# Preservice teachers use of WhatsApp to explain subject content to school children during the COVID-19 pandemic

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South Africa went into lockdown on 27 March, 2020, as a result of the COVID-19 pandemic. It is unlikely that thousands of preservice teachers will be able to complete their teaching practicum during 2020 at schools. In this action research study, we investigated a two-week teaching practicum experience that was completed via WhatsApp by 12 students. During this time, the student teachers were supervised and monitored by university teaching practicum lecturers and mentored by school mentor teachers via WhatsApp. The results indicated that all participants perceived the teaching practicum experience via WhatsApp to have contributed to the formation of a community of practice that resulted in feedback and assessment being focused on a core teaching practice, namely explaining subject-specific content. Guidelines are provided for universities or teacher training providers who have work-integrated learning components to show how a teaching practicum experience via WhatsApp can be integrated into their training programs.

Keywords: Work-integrated learning, core teaching practices, WhatsApp, COVID-19, teaching practicum

The onset of the COVID-19 pandemic has forced many universities in South Africa to consider online learning for their thousands of students in order to ensure successful completion of the 2020 academic year (Asma, 2020). Many professional programs offered at higher education institutions consist of two core components, namely coursework and work-integrated learning. Most universities in South Africa have been able to move the coursework components into an online mode while at the same time trying to address factors such as lack of access to devices, data and electricity (North-West University, 2020b). Lecturers have had to adjust their courses to comply with the principles of being mobile-friendly, low tech, low data and low immediacy in order to reach the diverse student population (North-West University, 2020c). The teaching practicum (a component of work-integrated learning) within initial teacher education (ITE) programs (education programs that students enrol in after exiting the school system), on the other hand, have been a far more challenging component to address because of the necessity to place student teachers in schools.

South Africa went into lockdown on 27 March, 2020. Student teachers at North-West University were scheduled for their teaching practicum session from 31 March to 23 April, 2020, and also for a second session in July. However, universities are debating whether it will be feasible as well as safe to place thousands of student teachers in schools across the entire country for their teaching practicum sessions (Department of Basic Education, 2020). The current health crisis is forcing universities to be creative in the way that they approach the various challenges they face. The purpose of this article is to report on a project where the teaching practicum component of a Bachelor of Education (BEd) program was conducted via WhatsApp.

## TEACHING PRACTICUM AND WHATSAPP

The onset of the COVID-19 pandemic has created a number of challenges for university and schooling systems around the world. Most universities as well as schools were "forced" online during this difficult time, taking university lecturers, student teachers, teachers, parents and learners out of their

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comfort zone. A university in the North West Province of South Africa indicated that it would resort to online learning for its students in all programs offered at the university (North-West University, 2020a). As part of student teachers' BEd (four-year initial teacher education program) course requirements they have to complete six weeks per year of school-based teaching practice (North-West University, 2019, p. 23). The work-integrated learning component of teacher training programs in South Africa is referred to as the teaching practicum. The teaching practicum is seen as a purposeful, organised, supervised and assessed educational activity required for the completion of an ITE program that integrates theoretical learning with its applications in the workplace (Department of Higher Education and Training, 2015). During this time, they are placed at professional practice schools that partner with the university. According to the Department of Higher Education and Training (DHET) (2020, p.1), "The Teaching Practice (TP) or Work-Integrated Learning component of Initial Teacher Education (ITE) programmes is likely to be significantly impacted, as the national lockdown period coincides with the time that many ITE students are engaged with TP/WIL in schools."

