Introduction
Teaching practice is a placement in which students learn how to teach by being exposed to a real classroom setting. It is an essential and highly valued component of many education programs. The underlying assumption of teaching practice is that teaching is best learned by observing practitioners and by providing opportunities for students to teach in a real setting. Accordingly, programmes are typically designed to provide students with teachers with different opportunities to put theories, which relate to the principles of education, into teaching practice. The development of teaching skills is, however, neither a straight forward nor an automatic development. To support students in this process, they are guided by more experienced and qualified teachers in the local schools and by supervisors from the originating schools in a systematic manner. Supervision is the connected to be a key component in teaching practice. It manifests in the form of appointed supervisors who pay scheduled visits to the student-teachers and inspect, assess and provide direct feedback on different components of the teaching practice program.

Mobile Instant Messaging (MIM) to support teaching practice: Insights from a nurse tutor program in Nigeria

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Abstract
To determine the feasibility of using the Mobile Instant Messaging (MIM) platform, WhatsApp, to provide supervision and support to student nurse tutors during a teaching practice placement in Nigeria.

Methods
A descriptive qualitative method was used to design and evaluate a six-week WhatsApp group discussion intervention among student nurse tutors. Two pre-intervention focus group sessions (n=9 and n=10) and a workshop were conducted to assess the students’ content needs and media usage, and to develop a short online supervisory curriculum. To evaluate the intervention, two focus group sessions (n=9 and n=9) were carried out, transcribed verbatim, and analyzed together with the actual WhatsApp conversations using thematic content analysis.

Findings
Participants found the WhatsApp-enabled learning space valuable, in particular for the transfer and application of knowledge in their day-to-day teaching practice and, more generally, for their professional development. There were rich and multifaceted indicators of learning and professional development in evidence which were mostly triggered by specific facilitation techniques. The four themes from the WhatsApp conversations were; (1) sharing and discussing “tips of the trade”; (2) providing direction and triggering reflective practice; (3) sparking professional discussions and announcing professional development opportunities; and (4) maintaining a continuous moderating and teaching “presence”.

Conclusion
Despite some technical challenges centred mainly on the accessibility of the MIM space, the study identified indicators of good supervision practice and the results point to the feasibility and value of MIM to enhance supervision during teaching practice.

Ethical Considerations
The University of Ibadan/University College Hospital Ethics Review Committee approved the protocol of the study. Written informed consent, which pointed to a number of social, technological and potential of MIM was confirmed by a systematic review, was obtained from each of the student enrolled for the program in 2017 and they all consented to participate in the study and were therefore enrolled. The participants were recruited shortly before the commencement of the teaching practices. The study was implemented in three phases: preparatory, intervention and evaluation. Details of the activities implemented in each of these phases are provided below.

Preparatory phase: Assessment of needs and media usage

The main purpose of the preparatory phase was to gain insights on how to design an intervention that leverages digital media as a means to supervise and support students during their teaching practice placement. To do so, three focus group discussions were carried out (n=9 and n=10 students, respectively). Both lasted about an hour and, upon the participants’ consent, they were recorded on audio tape. The group discussions, which was preceded beforehand, consisted of questions about the availability and ownership of smartphones, usage patterns of social media and training needs with regard to the teaching practice. Both aspects were explored with the intention to develop an educational intervention to help support the mobile phone group chat for the supervision of the students during the teaching practice and evaluate this intervention.

Methods
The study was conducted from March to June 2017, with 19 students who attended the two-year post basic training as nurse tutors at the University College Hospital, Ibadan, Nigeria. The study was approved by the Ethics Review Committee and students were formally placed for 6 weeks in Schools of Nursing in different locations in the country, where they are expected to demonstrate and strengthen competencies for formal teaching. Supervisors pay scheduled visits to assess skills and support student nurses in developing lesson plans, management of class and lecture presentations. Successful completion of the teaching practice is a requirement for the award of a diploma as a nurse tutor recognized by the Nursing & Midwifery Council of Nigeria.
understand the nature of conversations, the WhatsApp discussions were downloaded. The WhatsApp discussion was transcribed verbatim. To understand the nature of conversations, the WhatsApp discussions were downloaded. Both the WhatsApp group conversations and the FGD transcripts were entered into the ATLAS Ti software (version 7.5) and analysed using thematic method. The coding was based on an inductive content analysis approach, i.e., individual (similar) text segments were summarised to broader themes which emerged through the iterative analysis of the text. The content of the WhatsApp group conversations was also subjected to quantitative data analysis using frequency counts to determine the number of posts from each of the participants and the moderator.

