

Student-Teachers' Practicum Experiences in Hong Kong and Macao during the COVID-19 Pandemic

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Abstract: Teaching practicum plays a critical role in teacher education for student-teachers in enabling them to adapt educational theories to real practices in authentic contexts. Pre-service and in-service teachers also acknowledge practicum as an opportunity to interact with students in classrooms with supervision from mentors and university supervisors, different from other taught courses in teacher training programmes. This study investigates two groups of student-teachers in Hong Kong and Macao, grounded in a pilot study, to identify the critical features of practicum practices during the COVID-19 pandemic. At this time, normal school operations were affected in the two special administrative regions in the Greater Bay Area, and this study examines eight student-teachers' practicum experiences during this period. The practical implementation of the practicum, including lesson planning and supervision from universities and schools, was studied. Post-practicum interviews with the student-teachers were also conducted to explore their perspectives on the distance learning aspect of the practicum. Other corresponding forms of data, consisting of teaching plans and video-recorded lessons, were collected to triangulate the analysis. The major findings of the study include the identification of various pedagogical foci in the practicum, the different assessment tasks being developed, consequences of parental involvement, evaluations of the exercise, as well as challenges faced by student-teachers during the practicum. Implications include innovation of practicum as well as reconsideration of some of the critical elements of the teaching practicum offered by current teacher training programmes.

Keywords: practicum, online learning, teacher training, higher education

1. Introduction

The COVID-19 pandemic has had a tremendous impact on education, including changes in teacher education (Carrillo & Flores, 2020). Schooling at various levels, including universities, was suspended due to the need to control the spread of the virus and maintain social distancing, with a distance learning mode adopted. The transition took place abruptly and rapidly, using technology to shift learning away from traditional face-to-face modes and towards digital platforms.

Bozkurt et al. (2020) have looked at the global outlook on the interruption of education, reflecting on the circumstances of K-12 and higher education, highlighting the importance of alternative assessment and evaluation methods during the pandemic. With the physical closure of universities and colleges around the world, the emergency e-Learning situation (Linnes et al., 2022; Murphy, 2020) has also been discussed specifically in relation to higher education. One specific topic across different levels of K-12 and higher education is practicum in higher education. Lei (2023) conducted a study investigating the experiences of student-teachers in Teacher Education Institutions (TEIs) at this time.

Two cities in the Greater Bay Area (GBA) in China, Hong Kong SAR and Macao SAR, are formerly colonies of Great Britain and Portugal respectively. The education systems in these cities are also similar in that they have fifteen years of free education, and teacher education in both provides local and international content to support student-teachers, offering qualify teaching to children and students from kindergarten to secondary level. More specifically, the teacher education programmes in the SARs in higher education offer professional training for student-teachers who intend to become teachers in K-12 schools. The Education Bureau (EDB) in Hong Kong SAR requires school teachers to be either registered teachers or permitted teachers. For the registered teachers, one of the requirements is to hold a teaching qualification, e.g., local teachers' certificate or post-graduate diploma/certificate in education, to meet the professional standards of teaching (EDB, 2000). The Education and Youth Development Bureau (DSEDJ) in Macao SAR requires school teachers to have higher diplomas, or above, with recognised pedagogical training (Macao Special Administrative Region, 2012). Teacher education institutes (TEI) in both SARs provide similar teacher education training with practicum arrangement. TEIs in Hong Kong SAR offer higher diploma in education, bachelor of education and postgraduate diploma in education programmes which are accredited as holding teacher qualification for teacher registration. The teacher training programmes in part-time and full-time modes are undertaken in Hong Kong SAR for pre-service and in-service teachers. TEIs in Macao SAR offer bachelor of education and postgraduate diploma in education programmes that day-time and night-time modes are implemented respectively in practices.