In the majority of ITE programs around the world, universities collaborate with schools in order to support student teachers during the teaching practicum that takes place at the schools. School-university partnerships have been "… touted as essential to the successful development, implementation and refinement of clinically based teacher education programs" (Maheady et al., 2019 p. 356). Student teachers are usually supervised, monitored and mentored by mentor teachers at the schools and by university lecturers during their teaching practicum (Lawson et al., 2015). Wenger's (1998) Communities of Practice (CoP) theoretical framework forms the foundation for this study. Wenger, Trayner, and de Laat (2011, p.9) defined CoP as a "learning partnership among people who find it useful to learn from and with each other about a particular domain. They use each other's experience of practice as a learning resource". For Wenger (2004, para 14), the community constitutes "the group of people for whom the domain is relevant, the quality of the relationships among members, and the definition of the boundary between the inside and the outside". In order for the student teacher, the mentor teacher, and the university lecturer to constitute a CoP, they must come together around ideas or topics of interest (the domain) and interact with each other to learn together. In addition, Wenger (2004, para 15) defines practice as "the body of knowledge, methods, tools, stories, cases, documents, which members share and develop together" to address recurring problems in their specific contexts. Wenger (1998) contended that individuals' engagement in a CoP always entails a process of negotiation of meaning which takes place in the convergence of two processes: participation and reification. Participation involves acting and interacting, and reification involves producing artifacts (such as tools, words, symbols, rules, documents, concepts, theories, and so on) around which the negotiation of meaning is organized. Wenger et al. (2009, p.57) noted that learning in a CoP "requires both participation and reification to be present and in interplay".

In the DHET (2020) communique, universities were encouraged to collaborate with schools to find innovative ways to ensure that teaching practice can still be successfully completed during the COVID-19 period. The majority of the schools in South Africa were not geared for online teaching and teachers and administrators were frantically enrolling for courses to find ways to ensure that they could support their learners during this time (Pearson South Africa, 2020). Many schools took to Zoom and Google Classroom while the Department of Basic Education initiated various radio and television lessons (Brodie et al., 2020; Hlangani, 2020). From a review of one university's communiques and the Department of Higher Education and Training (2015) policy and communiques as well as personal communication with schools, it became clear that universities and schools would have to react to the challenges posed by COVID-19 using innovative ideas as well as collaborating to ensure that final year

student teachers can complete their teaching practice as well as supporting schools in their own challenges to meet the needs of school children during this period.

Establishing or scaling up remote or online learning strategies are a sector-wide response to sudden interruption of educational processes as a result of unexpected COVID-19 school and university closures (UNESCO, 2020). The potential of technology to address the education "crisis" in Southern Africa has been the subject of much debate in the popular press, policy circles and academic fora (Burns et al., 2019; Department of Basic Education, 2018; Jantjies, 2020; Wright, 2016), especially for those populations with least access to education. Jantjies (2020) states that, "COVID-19 has shown that technology is no longer a luxury but an important component of the education process". The increasing uptake of smartphones in Sub-Saharan Africa has become an integral part of the contemporary life of student teachers, university lecturers, teachers and learners for engaging with social media (Porter et al., 2016). Kemp (2020) indicates that 98% of active social media users in South Africa access it via mobile devices. According to Kemp (2020), WhatsApp is ranked the top messenger app around the world. There were 22 million social media users in South Africa in January, 2020, and 89% of users used WhatsApp. WhatsApp is a messenger application that works across multiple platforms like iOS and Android, and this application is being used among undergraduate students to send multimedia messages like text messages, pictures, video clips, and voice notes (Bere, 2012; So, 2016). It allows communication between group participants without the need for unity in place or time. Participants are free to choose when they want to access the information posted and can view and interact with other group members regarding the information delivered at any time (WhatsApp Inc., 2020). When learning material is provided via mobile phone it should be presented in bite-sized chunks which are succinct and precise (Stahl et al., 2010). WhatsApp is a suitable tool to facilitate this form of learning. Bite-sized materials are stored on the student's device for easy access. Students can conveniently revisit these materials at their own pace and time. The North-West University teaching practicum model is practice-based and requires student teachers to enact high leverage teaching practices while on their teaching practicum at professional practice schools. High leverage practices (HLPs) have been defined as those practices that are essential to effective teaching, that student teachers can learn to enact and that are fundamental for supporting the learning of the learners in the classroom (Ball et al., 2009). Explaining content is a high leverage practice that can be enacted in a bite-sized form using WhatsApp and does not require school children to be physically present in a classroom.

