TRAINING HIGHER EDUCATION STUDENTS FOR TEACHING IN VIRTUAL CLASSES. A CASE STUDY IN AN ASIAN CONTEXT

Gianina PETRE, Ph., D.,
Adventus University of Cernica

Abstract: *During the COVID-19 pandemic, teachers from higher education faced challenges on how to adequately adjust their teaching from a face-to-face to an online format to train future teachers properly. The study aimed to illustrate participants' experiences regarding their training during virtual courses in an international Asian HE institution. The applied methodology was qualitative, with a case study as a research design, intending to understand participants' experiences and adjust the training model for virtual classes in a particular Asian context. The participants were MA and Ph.D. in education students enrolled in the Instructional Models class, delivered online. Data collection consisted of (a) a focus-group discussion (with five participants) lasting for one hour and a half; (b) document analysis (15 students' journals); (c) video records for five micro-teaching; (d) one study group that lasted for 60 minutes organized to reflect on the 14 micro-teaching lessons. After thematic coding of data, the results revealed participants' empowering experiences during training, with challenges and success in conducting micro-teachings for virtual classes. The participants recommended including more micro-teaching sessions to master the teaching strategies demonstrated and introducing basic training in using technology for those who did not have technological skills. With empowering but still challenging teaching experiences, for further studies, the recommendation is to apply the training model in an online context, for both pre-service and in-service teachers, from different levels of education.*

Keywords: *virtual F2F class; training model; case study; action research; cooperative learning; teaching skills; Asia.*

Introduction

The COVID-19 pandemic challenged the entire world, which had to adjust fast to another normality in all fields. Education was even more challenging as most schools and teachers needed to be trained and prepared to face this

new adaptation to teaching in online environments. Teachers faced difficulties adjusting their teaching practices to online education for all levels of education over the night. Although the challenge was confirmed in the Western countries, in some of the Eastern countries was even more challenging (Adnan & Anwar, 2020). Moving online education was difficult due to financial struggles, a poor internet connection, and low access to the needed gadgets for effective in-class participation via online delivery (Adnan & Anwar, 2020; Moralista & Oducado, 2020).

The preoccupation to adequately train future teachers to teach interactively moved from face-to-face (F2F) classes to Virtual face-to-face classes (Virtual F2F). However, when teachers include a learning management system (LMS) and video materials to exemplify the teaching strategies and requirements for using technology in their classes, then the challenge of moving to synchronous online classes can be less intrusive.

Higher education

Teaching in higher education and interacting with adult students include specific aspects such as using technology to create interaction, adjusting the content to online delivery (Petre, 2021a), or training teachers to develop digital skills (Mishra et al., 2020). In keeping student attention awake, preparing engaging content delivered through online methods, or having access to gadgets and the internet to connect to their classes, all these aspects and many other challenged teachers who felt insecure regarding their teaching skills in online education (Moralista & Oducado, 2020). Students and school administrators face challenges, too, in this context (Irembere & Lubani, 2020). All these led to fast adaptation and transformation of teaching and learning (Adedoyin & Soykan, 2020). As a result, the schools understood the urgent need to find innovative solutions to a rethought education system (Mishra et al., 2020) and creative pre-service teacher training (Petre, 2021a), emphasising the need for using user-friendly platforms and technology (Chen et al., 2020).

Interactive teaching

A critical challenge in higher education (HE) during the COVID-19 pandemic was properly training future teachers to apply modern strategies in their classes, making teaching and learning interactive. The training model (Joyce & Showers, 2002) is a valuable tool in a face-to-face class format, but how to use it in an online environment to prepare future teachers to teach online classes interactively may be challenging. However, despite all challenges, when applying the training model in online classes, positive aspects have been mentioned. For instance, when pre-service teachers worked organized in study groups (Petre, 2022b), they were able to transfer in their teaching the

interactive strategies learned during their training (Petre, 2022c). As a result, their professional development achieved a high level of teaching interactively (Petre, 2022a).