1.1 Schools in Hong Kong and Macao during the COVID-19 Pandemic

At the start of the pandemic, the Hong Kong Special Administrative Region (SAR) government (2020, January 31) extended Chinese New Year holidays at secondary schools, primary schools, kindergartens, childcare centres and special schools. The EDB then stated the phases for the resumption of face-to-face classes at primary and secondary levels. The first phase was for secondary three to secondary five students, i.e., senior secondary forms, who resumed face-to-face classes in May 2020 while cross-boundary students resumed their classes in June 2020 (2020, May 22). Primary four to secondary two students also resumed classes in June 2020 (2020, June 3). All primary and secondary schools then suspended face-to-face classes from July 2020 and used online modes of teaching and learning (2020, July 27) due to the spread of COVID-19. Kindergarten three, primary one, five and six, and secondary one, five and six students then resumed face-to-face classes in September 2020 (2020, September 23), followed by all other K-12 students by the end of this month (2020, September 29). All students and teachers strictly followed the guidelines on schooling during the pandemic issued by the EDB including the wearing of face masks in schools and conducting a daily self-COVID-19 test. However, classes for kindergarten children and primary one to primary three students were suspended again (2020, November 20), followed by all K-12 schools, from December 2020 (2020, November 29). The EDB announced the resumption of face-to-face classes for K-12 in April 2021 (2021, March 26) a few months later. Another large-scale class suspension for kindergarten to primary schools occurred in January 2022 (2022, January 11), and few days later for all secondary schools (2022, January 20). Face-to-face classes were suspended until March 2022 (2022, February 14). At this time most of the schools conducted distance learning and students attended online classes at home. Kindergartens resumed face-to-face classes in phases, from May 2022 onwards, with one-third of the children allowed to go back to school in each phase. Primary school students had already resumed half-day face-to-face classes from April 2022. Secondary students resumed half-day face-to-face classes in May 2022. All students needed to conduct rapid antigen tests (RATs) and were only allowed to attend classes with negative results (2022, April 11). The EDB updated the guidelines on presentation of communicable diseases and required students to attend school activities with negative RATs results (2022, May 19).

Students from secondary schools were allowed to attend whole-day classes providing the COVID-19 vaccination rates were high, i.e., 90 percent or more of the total number of students of the whole school or an individual class level; students from primary schools resumed face-to-face classes in December 2022, with COVID-19 vaccination rates reaching 70 percent or more (2022, October 25). The EDB announced that all schools had resumed face-to-face classes as of February 2023 (2022, December 30).

The Macao Special Administrative Region (SAR) government postponed, after Chinese New Year holidays, the resumption of classes in tertiary and non-tertiary education (2020, January 24). The DSEDJ revealed that the schedule of class resumption was correlated with that of Zhuhai and Zhongshan in the Greater Bay Area (2020, February 27), as some cross-border students who studied in Macao lived in Zhuhai. It also issued guidelines regarding the resumption of classes, and provided a flexible assessment arrangement embracing formative assessment (2020, March 17). Face-to-face classes in non-tertiary education resumed from May 2020, with a three-month class suspension (2020, April 19). The senior forms in secondary levels were the first cohort to resume face-to-face classes in schools, from 4 May 2020, followed by the second cohort of junior secondary levels on 11 May 2020. The senior primary and junior primary levels resumed face-to-face classes from 25 May and 1 June 2020 respectively. However, face-to-face classes conducted at the beginning of the class resumption strictly followed the guidelines of the DSEDJ, for examples, the wearing of face masks and reduced social interactions among students and teachers in schools. For kindergartens, three-year-old or older children were allowed to attend school activities from the start of the academic year of 2020-2021, i.e., from September 2020. A year later, the DSEDJ announced a suspension of face-to-face classes in tertiary and non-tertiary education from 25 September 2021 due to the spread of COVID-19 (2021, September 25). Non-tertiary education resumed face-to-face classes after one month (2021, October 21), and the DSEDJ allowed tertiary institutions to decide the dates of resumption of classes based on their situations. Some schools with cross-border students were allowed to use hybrid modes of teaching and learning, i.e., an online mode for students who were not able to go back to school and the face-to-face mode for students who attended classes at the schools. The DSEDJ decided to end the 2021/2022 academic year (2022, June 22) early compared to the normal academic calendar. Some schools with students and/or teachers who caught COVID-19 had their classes suspended (2022, December 12). All schools resumed normal classes from January 2023, and were allowed to provide special arrangements for students and teachers diagnosed with COVID-19.