Findings
Nature and form of the WhatsApp interactions during teaching practice
A total of 1530 posts were made in the WhatsApp group. A summary of the posts per week is shown in Table 1. The moderator’s engagement was high with her contributions accounting for 42% of the total posts. The highest number of posts (500) were contributed in the first week of teaching practice. This initial peak was followed by a number of weekly postings that ranged from 167 to 254. There was considerable variation regarding the number of posts contributed by the students. The students did not make any contributions when the contributions from the active participants ranged from n = 5 to 238. Thirty-four posts (2% of the total) with video and images and about a quarter of these images were posted by the moderator, the professional nature of the digital space and emphasized instructions on the development of a lesson plan, practical information and do’s and don’ts of effective classroom teaching. Apart from concrete discussion topics, students suggested the setting of ground rules for the participation in the WhatsApp group, especially regarding its professional scope. Finally, the students expressed uncertainty and concerns of not knowing what to expect during the period of the teaching practice, since many had never been to the towns and cities where they were undertaking this postgraduate course. These concerns further underpinned the potential value of the use of WhatsApp to offer opportunities for students in new and unfamiliar environments to stay connected not only with peers but also with their supervisor. The supervisor was chosen as the moderator of the WhatsApp group. The FGD were followed by the development of a template (in the form of a forum) for discussion. This was developed during a one-day workshop attended by five members of the research team and two of the teachers responsible for coordinating the teaching practice programme from the participating school. Every week was dedicated to one of the following topics: introduction/rule participation, ethics of preparation for teaching practice, lesson plan, instructional materials, classroom management, and evaluation. The procedures and rules of use of WhatsApp platform for educational purpose were also discussed at the workshop.

The Intervention
The research team created a WhatsApp group and enrolled all the 19 students as members. The students suggested naming the group discussed. As an initial reaction to the group formation exercises, the participants were asked to introduce themselves and their professional goals. After the introduction, the moderator provided practical information and “tricks of the trade” on topics with which the respondents were confronted during their daily teaching practice. The moderator did not simply post the information, but used inter alia, discussion and quiz mechanisms that triggered the participants’ engagement. An example of the questions was “How do you state your instructional objectives?” The moderator offered the correct response only after all participants had answered the question. Concluding each weekly discussion with a quiz, which was labelled “fastest finger”, further enhanced the students’ attention. The quickest contributor was given that he or she provided also the correct answer, rewarded with a small airtime. These exercises sparked numerous contributions and were met with high levels of excitement, which were registered in the posts in focus group discussions and directly in the WhatsApp group, as the following example shows:

Summary of Weekly Posts of WhatsApp Group Chat

2. Sharing and discussing “tricks of the trade”

The moderator provided practical information and “tricks of the trade” on topics with which the respondents were confronted during their daily teaching practice. The moderator did not simply post the information, but used inter alia, discussion and quiz mechanisms that triggered the participants’ engagement. An example of the questions was “How do you state your instructional objectives?” The moderator offered the correct response only after all participants answered the question. Concluding each weekly discussion with a quiz, which was labelled “fastest finger”, further enhanced the students’ attention. The quickest contributor was given that he or she provided also the correct answer, rewarded with a small airtime. These exercises sparked numerous contributions and were met with high levels of excitement, which were registered in the posts in focus group discussions and directly in the WhatsApp group, as the following example shows:

baryn!!! Thanks to nurses connect. This is highly motivational. Another measure, which was found to trigger the participants’ engagement with practical situations, was the use of mini scenarios. The learners were prompted to describe a way in which they would react to a more difficult professional situation, and a common scenario was shown in the example above. Moderator: I welcome your contributions on this scenario. While teaching, you observed a student is browsing the Facebook page. How would you handle this situation?

Student: Call the students and explain to him or her that browsing the lecture is not allowed, that it can be done after the lecture, then give a warning to all the students that anybody caught browsing will have his phone seized. …

3. Professional discussions and announcing professional opportunities

Apart from topics which related directly to concrete experiences of the teaching placement, the moderator also stimulated wider professional discussions at the intersection between nursing and teaching. For example, the question Can we identify some examples of positive aspects of your class room experiences so far in the course” generated lively discussions among the participants.

4. Maintaining a teaching and social “presence”

The context analysis revealed the constant presence of the moderator in the digital space, which manifested in short reaction times and in expressing acknowledgement of the students’ individual contributions. The encouraging nature of being connected and the opportunities it offered, for the students, to feel heard, encouraged them to participate in the discussions and to feel included. The moderator acknowledged the students’ contributions by saying thank you (n = 10); well-done (n = 8); appreciate (n = 6).

Evaluation/Enrolment

<table>
<thead>
<tr>
<th>Instructional objectives</th>
<th>Ethnicity of teaching/Erth (Eth.)</th>
<th>Classroom management</th>
<th>Entry behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 (44.4)</td>
<td>4 (44.4)</td>
<td>5 (55.5)</td>
<td>3 (1.5)</td>
</tr>
<tr>
<td>5 (62.5)</td>
<td>3 (1.5)</td>
<td>2 (4)</td>
<td>6 (46.2)</td>
</tr>
<tr>
<td>6 (56.9)</td>
<td>2 (4)</td>
<td>1.5 (1.5)</td>
<td>4 (36.4)</td>
</tr>
</tbody>
</table>

204

36 (18.1)

7 (19.4)

30 (18.1)
The moderator also countered the otherwise ephemeral nature of MIM discussions by keeping track of the students’ individual contributions (however modestly) to respond to questions they had not yet addressed: Moderator: ‘I have not gotten yr contributions on Lesson plan’. Student 1, student 2, student 3 etc.

