversational framework, Six ways of learning

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## 1. Background

In 2019, the portfolio development team from the Academic Development Centre at the university from which this study is conducted introduced e-Portfolios as a solution to the challenges associated with managing bulky hardcopy portfolios. Previously, the Faculty faced significant storage issues due to the volume of physical portfolios submitted by school experience students. The shift to e-Portfolios was implemented primarily to address these logistical concerns by moving portfolio development and submission to an online platform and store.

The initiative was initially piloted with the Faculty of Education's school experience students. By 2020, the rollout of e-Portfolios extended to all first and fourth-year education students, coinciding with the outbreak of the COVID-19 pandemic. This transition occurred at a time when face-to-face lectures and training sessions were suspended. Consequently, training for these students was conducted online through Blackboard Collaborate, the University's official Learning Management System (LMS). This platform facilitated interactive sessions where students could receive guidance on creating their e-Portfolios using Google Sites, thereby adapting to the new digital requirements imposed by the pandemic.

The integration of digital communication tools into educational practices has significantly transformed the way students engage with their learning experiences. This paper explores the evolving role of WhatsApp in shaping the development of school experience e-Portfolios for student teachers. At the University where the study is conducted, student teachers are required to document their school experience and practice teaching through e-Portfolios, which serve as comprehensive evidence of their theoretical knowledge and practical skills. The process of developing these e-Portfolios is increasingly reliant on digital interactions, particularly through WhatsApp support.

WhatsApp has emerged as a crucial platform for facilitating communication between student teachers, the school experience coordinator, and practitioners from the Academic Development Centre. This paper reflects on how these WhatsApp interactions have influenced the development of e-Portfolios, examining the ways in which this digital tool supports, challenges, and enriches the learning experience. By analysing these interactions, the researchers aim to understand the broader implications of WhatsApp for educational practices and the potential of social media to enhance the reflection processes in teacher education. The choice of

WhatsApp was based on its less costly data tariffs and the fact that most students use mobile phones. Another reason being that it works in remote areas with limited wifi and poor reception.

The objective of this paper is to evaluate the effectiveness of WhatsApp as a support tool in the development of e-Portfolios for practice teaching. Specifically, the study aims to assess how well WhatsApp facilitates different modes of learning and to identify which aspects of learning are most and least effectively supported by this platform. Additionally, the paper provides recommendations for optimizing the use of WhatsApp in e-Portfolio development, including strategies to ensure that all six ways of learning identified by Laurillard are adequately addressed. The ultimate goal is to enhance the overall process of e-Portfolio development for school experience by leveraging WhatsApp support more effectively.

## **2. Literature Review**

### **2.1 The Role of Digital Tools in Teacher Education**

Digital tools have increasingly become integral to teacher education, offering new opportunities for interaction and reflection. Messaging platforms like WhatsApp are among the tools that have gained prominence due to their user-friendly interface, affordability, and broad accessibility (Ally, 2009; Chen et al., 2020). WhatsApp facilitates instant communication and resource sharing, which can enhance collaborative learning and continuous engagement (Cobo & Moravec, 2011). Its capacity to provide timely feedback and maintain consistent interaction is particularly valuable in educational settings where traditional face-to-face contact may be limited (Dhawan, 2020).

### **2.2 WhatsApp as a Learning Support Tool**

WhatsApp's features, including group messaging, multimedia sharing, and real-time updates, make it a versatile tool for supporting various aspects of learning. Its effectiveness in fostering collaborative environments and facilitating peer-to-peer and student-teacher interactions has been highlighted in several studies (Sánchez & Hueros, 2010). For example, WhatsApp's role in enhancing communication and feedback processes has been well-documented, showing its utility in maintaining engagement and facilitating learning outside traditional classroom settings (Ally, 2009; Cobo & Moravec, 2011).