In short, K-12 schools, i.e., kindergarten, primary and secondary, in Hong Kong and Macao were suspended for certain periods during the pandemic while face-to-face classes were sometimes shifted to e-learning. The SAR governments encouraged schools to have hybrid modes in order to offer learning opportunities to students who were not able to attend face-to-face sessions. In addition, it allowed schools to conduct classes in either face-to-face mode or e-learning according to the situation of schools with students infected by COVID-19. Therefore, different modes of teaching and learning emerged in schools. For the higher education sector in Hong Kong and Macao, universities and colleges adopted e-learning, allowing students to attend lectures online. However, for the practicum in education programmes in the two cities, practices were determined by the situations in non-tertiary education at the certain time during the pandemic.

1.2 Research Questions

This study aimed to investigate the practicum experiences of student-teachers in teacher education programmes in Hong Kong and Macao during the COVID-19 pandemic, guided by the following two research questions:

1. What were the experiences of student-teachers in the practicum in teacher education programmes in Hong Kong and Macao during the pandemic?
2. What were the common and different features in the practicum in teacher education programmes in Hong Kong and Macao during the pandemic?

2. Literature Review

The Greater Bay Area (GBA) is comprised of the two Special Administrative Regions (SARs) of Hong Kong and Macao, and the nine municipalities of Guangzhou. The two SARs governments have similar historical backgrounds, including shared geographical location and economic significance in China's social and economic landscape. A triple "I" strategy of Integration, Innovation and Internationalisation is also present in the region (Xie et al., 2020). The two SARs are the only cities in China under the "one country, two systems" framework. However, higher education, in particular teacher education, has various contextual and cultural differences between the cities, and a lack of systematic collaboration and sharing of resources (Shi, 2021). Thus, it is critical to inquire into the features of teacher education programmes in both the cities in order to provide direction on establishing meaningful collaboration in education in the GBA.

The emergency remote teaching, defined by Hodeges et al. (2020), that emerged at the start of the pandemic marked a turning point in education, with the rapid switch from a face-to-face education environment to online instruction, resulting in the largest distance-learning experiment in history (Linnes et al., 2022). Carrillo and Flores (2020) analysed over a hundred empirical studies on online teaching and learning practices in teacher education and found three domains in the educational experience, namely Teaching Presence, Social Presence and Cognitive Presence. Teaching Presence, directed at achieving learning outcomes, examines special pedagogical issues related to the design and facilitation of the educational experience. It is concerned with the pedagogical approaches adopted, the relevant and authentic assignments assigned, and appropriate tools and technologies utilised. Social Presence highlights interactions among peers and educators to promote collaboration and a relationship connecting participants affectively and effectively. The development of online activities is fostered by an optimal level of cohesion in the learning community. To establish the social presence, educators provide opportunities to enhance belongingness, collaboration in small groups, regular discussion, and high levels of support and cooperation. Cognitive presence refers to active intervention by educators in the process of constructing meaning, including the ability to pose questions that deepen individuals' critical reflection. Sometimes it is difficult to distinguish from Social Presence, with the higher order cognitive skills developed in complex discussions in groups blurring the boundaries of the presences. However, key is the extent to which learners are able to construct meaning through sustained reflection and communication in the community of inquiry. Apart from the three presences, the ability of teachers and learners to affectively engage in relationships is essential in the educational experiences (Carrillo & Flores, 2020). In addition, the intersections between the presences practically overarch and generate contextualised, personalised, socialised online teaching and learning environments. In addition to the presences, student-teachers struggled with maintaining students' active engagement and identifying the appropriate time to scaffold students' learning in the online learning procedures. To handle these struggles, applied strategies for online teaching have included modeling, a student-centered approach and patience in the online learning environment (Jin, 2022).