Challenges in crisis

Another significant challenge was related to technology. One challenge was the possibility of accessing technology and different gadgets (Mishra et al., 2020) and having no or intermittently connecting to the internet due to a lack of financial issues (Adnan & Anwar, 2020). Another challenge was needing proper training and technology skills (Adedoyin & Soykan, 2020; Petre, 2021a). Some studies recorded teachers' challenge to resist change in the new pandemic context (Moralista & Oducado, 2020). However, other studies showed that teachers' readiness and students' motivation might contribute to overcoming those challenges experienced amid the pandemic (Ali, 2020). The modality of delivering the content online may attract students to try new teaching methods even if they are unknown to them (Petre, 2021a; 2022c).

This present study focuses on higher education challenges during the movement from face-to-face to online classes. The study aimed to explore participants' experiences regarding the adjustment of the Training Model for Virtual F2F courses in an Asian international HE institution. Structure-process-outcome theory (Johnson & Johnson, 2018) guided the study regarding how teaching is planned and structured so that the process students went through led to positive outcomes in the acquisition of declarative or theoretical knowledge and procedural knowledge or their teaching skills. Further, this study aimed to explore Ph.D. and MA students' recommendations for future improvement regarding this training for online teaching.

Four research questions guided the study:

1. What are the participants' experiences during a Virtual F2F *Instructional Models* class?
2. What are the participants' experiences regarding the micro-teaching and training model?
3. What are the participants' experiences regarding the study groups?
4. What are the participants' recommendations to make the training model more effective for online teaching?

Methodology

Aligned with the purpose of this study was the qualitative research methodology. The qualitative methodology is a proper choice when researchers need to understand a phenomenon in a specific context to improve a particular situation through the participants' inputs.

Research designs

As this study aimed to understand and improve the training of future teachers for teaching in online environments, two research designs were combined. The first and dominant is a case study, and the second is action research. Using a case study, the researcher looked to understand participants' experiences (Merriam & Tisdell, 2016) during the *Instructional Models* course, delivered under Virtual F2F format or synchronous class via Zoom and with Moodle as a platform to support the class. On the other hand, the study included an action research component as it looked for the participants' recommendations to improve the training model during the *Instructional Models* class for an online environment, thus, aiming to adjust the training model for virtual classes (Sagor, 2011). Therefore, the research design is under a mixed intra-paradigm qualitative methodology (O'Reilly & Kiyimba, 2015).

Participants and criteria sampling

The participants of this study were Ph.D. and MA students in education from an international HE institution from Asia, registered in the Instructional Models course in January-March 2021. The students were from three continents and five different countries. The two Ph.D. students and three MA students enrolled in the *Instructional Models* class were willing to participate in the study. Table 1 contains the profile of the participants. Purposive sampling is the applied criteria for selecting the participants.

Table 1. Profile of the participants

No.	Pseudonym	Academic program	Academic level	Advancement in program	Country
1.	Nanth	C&I	Ph.D.	Second–year	South-Eastern Asia
2.	Shadid	Education Administration	Ph.D.	First–year	South Asia
3.	Jinn	C&I	MA	Second–year	Eastern Asia
4.	Anna	TESOL	MA	Second–year	Eastern Europe and Northern Asia
5.	Daniel	C&I	MA	First–year	Eastern-central Africa

Data collection methods

Several methods were applied for data collection to triangulate the data. One focus group discussion (FGD) was conducted with five participants and lasted

for one hour and 30 minutes. Document analysis was the second data collection method and analysed 15 students' reflective journals (SRJs). Third, video records for five micro-teaching sessions were analysed to identify the strengths and weaknesses of the training model applied in online classes. The fourth data collection method consisted in organizing and recording one study group that lasted for 60 minutes to create a platform for reflecting on the 14 micro-teaching lessons conducted by the student participants in the present study.

In the following table, each data collection method is related to research questions so that the reader may identify how they are connected and how the data collection methods were chosen to reflect and respond to research questions.

Table 2. Triangulation matrix for data collection methods

Research questions	FGD	SRJs	Micro-teaching videos	Study group video
RQ1. What are the participants' experiences during a Virtual F2F *Instructional Models* class?	✓	✓	✓	✓
RQ2. What are the participants' experiences regarding the micro-teaching and training model?	✓	✓	✓	✓
RQ3. What are the participants' experiences regarding the study groups?	✓	✓	✓	✓
RQ4. What are the participants' recommendations to make the training model more effective for online teaching?	✓	✓	-	✓

Data analysis

For data analysis, to identify the positive aspects of the training model applied in the online environment and the recommendations for improving the training so that the teachers will be better prepared to teach interactively in online classes, thematic coding was the chosen option. After thematic coding of data, the results revealed participants' empowering experiences during training, with challenges and success in conducting micro-teachings for virtual classes. The themes are in the results and discussion section. It combines the findings from FGD with those from SRJ and videos from micro-teaching and study groups.