According to the University of Michigan (2020, para 2):

> Making content explicit is essential to providing all learners with access to fundamental ideas and practices in a given subject. Effective efforts to do this attend both to the integrity of the subject and to learners' likely interpretations of it. They include strategically choosing and using representations and examples to build understanding and remediate misconceptions, using language carefully, highlighting core ideas while side lining potentially distracting ones, and making one's own thinking visible while modeling and demonstrating.

Explanations in teaching intend to share knowledge and understanding with learners who have the intention of learning; explanations, therefore transform expert subject-specific knowledge into a different but connected type of knowledge, comprehensible and more accessible for learners (Ogborn et al., 1996). Clarity of the components of an explanation implies that the features, patterns and structure of the content are illustrative and focused (Sevian & Gonsalves, 2008). If the ideas are difficult to understand, teachers might have to slow the word flow (Mohan, 2013). This necessitates using coherent and understandable language for the learners, and concepts being presented using

developmentally appropriate vocabulary for the learners. Cabello and Topping (2018) outlined the following structural elements of an explanation, namely the coherence and cohesion, the sequence, the accuracy, the completeness and connection with learners' knowledge. They also emphasised explanation representational supports such as analogies, metaphors, examples, images, and voice inflections (Cabello & Topping, 2018).

The purpose of the present study was to determine the perceptions of mentor teachers, student teachers and university lecturers with regard to the implementation of a teaching practicum experience presented via WhatsApp.

## METHODOLOGY

### *Research Design*

The action research model which best fit the study was Schmuck's (2006) proactive model, where the research is inspired by new ideas and is comprised of three phases (initiation, detection, and judgement) and six steps. In proactive research, creative problem solving and innovative practice, precede data collection; however, the desire to risk doing something new often stems from past, preconscious data collections. In the initiation phase the collaborators reflect and brainstorm together as they complete two steps, namely list hopes and concerns, and try a new practice. The first of six steps is listing hopes or goals that the teachers strive for, such as being able provide subject-specific content explanations to learners while they are at home. Concerns would be considered barriers that need to be overcome, such as primary school learners lack of access to technology and their inability to access platforms such as Zoom. In the second step a new practice is chosen and implemented. An example of this is the teaching practicum using WhatsApp. During the detection phase, step three entails collecting and tracking data through WhatsApp surveys, artifacts (e.g., video clips) and written reflections. Analysis of the data is step four of the proactive action research model and is where the collaborators check on what the data means. This took the form of a WhatsApp video call with the collaborators. In the final judgment phase, the collaborators completed step five and step six. In reflection, step five, the collaborators reflected on their feedback and assessment of the student teachers subject-specific content. Reflection helps inform step six, fine-tuning the practice, wherein collaborators chose to tweak the feedback process by adding a rubric to ensure consistency in the assessment process based on the information collected during the previous steps in the action cycle.

### *Participants and Sampling*

In this study purposive sampling, also called judgment sampling, was used in order to deliberately choose participants that possess certain qualities and that were located in specific contexts. One school in the Cloudy District in the North West Province of South Africa was selected to participate in the study. The school was chosen because it functions as a professional practice school for the faculty of education which entails accommodating final year students for their compulsory teaching practicum placements. The teachers within the school also regularly collaborate with faculty of education lecturers on district professional development initiatives. Two teachers responsible for teaching English Home Language and Afrikaans First Additional Language at the Sunshine Valley School volunteered to participate in the study. One of the teachers is also the head of Grade 4 and she was responsible for establishing the Grade 4 parent WhatsApp group in order to communicate with the parents during the COVID-19 lockdown period. The researchers are two teaching practicum lecturers at the North-West university responsible for the work-integrated learning module of the BEd programme with specialization in Foundation Phase (Kindergarten up to Grade 3) and Intermediate