Teaching practicum is prominent in teacher education. As noted previously, for long periods during the pandemic, teaching at many K-12 schools and tertiary institutions in China was suspended from 2020 to 2023. Tekel et al. (2022) have systematically reviewed the implementation of practicum on educational activities in some countries during the pandemic. Three ways of delivering the teaching practicum at this time were identified, including (1) moving teaching practicum online; (2) abolishing teaching practicum requirements; (3) re-opening schools after a short closure. Many countries in the world adopted distance learning in practicum, with online courses at K-12 schools and online peer teaching, for example, recording teaching videos or using virtual reality technology in order to keep teaching practices in digital world. Some countries, for example, Canada, re-recognised their teacher qualifications in order to allow student-teachers who did not have the chance to conduct teaching practicum to fulfill the provincial teacher certification requirements (Van Nuland et al., 2020). Lei (2023) conducted a pilot study examining critical features of student-teachers' practicum experiences during the pandemic. Practicum supervisions on online pedagogy, practicum reflection and evaluations, as well as communications between student-teachers and supervisors, were examined in the complex practicum situation during the pandemic.

In this study, a theoretical framework has been created to analyse the situations of student-teachers' practicum experiences in Hong Kong and Macao SARs, grounded in the results of the reviewed research studies. More specifically addressing three dimensions of the means of practicum, supervision from student-teachers' viewpoints, and assessment in the theoretical framework to answer the two research questions, specific perspectives are prominently highlighted in the study.

3. Methods

This is a naturalistic research inquiry to compare cases on experiences of practicum for student-teachers in Hong Kong and Macao. It adopts a qualitative approach, wherein textual data was gathered to holistically analyse the specific context (Creswell et al., 2003) of student-teachers' experiences during the pandemic. The research was undertaken in the final stages of the pandemic, interviewing student-teachers in the SARs and reviewing the arrangement and implementation of practicum during the entire pandemic period. It uses content analysis on the basis of comparative interpretation of the phenomenon in its real-world contexts (Schreier, 2012), i.e., cross comparison of the two SARs in the Greater Bay Area. To analyse the data collected from both cities, the three dimensions of the theoretical framework were formed as the main categories to examine the specific situations described in the data.

3.1 Participants

Four student-teachers in higher education in each SAR participated in the study, i.e., eight participants. Among four of them, one was an in-service teacher and three were pre-service teachers. Pseudonyms (Hannah, Harley, Harry and Henry; Mia, Matthew, Morris and Michael) were assigned for confidentiality. All participants had conducted the whole or part of their practicum in teacher education programmes during the pandemic. The background information of the participants is shown in Table 1.

Table 1. Participants' Background Information

City	Participant	In-/Pre-service	Programme
Hong Kong	Hannah	In-service	Bachelor of Education
	Harley	Pre-service	Bachelor of Education
	Harry	Pre-service	Higher Diploma in Education
	Henry	Pre-service	Higher Diploma in Education
Macao	Mia	In-service	Post-graduate Diploma in Education
	Matthew	Pre-service	Post-graduate Diploma in Education
	Morris	Pre-service	Post-graduate Diploma in Education
	Michael	Pre-service	Post-graduate Diploma in Education

3.2 Data Collected

Semi-structured interviews were conducted, and transcribed. The teaching reflection papers of each participant were collected, and teaching materials, including video records, teaching movies and online tests were gathered for examination of the trustworthiness of the analysis as well as consistency between the ideas extracted from the interviews and the actual actions in the cases.

3.3 Analysis

Comparative analysis was utilised (Lincoln & Guba, 1985) in the transcription. Coding text was executed and grouped into categories generated from the systematic presentation of the transcripts and other materials collected. The generated codes were used to compare with the dimensions formed in the theoretical framework for analysing the collected data.

4. Results

There are five major results found in the study, including practicum experiences, impact on supervision, student assessment, teaching challenges and influences on student-teachers.