Ethical considerations

The ethical considerations included a few aspects. First, the researcher obtained approval from the ERB (ethical research board) of the higher educational institution where the study took place. Second, the study participants received and signed an informed consent with details about the study. Third, they could accept or not their participation in the study. Finally, in the results and discussion section, the researcher uses pseudonyms to keep the anonymity and confidentiality of participants.

Results and discussions

The results of this study are presented based on the research questions so that the reader better understands how each research question received responses throughout the study. One or two recurring themes emerged for each research question.

For research question 1, *What are the participants' experiences during a Virtual F2F Instructional Models class?* two themes emerged (a) an eyeopener class and (b) good training experiences.

Theme 1: An eyeopener class

As the student participants were in the first or second year of their studies, many interactive teaching strategies were new or needed in an online environment. As Anna mentioned, 'it was interesting, and I asked myself? How can this be done in this class as the teacher should teach us all these interactive strategies via Zoom, and we have to conduct micro-teachings online?' (FGD, Anna). The atmosphere was positive, and the teacher had a calm voice and cared for students by sending a reminder for each class occasion so that the students would be encouraged to prepare and to know the teacher's expectations for each class. The students also appreciated the interactive lecturing in the class teacher actively involved students in-class discussions.

For Shadid, 'it was an eye-opener class in many ways' (FGD, Shadid). First, as he mentioned, the course helped him understand the importance of developing pedagogical skills as the participant came from a third-world country. Furthermore, regarding his country, he emphasized that if someone selects teachers based on their qualifications in his country, half of the schools would be closed. Therefore, receiving his education in such an environment, his reaction and involvement during the class were positive. Student participants learned about having a second chance to improve their assignments. Based on the expert feedback approach (Marzano et al., 2001) and part of the mastery learning concept (Bloom, 1968), this pedagogical practice was also appreciated as some students needed a teaching background

and training in teaching before taking the class. Two participants mentioned the desire to transfer the teaching strategies learned during the class to their first specialization, TESOL and theology.

Theme 2: Good training experiences

Feedback was a good training experience during the class. 'We had feedback from the professor and colleagues, and we experienced written and oral feedback. It was helpful as I could not see my mistakes while teaching. Furthermore, by giving feedback to my friends, I also learned' (FGD, Nanth). The interactive lessons for transmitting values applied using different strategies and learning how to use interactive strategies to teach values in an online environment helped in mastering the content and skills. The support and encouragement created a positive learning environment which helped shy and unconfident in teaching students, as Jinn mentioned (FGD, Jinn).

The participants experienced a productive interaction with a relaxed learning environment: 'We enjoyed learning from each other as we came from different cultures and backgrounds. It was much enjoyment for me. We were learning from each other' (FGD, Shadid). They also considered receiving accessible learning materials regarding the difficulty level and an accessible model during their training. In line with the productive interaction, the break time was another positive aspect expressed by the participants. The teacher always gave breaks on time, and this was appreciated by the students who experienced other classes three hours class without a break, thus being too tired to concentrate on the teacher's lecture. Furthermore, providing templates for assignments helped students concentrate on the quality of the content they prepared for their micro-teachings instead of being stressed about the requirement related to the form of the assignments. As they came from five different parts of the world, these templates helped them know what to include in their assignments.

According to Chappuis (2015), effective feedback includes specific information for improvement, providing simultaneous delivery with learning, addressing the partial understanding of students, helping students to act, and giving more advice than corrections. In addition, by expressing high expectations, a teacher can increase students' motivation for learning (Marzano, 2017).

For research question 2, *What are the participants' experiences regarding the micro-teaching and training model?* the emerging themes were (a) positive stress and (b) adjustment for online teaching.

Theme 3: Positive stress

Experiencing positive and motivating stress helped students successfully

prepare for their online micro-teaching sessions. Daniel specified: 'I could see my strengths and weaknesses through the preparation, presentation, and feedback. Micro-teaching was like real classroom teaching, and I could self-evaluate my teaching. I planned for a face-to-face class, but I taught it online' (FGD, Daniel).