Phase (Grade 4 up to Grade 6). The lecturers are also English Home Language and Afrikaans First Additional Language specialists. Twelve student teachers who would have completed their teaching practicum sessions at the Sunshine Valley School were selected to participate in the study. The student teachers were situated across three countries (South Africa, Namibia and Botswana), and within seven of the nine provinces in South Africa. All student teachers were in their final year of the program and specialised in either the Foundation Phase (Kindergarten to Grade 3) or Intermediate Phase (Grade 4 to Grade 6). An independent person, a parent at Sunshine Valley School, sent a document to all the participants via WhatsApp explaining the collaborative purpose of the study, and what would be required from each of them. Participants indicated their consent by signing a consent form and sending it to the first author via WhatsApp. Participation was voluntary and any participant could withdraw at any time without providing reasons. Ethical clearance was obtained from the university ethical committee as part of a larger work-integrated learning national project.

*Data Collection Methods*

The following data collection methods were used in this study: surveys sent via WhatsApp, semi-structured interviews via WhatsApp video call, artifacts (e.g., video clips) sent via WhatsApp, and written reflections sent via WhatsApp.

The purpose of the WhatsApp survey conducted with the mentor teachers during step 3 of action research cycle 1 was to determine their perception of the teaching practicum experience via WhatsApp. One open-ended question was sent at a time via WhatsApp. Questions such as: What concerns do you have related to the WhatsApp teaching practicum? In what way does the WhatsApp teaching practicum differ from the face-to-face practicum? A WhatsApp survey was also sent to the student teachers to determine their perceptions of the teaching practicum experience via WhatsApp. Questions such as: What problems did you have when preparing your lesson for presentation via WhatsApp? What was your perception of the feedback you received from the mentor teachers and the university lecturers? What was your perception of your ability to explain subject-specific content in bite-sized format? A semi-structured interview via WhatsApp video call which lasted five minutes was held between the two mentor teachers and the two researchers to discuss the themes emanating from the data and the possible adjustment of the teaching practicum experience via WhatsApp. The video clips developed by the student teachers were collected to analyse the subject-specific content explanations. The one-page written reflections of the mentor teachers, the student teachers as well as the researchers own reflections on the WhatsApp teaching practicum experience were collected in order to determine their perceptions of the teaching practicum experience via WhatsApp.

*Data Collection Procedure*

The following steps were followed in action research cycle one: During step 1 the researcher and the two mentor teachers participated in a five-minute WhatsApp video call. The mentor teachers expressed their hope to collaborate with the researcher to try and find a way they could support their Grade 4 learners with the learning of the new terms content in two subjects, namely English as Home Language and Afrikaans as First Additional Language. The grade head mentioned that she had started a WhatsApp group for the Grade 4 parents. They sent homework to the learners via their parents' mobile phones. The reason was that the teachers did not want the learners to contact them on their personal numbers, and the school also has a no mobile phone policy. The teachers mentioned that some of the parents were saying that their children were struggling to understand the new content because there was no teacher to explain it to them. The teachers were concerned about the learners and wanted to

find better ways to support the learners with the learning of the content. They mentioned that they could not use platforms such as Zoom or Skype as most parents were not familiar with them. The researcher also expressed her hope to try and find an alternative to the school-based face-to-face teaching practicum which would not add to the current stress and workload of the school teachers.