Expecting contributions, nurses connect

The teaching presence was complemented by the development and maintenance of a social presence which was constructed as a part of the moderator’s and the students’ contributions. The sociality went beyond the moderators’ initial ice-breaking activities such as “To be sure we have a with us a showing fun icon” and also included communicative sequences that initiated or concluded daily or weekly discussion episodes, such as wishing others “a good morning” or “a H’ppy weekend”. This form of social presence was actively maintained and extended to members of the group. Although it isclearly lacking strong intellectual and/or educational qualities, its social nature is conceived to be relevant as it can pave the way for a more “productive” use of MIM. The ongoing teaching and social presence was deemed to expand the students’ educational terrain across the geographical and temporal boundaries of their respective schools, as the following excerpt aptly illustrates:

Student (FGD): “Before [teaching] we have left the school, this was as if we were still very much school”. The continuous moderation presence was welcomed and well received by the students, as the following quote from the focus group discussion exemplifies: it ‘the moderator ever on haven’t been online and always ready to provide answer to the question’. However, the moderator’s presence also created high expectations and demands on the parts of the students, who, for example, reminded the moderator if she did not respond to their messages (moderator), you didn’t respond to my greetings

Benefits and constraints

WhatsApp group participants generally agreed that involvement in the group chat was positive. Students referred in particular to the ways in which they experienced professional advancement and development, i.e., how they referred in particular to the ways in which they experienced their opportunities to participate in the WhatsApp group by stating “no light here, no network”. Other challenges related to the tensions that resulted from the intrusion of the digital communication into daily practices, the need to get used to the distances inherent to digital communication in real time online, as one participant stated in the WhatsApp group:

Student: “Educative, but you’re too much (it) leads to partial distraction”

In addition, a few participants also felt that, despite the ongoing teaching presence, the moderator did not carry everyone along. The three suggestions offered for improvement are: the provision of attendance for participants, the introduction of jokes to liven up discussions, and the need to link the contributions of more than one moderator to lessen the burden on one person.

Discussion

The World Health Organization and other international bodies have started to emphasise the potential of mobile technology to support and connect health workers, especially in rural areas. The implication of the antecedent efforts is now an important part of the efforts to respond to and research this dynamic. Data from the preparatory phase of the study indicate widespread ownership and use of smartphones by the students. This is indicative of the increase in use of smartphones in Nigeria where an estimated 15 million smartphone owners in the country (8,10).

Data from the WhatsApp chat and post FGD evaluation confirm the value of WhatsApp to provide systematic and supportive supervision to students, respond to their needs, and deal with challenges in contexts marked by geographical distances and resource constraints(8,9). Similar results have been reported by Willems et al who point to the value of WhatsApp in supporting nurses in the transfer and application of knowledge(10). The contributing factors to the success of the present intervention were the fact that students were already familiar with the use of the digital platform, and in the use of the content that the platform was helpful. The comments the students made in the next statement is that the perceived benefits were also tied to peer dynamics.

Other way, which helped students to apply knowledge were the mini scenarios because they showed concrete ways of how to react to a more difficult situation in the classroom. The following statement, which was made by a student in the FGD, also exemplifies how students were able to put the digital lessons from the scenario directly into their teaching practice:

Student (FGD): ‘An important issue was raised on the platform (regarding how to react to students using their phone) and it helped me really performing like a professional’

The findings of this study and their generalisation need to be taken into account and be possibly addressed by future research. Firstly, the sample size was relatively low which limited the generalisation of the findings to all students contribute (more equally) to the discussions.

Overall, most students participated actively in discussion and contributed written messages. This can be viewed as particularly important because recent research found that educational and socio-professional benefits materialised mainly when students were engaged actively in MIM spaces, i.e., who contributed with own messages to the group. However, the moderator’s efforts were met with considerable variability in the number of students’ written contributions, with two students never contributing at all. Their incapacity to contribute could be a result of poor typing abilities, or of funds to remain online for extended periods of time, or, simply, a lack of interest. The phenomenon of stark differences regarding the frequency of participation is not restricted to the use of digital education and has been also observed in MIM studies(8,10). Although Nielsen et al has reported that participation inequality is inevitable in social media and other online communities, designers of MIM interventions need to develop innovative strategies and mechanisms to ensure that all students contribute (more equally) to the discussions.

Conclusions

Findings from this study indicate that it is feasible to use WhatsApp as a platform to provide supervision and develop learners’ skills in situations in which there are limited opportunities for face-to-face interactions between teachers and students in outside placements, such as teaching practice. Despite some technical challenges, the availability of the MIM platform sustained the study identified evidence of good supervision practice and rich and, in the same way, multifaceted indicators for learning and professional development.

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