### **2.3 WhatsApp in the Context of e-Portfolio Development**

The development of e-Portfolios involves a multifaceted process that aligns with Laurillard's (2002) learning modes, namely: acquisition, inquiry, discussion, collaboration, practice and production. e-Portfolios are designed to showcase students' integration of theoretical knowledge and practical skills (Barrett, 2005). The role of digital tools in this context is critical, as they facilitate reflective practice, feedback, and collaborative activities (Hodge, 2011). WhatsApp's ability to provide real-time support and feedback makes it a potentially valuable tool for e-Portfolio development, though its effectiveness across all learning modes needs further exploration (Zhao, 2021). Recent research on the use of WhatsApp to enhance e-Portfolio development has revealed that it significantly affects instructional strategies. El-Masri and Naser (2022). For example, the authors demonstrated how WhatsApp can facilitate continuous communication and prompt feedback between educators and students, thereby supporting the iterative process of developing e-Portfolios. Al-Mekhlafi and Nagaratnam (2023) found that WhatsApp groups help students completing e-portfolios communicate and exchange resources more effectively, which enhances peer evaluation and group education. Additionally, WhatsApp allows for instant communication and updates that contribute to an e-Portfolio experience that is more interactive and engaging, as noted by Sadeghi and Khodabandelou (2024). These studies (Nguyen, 2022; Khan & Smith, 2021) show how effective WhatsApp is at promoting a more participatory and team-oriented e-Portfolio development process.

### **2.4 Empirical Evidence on WhatsApp's Effectiveness**

Empirical research on WhatsApp's role in education highlights both its benefits and limitations. For instance, WhatsApp has been found to effectively support collaboration and discussion (Sweeney et al., 2013). However, its impact on more structured learning modes, such as practice and production, may be less pronounced. Qualitative research focusing on students' experiences with WhatsApp in e-Portfolio development provides insights into its strengths and areas for improvement (Goh et al., 2014). These findings emphasise the need for a nuanced understanding of how WhatsApp supports various learning modes and how it can be optimised for educational purposes.

The literature suggests that while WhatsApp offers significant advantages in fostering communication and collaboration, its role in supporting all six of Laurillard's learning modes may vary. This paper aims to build on existing research by analysing how WhatsApp supports different learning modes in the development of e-Portfolios and by providing recommendations based on student feedback. Insights such as these are essential for enhancing the use of digital tools in education and improving e-Portfolio development processes.

Through its creative features, WhatsApp has been shown in recent studies to be an effective tool for improving teaching methods. In their investigation into WhatsApp's role in supporting collaborative learning, Al-Rahmi and Othman (2013) discovered that the platform's instant messaging features greatly enhance student engagement and communication. Similar to this, Annamalai (2023) showed how WhatsApp groups promote interactive learning environments by facilitating peer support and real-time feedback, which improves the quality of the learning process overall. Furthermore, WhatsApp's multimedia features, like voice notes and video sharing, have been shown by Rahayu and Ahmad (2024) to make learning more dynamic and interesting. According to Nguyen (2022) and Khan & Smith (2021) these findings highlight WhatsApp's potential to enhance student interaction, collaboration, and learning outcomes in educational settings.

### **3. Laurillard's Conversational Framework and its Application**

The Conversational Framework was established by examining the results of research on student learning and utilising them to establish the criteria for the teacher responsible for developing the learning process for the students they teach (Laurillard, 2002). Laurillard's Conversational Framework (2012) provides a theoretical model for analysing how learning can be supported through interactive processes. The framework explains six ways of learning: acquisition, inquiry, discussion, practice, production, and collaboration. Each mode plays a distinct role in the learning process:

- *Learning through Acquisition* involves gaining knowledge from various sources.
- *Learning through Inquiry* emphasises the exploration and questioning of information.
- *Learning through Discussion* facilitates deeper understanding through dialogue.
- *Learning through Practice* relates to the application of knowledge in practical scenarios.
- *Learning through Production* involves creating outputs based on learned concepts.
- *Learning through Collaboration* focuses on working with others to achieve learning goals.

The framework offers a useful perspective for evaluating how digital tools like WhatsApp support different aspects of the learning process, in an interactive way, particularly in the context of e-Portfolio development (Laurillard, 2012). The Conversational Framework effectively enhances student participation and engagement in learning environments, fostering strong connections between teachers, students, and technology (Neo et al., 2023).