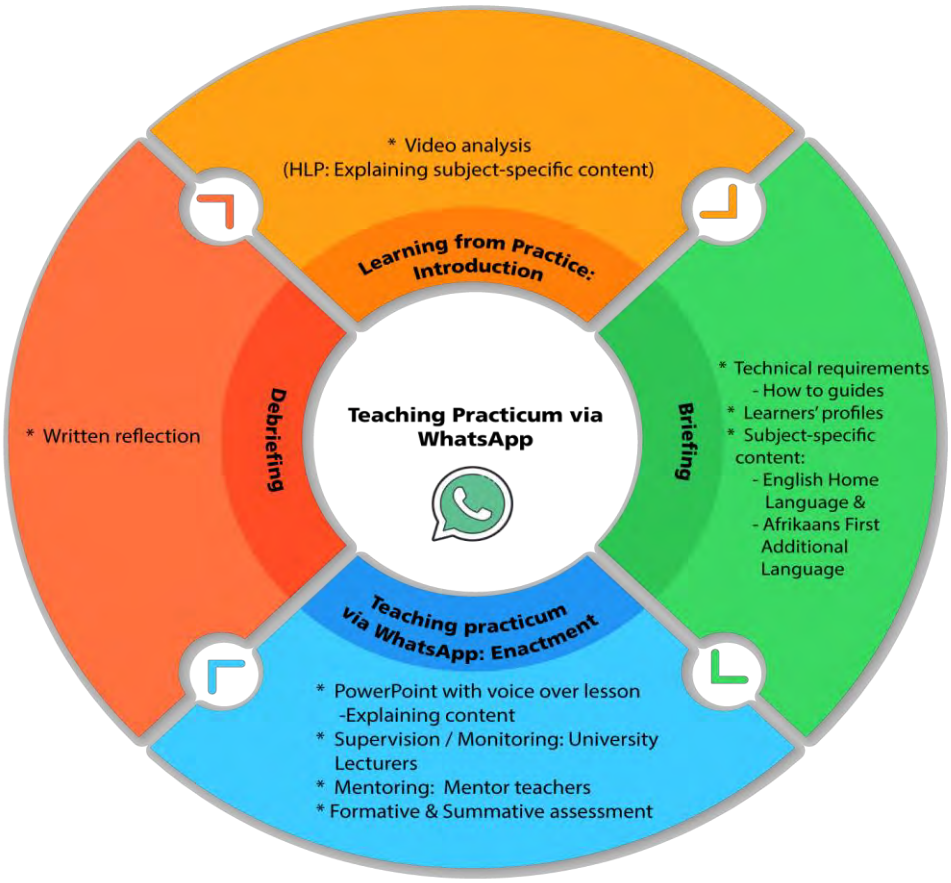
During step 2 the two teachers and the two researchers participated in a second WhatsApp video call lasting approximately five minutes. The purpose was to share ideas of a possible alternative approach to the school-based face-to-face teaching practicum which could no longer take place due to the COVID-19 pandemic, but which would also address the hopes and concerns expressed by the school teachers. The first author proposed a teaching practicum experience conducted via WhatsApp which could emulate the face-to-face teaching practicum where a student teacher would be required to present a lesson which focused on explaining new subject-specific content to the learners. The explaining of the content would be done as a PowerPoint presentation with voiceover and it would be sent via WhatsApp. The first author then sent a WhatsApp message to the student teachers to outline what was expected of them. After consent was obtained from all participants the project began.

During step 3, a WhatsApp survey was sent to the two teachers who would fulfil the role of mentor teachers to the 12 student teachers as well as to the student teachers.

During step 4, the data that was collected via the WhatsApp survey was analysed to determine the themes that were identified in the participants' responses. Step 5 and step 6 overlapped and were linked to step 4 in that a semi-structured interview via WhatsApp video call was held between the two mentor teachers and the two researchers to discuss the themes emanating from the data and the follow up actions that needed to be taken. The mentor teachers and the researchers decided to tweak the teaching practicum experience via WhatsApp, by following a teaching practicum learning cycle (See Figure 1) and developing a rubric to guide feedback and summative assessment which accommodated the concerns expressed during the WhatsApp surveys and the semi-structured interviews via WhatsApp video call. The use of the learning cycle formed part of action research cycle 2.