Watching the videos posted in Moodle, each strategy applied in teaching several times helped students learn how to use the strategies correctly. It was supportive mainly for those with less background in teaching, increasing, thus, their understanding of teaching. Experiencing micro-teaching and the interactive strategies during the class arose interest and excitement for teaching. For some students, the course was a new field, and others manifested low skills in technology. Nevertheless, with repetition, teachers and colleagues support skills development happened. As Anna mentioned, 'It was difficult, but I learned from my colleagues' micro-teaching sessions. It helped me a lot to observe their lessons' (FGD, Anna). For Jinn was her first teaching experience: 'For me, it was teaching the first time. It helped me that we applied the strategies individually' (FGD, Jinn).

Theme 4: Adjustment for online teaching

For some of the participants was not their first occasion to teach. However, in an online environment, all of them were beginners. As Daniel said: 'You need to figure out how to use, for example, Venn Diagram in online teaching. In the class, you go and draw on the whiteboard, but online you must find ways to do it' (FGD, Daniel). The paperless or protecting the Planet approach is an advantage of online education. Participants mentioned the possibility of cutting, re-writing, modifying, and copying without wasting paper but just learning how to use technology.

> I looked for ways to help my students group the elements when I applied TABA and to do it quickly. I learned that even if each student used TABA in micro-teachings, the way of delivery was different. So, we learned different ways to apply TABA online. It is a challenging but also rewarding experience. (FGD, Nanth)

> I worked a lot to find a way to teach Concept Attainment online. So, I did it. Teachers need to have some technical training. (FGD, Anna)

The participants mentioned how important it was to see that even if students used the same strategies in their micro-teaching, they used different ways to apply them online. The fact that they repeatedly applied a strategy helped them learn how to apply it. Because each student chose to apply the required strategy in his field and each had a different background, the students could

learn that they could apply these strategies in any subject. The examples from micro-teachings and the materials can also be used in other fields for interdisciplinary lessons.

During micro-teaching sessions, the participants mentioned that they learned more interactive strategies than just listening to a teacher theoretically presenting these strategies for several hours. They also adjusted the use of technology to students' level as they prepared micro-teaching lessons for different groups of students, from primary school to Ph.D. level.

While preparing their micro-teaching sessions, the participants faced technological challenges and looked for solutions to overcome them. For instance, Zoom rejects animation entrance but not exit (in a PPT), so the students learned how to adjust to technology features. Teachers need to be interested to discover technological tools for strategies they use in teaching.

> Here are some tips for PPT creation: when you create a table for Concept attainment (CA), it is impossible to put animation to the text within the table. I found another option. I did not write in a table. I used a box with the label *Text box*. When you enter it in any row you want, you may then animate the text. (SRJ 8, Anna)

For research question 3, *What are the participants' experiences regarding the study groups?* the theme revealed the study groups as a rewarding experience.

Theme 5: Rewarding experience

The study group is the fourth stage of the training model of Joyce and Showers (2002). It requires organizing students in small groups to discuss what and how to teach and plan together so that their final product is high-quality. For Shadid, it was clear that 'sometimes you understand more because it is not a teacher giving an idea to use, but you are working with your colleagues, looking for the solution that fits your needs. That interaction is helpful' (FGD, Shadid).

Students in the study group were more relaxed, knowing they had similar knowledge and skills, and were not ashamed to speak and share their plans for teaching. For some of the students, this experience was not only for receiving feedback but also for colleagues' contribution to their unit plan assessment. As a result, there was mutual support for their final assignment, the unit plan.

> I keep saying this, but I want to apply many of the methods I have studied here appropriately when I will teach my students. I am a teacher who lacks a lot. However, there is no end to learning, so I want to be an educator who moves forward slightly. I will not give up, and I want to be a person who keeps going straight. (SRJ 8, Jinn)

For the student named to lead the study group was a challenging but rewarding experience. It was her first experience in this role: 'It was about growing together and not letting them struggle alone. It was about helping each other' (FGD, Nanth). They worked together on choosing the proper strategies for their unit plans so that the students' topic, objectives, and content would be successful when using specific interactive strategies. There was a big advantage for those students who first experienced these interactive strategies and were asked to apply them in micro-teaching sessions. Therefore, the study group phase of the training model helped students understand what strategy and how and when to use it for effective learning.