## **4. Methodology**

### **4.1 Research Design**

The study employed a qualitative-interpretive approach and a narrative design to evaluate the effectiveness of WhatsApp in supporting different modes of learning in the development of e-Portfolios for first- and fourth-year education students, guided by Laurillard's conversational framework. Participants, comprising first and fourth-year education students involved in school experience programmes, provide qualitative data through their detailed narratives and reflective evaluations of WhatsApp interactions. Data collection involves gathering students' accounts of their experiences with WhatsApp, which include descriptions of how the platform supported or impeded their learning. These accounts are supplemented by evaluations reflecting on WhatsApp's effectiveness across various stages of e-Portfolio development.

### **4.2 Sampling**

In this paper, a purposive sample was selected, comprising 51 final-year Bachelor of Education (B.Ed) students from the 2021 cohort. These students were specifically chosen for their involvement in the school experience component of their programme. The focus of this sample was on students who had been trained in portfolio development as part of their professional preparation from their first year. Additionally, these students received ongoing support through the WhatsApp platform, which facilitated communication and guidance throughout their training process. This approach aimed to assess the effectiveness of portfolio development training and the impact of digital support on the students' educational experience.

### 4.3 Data Collection

Data collection was conducted using a structured questionnaire featuring open-ended questions. The questionnaire was administered in a controlled group setting at a designated venue selected to facilitate an organised and focused data-gathering environment. Prior to the distribution of the questionnaires, researchers provided a comprehensive explanation of each question to ensure clarity and to facilitate accurate and thoughtful responses from participants. This explanatory session aimed to eliminate any ambiguity and to standardise understanding across all participants. Ethical considerations include obtaining informed consent, ensuring confidentiality, and ensuring voluntary participation (Zhao, 2021).

The responses were collected anonymously to protect participants' privacy and encourage candidness. Each individual completed their own questionnaire independently, and the process was designed to ensure that no personal identifying details were linked to the responses. This approach was employed to maintain the confidentiality of participant identities and to minimise potential biases that could arise from the knowledge of participants' identities.

### 4.4 Data Analysis

Data Analytics is the methodical examination of extensive and intricate databases to reveal concealed patterns, correlations, and useful insights (Udah et.al, 2024). To analyse the data, content analysis of phrases, meaning units, sentences and keywords was conducted on the students' narratives. These were colour-coded in accordance with the themes imposed by the framework. The datasets were extracted and classified into themes. These were categorised into themes suggested by the Conversational Framework that looks at the six ways of learning. Thus, an etic approach was used in categorising data according to themes imposed by the framework. The etic approach enables the construction of arguments using scientific frameworks that are based on supposedly objective social processes and relationships (Mostowlansky & Rota, 2020). The use of the Etic approach ensured that the themes fit the Conversational Framework which was deployed as a thinking tool. More profound representative quotes were then selected to buttress the narrative of each theme, namely: the six ways of learning. The results are reported narratively, highlighting the strengths and limitations of WhatsApp in supporting diverse learning experiences and offering recommendations for optimising its use in educational settings (Chen et al., 2020; Goh et al., 2014).

## 5. Results

### 5.1 Learning through Acquisition

This theme involved school experience students' indications that WhatsApp was a useful reminder on the processes of developing e-Portfolios. One of the students said: *"I was also able to teach through the theory I have learnt because my colleagues reminded me"*. Other students suggested that WhatsApp enabled school experience students to access information and updates. This information was said to be recent and accurate and on point information. The following excerpt attests: *"I also get clarity on difficult concepts or topics that I have taught in class"*. It also fostered the understanding of topics and offered students alternative ways of getting information. For example, *"Through WhatsApp there was an alternative way of getting the information i.e. It can be in the form of voice notes, images and texts"*. The acquisition of learning resulted from explanations for clarity that other students offered on the WhatsApp platform. For example, one of the students remarked that *"through WhatsApp, it is possibly easy to explain things through voice notes and text"*. Other excerpts from the students' narratives suggest that WhatsApp fostered understanding, offered explanations and helped students get others' perspectives on the various aspects of e-Portfolio development. This is captured in the following excerpt *"even if one of us didn't understand something we were able to explain using audio by listening to others' perspectives which made the look great and easier"*.