During the introductory part of the learning cycle, the student teachers were sent a five-minute voice over PowerPoint mp4 video clip, explaining the different types of adjectives for Grade 4 English Home Language, as an example of the way their lesson had to be enacted. Explaining core content was chosen to align with the need expressed by the teachers at Sunshine Valley School. The next part of the learning cycle was focussed on briefing the student teachers in terms of the technical requirements of the lesson that they had to present via WhatsApp. "How-to" guides were sent via WhatsApp (e.g., How to compress a file using Handbrake) to the student teachers. Students were also given information about the Grade 4 learners profiles. The mentor teachers also identified a number of topics (e.g., parts of speech, an introduction to fables and reading strategies) that they would be covering with the school children during the COVID-19 period, and they also provided information about the learner profiles to ensure that the student teachers' lessons were culturally and linguistically relevant for the Grade 4 learners. The next part of the cycle was focused on the enactment of the teaching practicum. During this part of learning cycle, the student teachers sent their lessons (PowerPoint presentations with voice overs) to the university lecturers for feedback. Each student teacher had to send two lessons; one English Home Language and one Afrikaans First Additional Language lesson. The university lecturers provided feedback on the quality of the subject-specific content explanation by using a rubric which focused on the following components of an explanation: coherence and cohesion, the sequence, accuracy, completeness and connection with school children's knowledge, as well as their use of

FIGURE 1: A teaching practicum learning cycle via WhatsApp.




analogies, examples, images and voice inflections. The student teachers made changes if required by the university lecturers and then resubmitted their lessons. Once the university lecturers were satisfied, they sent the lessons to the two mentor teachers who provided feedback using the same rubric. The feedback was sent to the student teachers via the university lecturers. As soon as the lecturers and the mentor teachers were satisfied, the mentor teachers posted the student teachers' lessons, together with the relevant worksheets and homework that the mentor teachers developed, to the parent WhatsApp group for the learners to access. Learners could provide feedback on whether the WhatsApp lessons helped them to understand the new content. Feedback was sent by the parents to the mentor teachers who then forwarded the feedback to the lecturers who passed it on to the student teachers. The last step of the learning cycle entailed the student teachers, mentor teachers and university lecturers writing a one-page reflection on the teaching practicum via WhatsApp.

*Data Analysis*

When analysing the data, the guidelines provided by Erlingsson and Brysiewicz (2017, p. 94-97) were used for doing content analysis. The initial step of the content analysis entailed reading and re-reading the transcribed WhatsApp video calls, the WhatsApp surveys, the artifacts as well as participants written reflections in order to get a sense of the whole. The text was then divided up into meaning

units. This was followed by labelling the condensed meaning units by formulating codes and then grouping these codes into themes such as feedback and assessment.

## FINDINGS AND DISCUSSION

An analysis of the data after action research cycle 1 revealed the following themes:

### *Challenges and Concerns*

The student teachers and the mentor teachers indicated that they had a number of challenges after the implementation of the first round of WhatsApp lessons. The student teachers stated that " I didn't know how to compress the video clip, or if I converted the PowerPoint properly," and "I struggled to know whether my lesson was at the correct level for the specific group of Grade 4 learners." The mentor teachers stated that "I think some of the video clips were a little long and the student teachers tended to ramble on."

The comments made by the mentor teachers and the student teachers were taken into consideration when devising the learning cycle which formed part of action research cycle 2 (See Figure 1). An introductory part was included to ensure that the teaching practicum requirement, the development of a lesson in the format of a PowerPoint presentation with a voice over, was modelled to the student teachers. A second part was added, namely a briefing section which addressed the technical challenges and concerns expressed by the student teachers and the mentor teachers. Research conducted by Widodo (2019) indicates that students find WhatsApp easy to use, it saves them time and they can easily send documents and videos to their fellow students. The technical changes made in the current study were, therefore, easy to address because short "how to" guides enabled the student teachers to make the necessary technical changes to their video clips without needing the physical support of a technology specialist.

### *Content Explanations*

The responses made by the student teachers related to the subject-specific content explanations included: "we have never explicitly focused on explaining content in any of our courses," "we have never received input on our choice of activities and examples," and "we don't know anything about sequencing our explanations or if they are clear to learners."