4.1 Practicum Experiences

4.1.1 Adapting to Online Teaching

Due to the COVID-19 pandemic, K-12 schools in Hong Kong and Macao were closed. To ensure the continuity of students' learning, many schools conducted classes switching from in-face lessons to online teaching.

The format of online classes is that the teacher conducts online teaching from the school classroom while the students attend the classes from home. However, to facilitate the learning process, each class was divided into two groups and one teacher was assigned to each group. The first five minutes were spent greeting the students, followed by using online teaching materials and engaging the students in simple interactive activities to facilitate the learning of basic knowledge. [HENRY, 13:45]

Online teaching was a bit challenging for Physical Education lessons. We set goals and provided videos for students to exercise at home. The students would film their workout video and submit them to the teacher for review when classes resumed after the suspension. [MIA, 02:48]

During the suspension, our school conducted online teaching. The teacher would record some videos for the students. ... For example, during Chinese language lessons, the teacher created an online video of a story for students to listen before asking them to answer two open-ended questions related to the story. [MICHAEL, 02:04]

In conclusion, the COVID-19 pandemic prompted a creative shift in pedagogy from traditional classrooms to online learning. Schools used multimedia resources and real-time teaching platforms to ensure learning continuity.

4.1.2 The Difference between Face-to-Face and Online Teaching

We explored the disparities between face-to-face and online teaching. Through interviews with the student-teachers, we uncovered the challenges, as well as the benefits, of using each method. In addition, we also examined student engagement, class management, interaction and feedback mechanisms in both methods.

The main difference between face-to-face teaching and video-based online classes is the interaction between teachers and students. In face-to-face classes, students could immediately inform their teachers if they didn't understand a concept, whereas in video-based online classes, they could not do so. This results in a less effective learning experience because they move on to the next topic without fully understand the previous lesson. [MIA, 07:18]

The key difference was difficulty in receiving student feedback in online classes. Without knowing students' understanding and learning progress, it became challenging. On the other hand, face-to-face instruction allows for better communication and engagement between teachers and students, enabling the use of different teaching methods. Therefore, face-to-face instruction is considered more effective. [MICHAEL, 05:40]

In summary, although online teaching offers flexibility it lacks the immediate feedback, student interaction and disciplinary structure found in face-to-face teaching. Understanding these differences

helps in developing effective teaching strategies that cater to the unique needs of students in both methods. Social presence is deficient in online teaching, influencing the teaching presence of student-teachers.

4.1.3 Impact of Parental Involvement on Online Teaching

Parental involvement and its impact on online teaching was explored, particularly for younger students who need constant guidance. This part of the research also sheds light on how parents help in accomplishing home-based learning tasks, creating parent-child interaction, and the challenges faced by teachers due to parental oversight.

Parental involvement creates pressure for teachers. They fear making any mistake in the presence of parents. Placing too much focus on a student often leads to complaints from other parents about favoritism or exclusion of their students [HANNAH, 34:08]

Online courses can provide opportunities for parent-child bonding since both the students and their parents engage in those activities together. This not only allows the students to learn but also increase their time with their parents which later boosts their interest in learning. [HENRY, 09:57]

It places pressure on teachers to prepare teaching materials. This was due to the teaching principles announced by the Macao government during the suspension, which emphasised a relatively simple rather than tight teaching approach. However, the primary school students still required assistance from parents with online learning tasks. Thus, we had to be very careful when designing homework. Both the difficulty level and workload of homework needed to be well controlled to avoid complaints from parents. [MIA, 34:08]

For grade one and grade two students, they required parental assistance to complete their video-based online learning. Therefore, parents played a significant role in supporting their students' learning at home. [MICHAEL, 07:29]

In summary, parental involvement was pivotal to the success of online teaching since it promoted the quality of parent-child interaction, as well as the younger students' learning. However, this involvement can impose pressure on teachers. The balance of the parental involvement hence plays a significant role in shaping the online teaching environment.