### 5.2 Learning through Investigation

The phrases, meaning units, segments and words extracted from students' narratives suggested that WhatsApp helps with the development of critical thinking skills. Others suggested it assisted investigation and inquiry through communication of issues via the WhatsApp platform. Another important learning obtained by some of the students involved auto correct in WhatsApp which some students claim helped them with the improvement of spelling. One of the students remarked that *"I had the challenge of spelling incorrectly when writing but through this digital platform, auto-correct helped me"*. An important aspect of inquiry obtained by one of the school experience students involved the use of WhatsApp as a reflection tool. The student said that *"I would go and view videos when I needed to reflect"*. Other school experience students opined that WhatsApp enabled them

to write properly and improved their grammar. For example, one of the students remarked: *“Because of WhatsApp I am able to write words properly which improved my grammar”*. The above quote appraised the role of language in the thinking processes involved in an inquiry as a thinking tool.

### 5.3 Learning through Discussion

Discussion as a way of learning is enabled by WhatsApp through interactions that it affords lecturers and school experience students, Academic Development Centre support staff, as well as amongst school experience students themselves, and between school experience students and pupils/learners in schools. This is captured in the following excerpt *“As WhatsApp helped us to interact with my colleagues and lectures it helped me on how to interact with my learners”*. The student teachers also indicated instant feedback emanating from the discussions in the following way *“The feedback I would get from the peers was very instant”*. Thus, WhatsApp allowed other students teachers in the WhatsApp group to be the sounding board for other school experience students in the e-Portfolio development process. It also included the sharing of resources, documents, expertise and experiences among student teachers as reflected in the following quote: *“It helped me a lot because I was able to interact and get information through sharing.”* The students who were participants in the WhatsApp group for e-Portfolio formed a reference group for one another as suggested by the following quote: *“I easily referenced from WhatsApp if I had forgotten something”*. This reference group served to remind and reinforce learning obtained about the e-Portfolio development process.

### 5.4 Learning through Practice

Practice was according to the school experience students played out through application of theory in practice facilitated by the WhatsApp platform. The student remarked that *“WhatsApp made it possible to apply and connect the knowledge gained in the coursework and meet the community needs. WhatsApp was used by our School Experience coordinators to share the required templates for school experience”*. It also involved integration which was defined by the following phrases, “how to”, “develop”, “ability to”, “practice”, “doing” and “connections” as reflected in the excerpts from the school experience students’ narratives. The integration is evident in the following quote: *“WhatsApp was very helpful in developing e-portfolios and in putting the theory into practice. Because I was able to get support such as ATPs and lesson templates. We got them on WhatsApp group and also other material that assisted me on developing e-portfolio and assisted me on school experience. I got them on a WhatsApp group”*. A lot of practice skills and competencies were obtained by the majority of students. These included obtaining guidance from other school experience students on the development and use of tools and templates as well as the use of theory to foreground their teaching practices. This is reflected in the excerpt below: *“WhatsApp assisted me as a student teacher to receive ATPs, lesson plans template, which are essentials in the classroom, thus connecting theory and practical in my lesson”*

### 5.5 Learning through Collaboration

This way of learning entailed sharing documents amongst student teachers. One student opined that *“WhatsApp assisted me in getting the documents that I will use in class, even the lesson notes. Sometimes we share the lesson notes if we are doing the same subjects because the content is the same. We communicated using WhatsApp to get the required documents like the templates”*. This help and assistance that school experience students received from one another fostered a sense of collaboration and togetherness towards the achievement of the e-Portfolio development tasks. This is captured in the following way *“Yes we were able to work together as a group via WhatsApp. We would even meet up in groups at the library and do the file together as a group, even on submission day we would meet up and share the stress”*. This togetherness also assisted the students in terms of alleviating pressure and stress related to the submission of e-portfolios. It also includes collaborations, teamwork and cooperation with others in the cohort of school experience students who received training on e-Portfolio development. The teamwork spirit is captured in the following way: *“Teamwork assisted us a lot because we were able to plan meet-ups using WhatsApp, we even met at the library to do our file together and that made it very easy to do our file”*. The development of multiple skills was highlighted as an important learning and a WhatsApp affordance to come out of the collaborations as reflected in one of the students’ narratives. The quote below attests to the co-operation *“WhatsApp allows us users to create and broadcast lists, which facilitates collaboration and communication among multiple tasks”*. Therefore, collaboration is promoted by WhatsApp.