The mentor teachers stated that "some of the explanations are too complicated for the Grade 4 learners," and "some of the examples chosen were not appropriate as they could confuse the learners." The lecturers stated that "the students don't seem to be adapting their explanations to reach the learners," and "they seem to be teaching as they do in their micro-teaching periods, namely to their peers."

The results seem to indicate that the opportunity to practice or enact lessons during coursework is limited for the student teachers. Their inability to adjust to the level of the children indicates that the few opportunities they have during micro-teaching lessons at university are aimed at the level of their peers. The findings seem to support statements made by researchers that most teacher education programs are not organised and structured to systematically support student teachers in learning to use effective high leverage practices such as explaining content (Grossman et al., 2009; McLeskey & Brownell, 2015; Nel, 2018).

*Assessment*

With regard to assessment, the student teachers stated that "I didn't know how I was going to be assessed and on what exactly." The mentor teachers stated that "I found myself wondering how I should assess the video clips content only and exactly what about the content."

The results indicated the need for a rubric that could be used to guide feedback, but also assist with the assessment of the student teachers' lessons. During the second action research cycle a rubric was developed and sent to all participants. Assessment of student teachers' competency is at the best of times a contentious issue (Jönsson & Mattsson, 2011). Research indicates that in order to increase the reliability of rubrics used for performance assessment they should be analytical, task-specific and have relatively few quality levels (Jönsson & Mattsson, 2011). The rubric developed for use in this study complied with these requirements.

*Feedback*

Several student teachers commented on aspects related to feedback, including: "feedback was very quick," "we have never been asked to respond to feedback before," and "previous feedback was very general with nothing about the accuracy of my explanations or the choice of my examples." The mentor teachers commented that: "I found myself really critically looking and listening to what and how they were explaining," and "my feedback was very focused, and in writing, whereas usually it is a quick general oral overview." The lecturers commented that "students usually don't have to react to the feedback that we give," and "I could actually see how the students addressed my feedback."

The findings seem to indicate that the quick feedback from both the lecturers and the mentor teachers enabled the student teachers to respond immediately. They also had to respond to the feedback by making adjustments to their lessons and this was something that none of the participants had experienced before. During traditional teaching practicum, the student teacher would usually have two different university lecturers assess their lessons and provide feedback. Growth and development could therefore not be determined and the way in which the student teacher responded to a particular lecturer's feedback is never ascertained. Similarly, research conducted by Gon and Rawekar (2017) and So (2016) indicates that feedback using WhatsApp was immediate, relevant and far more focussed.

*Community of Practice*

The student teachers' responses indicated that a community of practice is something that can be achieved while observing social distancing. Their comments included "I have never felt so close to my lecturers and mentor teacher," and "I literally had them in the palm of my hand." The mentor teachers stated that "we are working with the lecturers and student teachers in a far more coherent manner" while the lecturers stated: "I really collaborated with the mentor teachers in an explicit manner," and "we hardly ever achieve the level of meaningful interaction that we achieved with this project".

The perceptions of the mentor teachers, student teachers and university lecturers indicated that the teaching practicum via WhatsApp facilitated the establishment of a community of practice where emphasis was placed on collaborating, supervising, monitoring and mentoring in a far more coherent and cohesive manner than during traditional workplace-based placement. Participants were zoned in on "the work" of teaching, namely explaining core subject-specific content, learning from one another, having immediate access to one another, and sharing ideas. The results are supported by a study conducted by Thaba-Nkadimene (2020) that examined the influence of WhatsApp on collaborative