For those with some teaching experience, it was an opportunity to increase their repertoire of teaching strategies and adjust them for online classes. In addition, the diversity of their background academically and culturally helped in learning from different perspectives about the same topic—in their case, how to apply interactive teaching strategies in an online environment. 'I got a chance to learn from my teacher and classmates, which is a wonderful memory and learning journey. I enjoyed all the micro-teaching activities. Also, the coaching and feedback time helped me' (SRJ 8, Anna). Daniel also experimented with his first study group. 'I presented my unit plan, and they gave me more ideas and alternatives. It was my first study group, and I liked it' (FGD, Daniel).

For research question 4, *What are the participants' recommendations to make the training model more effective for online teaching?* the participants emphasized the effectiveness of micro-teaching sessions. They suggested adding more occasions for micro-teaching, integrating all interactive teaching strategies teacher presented and demonstrated during the class. They were dimensions of learning, cooperative learning, KWL, Jigsaw, TABA, concept attainment, graffiti, graphic organizers, questioning process, comparison, abstracting, decision making, problem-based learning, group investigation, and feeling strategy. In the required micro-teaching sessions, only a few of those strategies were compulsory as KWL, Jigsaw, TABA, Concept attainment, and Graffiti. They also recommended introducing basic training in using technology through study groups or, at the end of each class, having some small training sessions in using technology specifically for teaching interactive strategies. Another recommendation was to have records for every class and put them in free access for students (for novice students or for those with low speed in learning to re-watch). By doing that, teachers ensure each student's understanding and learning irrespective of the pace of learning. The participants also recommended organizing study groups after each micro-teaching when everything is fresh in the participants' minds, and they can support improving teaching skills and using technology.

> The class on *Instructional Models* has motivated me to get involved in actual teaching, which I have always not wanted to do. The environment of the class was conducive to learning and highly interactive. I want to improve the course by starting the class with a review session or helping new students with the competencies in using technology well so that they find it easier to work through the term. (SRJ 8, Shadid)
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> The culmination of the training was an educative one. We took time to reflect on our learning and how we would like the training to improve; we learned a lot from this exercise. (FGD, Anna)

Through what participants did in class, they learned that it is essential to evaluate the subject, get feedback from students, and assess how the lesson went. Their exam was challenging and demanding thinking, creativity, and persistence. However, 'it was useful because it made me develop a plan for training that I will use as a starting point in teaching and training'. Moreover, Daniel concluded: 'This is in line with making knowledge useful and the habits of the mind level. I learned that exams need to be meaningful for students. They are part of learning more than testing' (SRJ 8, Daniel).

The *Dimensions of learning* model with its five levels (Marzano & Pickering, 1997b; Marzano & Pickering, 1997a) were studied during the class and mentioned in the participants' responses regarding their learning. Therefore, the participants used the learned knowledge in meaningful ways and developed positive habits of mind in different pedagogical activities (Petre, 2017; 2021b). Accordingly, applying knowledge and skills in meaningful ways was an essential objective of the course.

Conclusions and recommendations

The training model of Joyce and Showers (2002) can be successfully applied in HE for education courses in Virtual F2F classes. Positive outcomes appear when teachers use all four stages of the training model. This study emphasized especially the third and the fourth phases of the model so that the Ph.D. and MA students may be able to teach in an online environment by using interactive strategies. They benefited in the *first phase* of the *theoretical presentation* of the strategies highlighting declarative knowledge. In the *second phase*, *demonstration*, the training focused on procedural knowledge or how to teach, thus developing their teaching skills. In the *third phase*, the emphasis was on *practicing with feedback*, meaning conducting micro-teaching sessions using interactive online strategies. At this stage, the objective was to develop declarative and procedural knowledge. As mentioned by the student participants, being part of a *study group* helped them better

understand, evaluate themselves, and prepare their final assignment, the unit lesson, making sense of declarative and procedural knowledge. The study group also contributed to developing their technological skills by teaching through online interactive strategies.

With empowering but still challenging teaching experiences, for further studies, the recommendation is to apply the training model in an online context, for in-service teachers, from different levels of education and to test in quantitative studies the effectiveness of the training model adjusted for online higher education.

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