4.1.4 Reflection on Teaching

Teaching experiences of student-teachers during challenging times were determined in specific ways during the pandemic. This included how student-teachers reflected on their teaching, the tools they used to record their reflections and the subsequent impact of these reflections. Different strategies ranged from peer reviews, self-reflection and use of logbooks to adapting teaching methods to more engaging activities and supervisors' feedback.

Table 3. Comments from the three Film Art students in the focus group interview

I observed the students' learning and reflected on it. [HANNAH, 04:19]

Due to the pandemic, my main method of conducting the practicum was through filming instructional videos. We would review our own videos for self-reflection. Additionally, our supervisor would watch the videos and provide comments. Moreover, we would watch each other's videos among our peers before doing the peer assessment, which served as another method for reflection. [HARRY, 02:13]

I would send the videos I recorded to my supervisor for evaluation. He later identified the areas that I needed to improve on. Through this process, I understood my own teaching strengths and weaknesses. [HENRY, 02:21]

I saw the teachers maintaining a teacher logbook during my practicum. This logbook documented the details of each class and each child's learning progress. Therefore, reflection was regular practice for every class. [MIA, 10:04]

The feedback during my practicum helped me to identify some of my weakness in teaching. [MORRIS, 02:56]

Overall, teachers greatly valued self-reflection as a critical tool to evaluate teaching effectiveness related to teaching presence, and they adjusted their strategies accordingly. They tended to utilise resources like video recordings, logbooks, peer feedback and supervisor evaluations to facilitate their reflections. However, time constraints and work stress often hindered consistent reflection. The feedback gleaned from this reflective process nevertheless led to a noticeable improvement in their teaching, reinforcing the importance of reflective practice in education.

4.1.5 Changes in Teaching Practicum

Practicums are required for student-teachers, where they conduct lessons observed by a supervisor or school mentor. However, with the suspension of face-to-face teaching, student-teachers were required to video record their lessons, with or without the presence of the students before sending them to their supervisors for evaluation.

Due to the pandemic, my main method of conducting the practicum was through filming instructional videos. We would review our own videos for self-reflection [HARRY, 02:13]

I used my computer and iPad to record videos, employing PowerPoint to deliver storytelling lessons [without any student]. I also incorporated teaching tools in the videos to teach basic mathematics concepts, such as addition and subtraction. [HENRY, 03:16]

I used video recording as a means of evaluation and submitted it to the university supervisor for observation. In the school where I conducted my practicum, I placed the camera at the back of the classroom due to privacy reasons. [MIA, 22:29]

In summary, the suspension of face-to-face teaching led to changes in classroom observation methods. Some lessons were conducted with students present, respecting their privacy by positioning cameras to capture only students' backs, while others were performed without students. These student-teachers utilised different methods for instruction, including the simulation of online classrooms through platforms like ZOOM, using PowerPoint for lesson delivery, or incorporating tangible teaching aids such as toys and cards for demonstrating basic mathematics concepts. The videos were made with various devices and platforms and submitted to supervisors for review. This alteration presents potential challenges in assessing teaching practices due to limited student interaction and privacy concerns as mentioned in social presence.

4.1.6 Challenges in Teaching Practicum

Student-teachers faced a significant transition in terms of their teaching practicum as it shifted from face-to-face teaching to recording their own lessons with or without the presence of students. The latter is completely different from the traditional one. This could pose challenges for the student-teachers.

The difficulty of filming video lies in not knowing how well you teach. During the face-to-face practicum, you can observe the reactions of the students and determine whether they are interested in your teaching. As a teacher, gauging students' interest and engagement in your

teaching is crucial. However, without students present in the classroom, it is uncertain whether your instructional content can spark students' interest. [HARLEY, 22:27]

In a face-to-face classroom, the interaction between teachers and students is essential, which is absent in video-based class observation. For instance, (since I placed the camera at the back of the classroom and only captured the students' backs), students' facial expressions could not be observed to determine their level of knowledge absorption or mastery. Additionally, the video did not reveal whether students were attentive, such as if they were dozing off or feeling that the content was boring. Consequently, the teacher's responses to such situations could not be reflected in video-based lessons. [MIA, 27:16]