### 5.6 Learning through Production

Production involved school experience students feeling a sense of stimulation, and enablement. This resulted in the development of multiple literacies, rekindling of interest, tapping into creative and innovative ways of

developing e-Portfolios. The school experience students were able to show uniqueness, make their e-Portfolios attractive through use of smart features. One of the student teachers maintained that WhatsApp *“allowed me to show my creativity. I use most of the features there to make it beautiful and eye-catching, I created science inspired templates, using smart features which are coded within google drive”*. The result was the creation of unique, creative, eye-catching and inspirational e-Portfolios from interactions in WhatsApp. The personalisation aspect in the development of e-Portfolio was highlighted in the following way *“I was able to make my e-portfolio the way I like. The themes there were unique and attractive. I started my e-portfolio there from scratch creating each and every folder of my own”*. Similarly, another student teacher remarked that *“I was able to express my uniqueness in creating my portfolio by changing themes, fonts and images which were different from my peers, I chose designs which suited my needs, interests and reflected who I am”*. Other students claimed overcoming challenges in the e-Portfolio development work. In producing e-Portfolios school experience students had to substitute and redefine aspects of their work in the e-Portfolio development process. This is evident in the customisation that some students claim is fostered by WhatsApp as suggested by the following reflection *“I was able to customise my e-portfolio to my needs and interests and also make it personal. I was able to develop, make it at my own pace, I was able to make it attractive but not express my uniqueness”*.

## **6. Discussion**

The use of Laurillard’s conversational approach to interrogate and make sense of WhatsApp support in e-Portfolio development was an after-thought since neither the activities nor the facilitators’ presentation were informed and shaped by the framework. The fact that WhatsApp promoted the six ways of learning in varying degrees give credence to its potential for an all-rounded learning of complex tasks with high cognitive demands. The findings also find support in the suggestion that the framework is applicable in all kinds of media and that it promotes learning across levels of schooling and study. Studies also vouch that the use of WhatsApp that is framed and focused by the conversational framework fosters connections between teachers, technology, and students (Neo, et al, 2023), as well as in a variety of contexts namely, face-to-face and online.

Using WhatsApp responsibly informed by the conversational approach helps to promote an iterative process of learning including e-Portfolio development which has a bearing on the teaching strategies (El-Masri and naser, 2022; Al-Mekhlafi and Najaratnam, 2023), as well as participatory and team-orientated modes of learning. Other affordances of the framework that are demonstrated in this particular study of the conversational framework with WhatsApp include interaction, collaboration, and achievement of learning outcomes. These findings confirm Nguyen (2022) and attest to the efficacy of the conversational framework for learning engagements and modalities of learning, teaching and learning support. Similarly, the narratives about production, collaboration and discussion support the notions expressed by participants of the study on WhatsApp support for e-Portfolio development.

## **7. Conclusion**

The results of this study suggest that WhatsApp has the potential to foster learning through the six ways of learning identified by the conversational framework. The school experience students’ narratives were less and superficial on learning through investigation since the task of developing an e-Portfolio did not require them to be involved in a scientific inquiry. The few references to critical thinking and reflection by the few students suggests that it has the potential for the realisation of this manner of learning through WhatsApp. The areas of WhatsApp success for e-Portfolio development were learning through acquisition, discussion, practice and collaboration. Again, there were expressed and recorded successes with the production way of learning. However, more creative outputs were as a result of group efforts and assistance from others, but not individual efforts and endeavours. These successes need to be consolidated with more effort expended on achieving these ways of learning through independent and individualised studies..

## **8. Recommendations**

To achieve all the six ways of learning through WhatsApp, there is a need for deliberate, purposeful, and planned WhatsApp learning activities and tasks for acquisition, investigation, discussion, practice, collaboration, and production. So that the realisation of these six ways of learning through WhatsApp is not serendipitous but a calculated feat. We further recommend the replication and scaling up of WhatsApp studies using the conversational framework with data gathering tools that are designed and developed with the conversational framework in mind. Each of the six ways of learning needs to be probed further through individualised and independent studies.

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