pedagogy and social networking among preservice teachers and supervisors during teaching practice. Thaba-Nkadimene (2020, p. 15) states that "WhatsApp created a collaborative learning space amongst preservice teachers wherein content and pedagogical information, videos and teaching materials, and lesson plans were shared." Bansal and Joshi (2014) examined college of education students' experiences of WhatsApp mobile learning and found that the use of WhatsApp increased students' social interactivity with each other and with the instructor, and this facilitated collaborative learning. According to Rambe and Bere (2013, p. 546), WhatsApp fosters a unique social presence that is qualitatively and visually distinct from email systems in that lecturers can play a central role in the WhatsApp learning environment by managing the learning process, providing feedback, and encouraging participation. The advantages and WhatsApp's popularity suggest that it could be used to support student teachers' during an adapted teaching practicum necessitated by the COVID-19 pandemic, particularly in developing countries that might have economic and infrastructure constraints. The findings of this study suggest that a teaching practicum experience via WhatsApp can facilitate the formation of close-knit community of practice between university lecturers, mentor teachers and student teachers, where the work of teaching and learning of school children is enhanced.

## GUIDELINES FOR UPSCALING

A pandemic is the quintessential adaptive challenge and requires creating opportunities for innovative practice. In addressing this adaptive challenge, collaboration is essential and requires everyone to step up and get out of their comfort zones in order to get ensure that student teachers can complete their teaching practicum in line with accreditation requirements and school children receive the necessary support to ensure that learning takes place. The following technical, partnership and practice-based guidelines are provided for universities or teacher training providers who have work-integrated learning as a compulsory component of their programs to consider when upscaling a teaching practicum experience via WhatsApp or similar platform that will fulfil requirements of low cost, low tech, and accessibility to all partners:

### *Technical Requirements*

- All participants should receive training on how to make PowerPoints with voice overs, how to compress videos and how to save the PowerPoint as an mp4 video.
- All video clips must be between four and nine minutes in length.
- Participants should be made aware of the effect of media on cost and accessibility. During the project a maximum of 30MB was utilized by participants. The size depends on the student teachers' use of visuals, music or animations.

### *Partnership Requirements*

- Professional practice schools should be identified or volunteer to participate in the adapted teaching practicum experiences.
- Partnerships should enhance communities of practice.
- Lecturer to student teacher to mentor teacher ratio should be considered. For example, in the BEd Foundation Phase program at the university in the North West Province a total of 639 student teachers in their final year have to be placed for teaching practicum. One lecturer per 20 student teachers translates into 32 lecturers that are required to mentor these students. In addition, if five student teachers are placed at one school with five mentor teachers, 128 schools will be needed to participate in the teaching practicum experience via WhatsApp.

*Practice-based Requirements*

- Lecturers and mentor teachers should agree on the core teaching practices that will form the focus of the teaching practicum experience (e.g., explaining content, etc.).
- Mentor teachers should provide topics, aligned with the school curriculum, that will form the focus of the core teaching practice(s).
- Rubrics should be developed to guide formative and actionable feedback on the core teaching practice(s).
- The roles and responsibilities of university lecturers and mentor teachers (e.g., supervision, monitoring, mentoring, assessment, etc.) should be clearly delineated.

## CONCLUSION

Learning to teach is a complex process, and the COVID-19 pandemic has complicated the process even further. The pandemic has changed the lives of learners, teachers, parents, university lecturers and student teachers, with all of them now teaching and learning from home. The manner in which the teaching practicum is conducted cannot be business as usual and must be replaced with creative solutions and flexible innovations, aimed at encouraging meaningful and relevant teaching and learning in times of crisis. A teaching practicum experience via WhatsApp has indicated a way in which a university and a school, as site of workplace-based placement, can work together to benefit all partners including the school children. During the teaching practicum experience the university lecturers, the mentor teachers and the student teachers were required to communicate, collaborate, supervise, monitor and mentor more purposefully than during traditional face-to-face school placement. The experience assisted with the formation of a community of practice where all participants were focused on enhancing the learning experience of the school children. The student teachers developed a closer relationship with the university lecturers as well as the mentor teachers due to the WhatsApp enabled social presence of these key figures in the teaching practicum experience of the student teachers. Implementing a teaching practicum via WhatsApp in times of crisis can ensure that effective supervision, monitoring and mentoring can continue with valuable communities of practice developing between the core partners

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