In conclusion, the transition from traditional face-to-face class teaching practicum to a video-based one significantly impacted on student-teachers. This format change presented challenges, especially in sessions where students aren't present. Student-teachers found it hard to gauge authentic student reactions without student interaction or determine whether their teaching designs align with students' learning needs. The student-teachers observed difficulties in assessing the effectiveness of instruction due to the absence of students and the lack of necessary student-teacher interaction during video-based practicum. In addition, essential details needed for instructional assessment were often overlooked because the camera only captured the backs of the students. The lack of an in-person classroom observation experience limits the comprehensiveness of feedback and advice provided by the supervisors.

4.2 Impact on Supervision

4.2.1 Supervision through Online

Due to the pandemic, the communication between student-teachers and university supervisors had to transition from face-to-face to online. This section explores whether online communication methods had an impact on supervision.

I used WhatsApp to ask my supervisor questions, and she replied very quickly. It was a good way to communicate. When I didn't know how to conduct certain activities, the supervisor would provide me with some suggestions. After filming the instructional videos, I would send them to my supervisor, and she would provide individual feedback on ZOOM so that I could do better in my next lesson. [HANNAH, 29:50]

The support for online teaching practices was not sufficient. Perhaps most teaching methods were taught focus in face-to-face classrooms. However, the supervisor should provide some teaching methods for online classes. [HENRY, 20:43]

I remembered considering how to allow my supervisor to observe my class, such as recording with a mobile phone or live-streaming for the supervisor to watch. The supervisor provided me with many suggestions. The supervisor also taught me how to write and revise self-reports. ... [Researcher: Did the supervisor provide any suggestions for your teaching design?] Because my original lesson plan focused more on how the teacher delivers the content, but the supervisor's advice was to pay more attention to the students and whether they absorbed the knowledge, which made a qualified lesson plan. [MIA, 31:07]

I communicated with my supervisor through WhatsApp. The supervisor responded promptly, but her responses were often brief. [MICHAEL, 30:43]

In conclusion, this section reflects on the switch from in-person to online communication between student-teachers and supervisors during the pandemic. It shows that various platforms such as WhatsApp and email were used effectively for supervision. The student-teachers reported that online feedback was prompt and personalised, aiding their instructional improvements. A few highlighted a

lack of support for online teaching methods, but overall, the shift to digital mediums for supervision did not lead to significant differences in the experience of receiving feedback.

4.2.2 Supervision of the Class Observation

Supervision for class observation involves assessing teaching materials, activity alignment with students' abilities, and the overall interest generated. This section explores the challenges faced in supervision.

It's difficult for supervision because no student was present to react or respond during the video. When the supervisor watched my videos, they tried to view it from a child's perspective, which could improve my shortcomings. Face-to-face interaction and video recordings were very different. The videos missed out on witnessing things and the dynamic responses from the students. These limitations restricted the supervisor from seeing the areas I needed to improve. [HARRY, 26:49]

The supervisor primarily assessed the adequacy of my teaching materials, whether my activities aligned with the students' abilities, and if the overall explanations of the activities were interesting. They also considered the editing of the videos and whether any beautification had been done to attract the students' interest. ... I believed that using video recordings for class observations didn't provide significant assistance in the assessment by the university supervisor. This is because video recordings can be rehearsed and repeated multiple times, which doesn't capture the most authentic performance. [HENRY, 21:58]

In summary, supervision for class observation is challenging due to the absence of real-time reactions and responses from students in videos. Viewing videos from a child's perspective could help improve teaching shortcomings. It refers to the omission of social presence and the lack of cognitive presence. However, face-to-face interactions provided more dynamic classroom experiences and unexpected responses. The limitations of video recordings restricted the supervisor from observing areas for improvement.

4.2.3 The Role of Onsite Mentors

Besides the university supervisor, an onsite mentor is assigned to each student-teacher during their practicum. This mentor facilitates a smooth transition for student-teachers into the school environment and provides them with practical teaching experience. However, due to the pandemic, some student-teachers were not assigned an onsite mentor while others could only receive such support after the resumption of classes.

New teachers are assigned an onsite mentor in our school, such as the department head or deputy head. The mentor monitors their teaching methods, provides advice, and may conduct classroom observations once or twice a year to observe their teaching approach with students. There may also be individual meetings with the new teacher periodically, where the mentor offers reminders or provides teaching suggestions on how to improve their performance in teaching and within the school environment. [HANNAH, 36:12]

My mentor shared online resources with me and suggested tools that I can use to assist students. They recommend using basic teaching tools to engage students in different activities. In instructional videos, I can also teach activities that students can practice at home. ... My mentor has taught me how to teach students in online classes. For instance, they showed me how to use PowerPoint to create some activities for interactive teaching between teachers and students. [HENRY, 18:40]

The onsite mentor has been very helpful to me. Firstly, for the General Studies subject at my school, I needed to create PowerPoint slides for online teaching. The mentor assisted me in checking and making numerous revisions to ensure the content of the PowerPoint meets the

standard. She also helped me review and modify the homework questions to match the students' level and align them with the specific knowledge to be taught. [MIA, 29:36]

I followed my onsite supervisor and attended all lessons conducted by her, who also briefly talked to me after each lesson. She gave me a lot of suggestions. And then I would reflect on her comments. As I had improved in the next lessons according to her comments, she appreciated the improvement. For example, she told me I was less stressed than in my previous trials. [MATTHEW, 10:30]

If there was no onsite mentor to provide guidance or suggestions, it would have a significant impact. Having someone to tell you how to fulfill the role of a teacher correctly is crucial, otherwise your students might continuously lack respect for you. It is difficult for oneself to recognise shortcomings, such as how to communicate effectively or how to motivate students to progress. The onsite mentor provides hints and suggestions in these areas. [MICHAEL, 29:00]

In conclusion, this section discussed the pivotal role of onsite mentors for student-teachers, supplementing university supervision with practical, school-based guidance. During the pandemic, some student-teachers missed the opportunity to receive such support, experiencing the profound implications of its absence. Feedback from mentors on teaching techniques, student interaction and self-improvement are thus highlighted as critical to the professional development of student-teachers.

4.3 Student Assessment

4.3.1 Assessment of Students' Online Teaching during School Suspension

Schools adopted various teaching methods during the pandemic to ensure that students could continue their learning. These included creating instructional videos for students to watch and conducting online lessons using platforms like ZOOM. However, determining how to assess students' progress during this time posed an intriguing question, that warrants further exploration.

Due to the pandemic, students could not attend school, so teachers had to assess their abilities through questions sheets. I believe that face-to-face communication is crucial in teaching, but since we couldn't meet in person, I could not determine whether students understood the content. ... Without face-to-face interaction, students could only attend online classes through their computers. We could not ascertain whether students had family members helping them with their homework. ... Regarding the questionnaire, I found it somewhat inadequate compared to traditional assessment methods. Students often completed the questionnaire after watching a video or PowerPoint and generally scored well, without failure. However, in face-to-face classes, individuals do not usually pass the in-class exercises after each lesson. Conversely, in online classes, failures are rarely observed. [MIA, 06:00]

Online classes recorded in videos lack assessment tools and feedback. ... The biggest problem during the pandemic was not knowing whether students at home had watched the videos. The school lacked a mechanism to check if students had viewed the videos. [MICHAEL, 04:12]

In conclusion, the student-teachers during the pandemic found online assessment challenging as an issue of cognitive presence due to lack of face-to-face interaction, the inability to assess the role played by help from family members or track video viewership. While online question sheets often showed high scores, teachers felt that these didn't reflect students' true understanding. Some sought alternatives, like creating student portfolios from classwork.

4.3.2 Assessment of Video-Based Class Observation

In a class, it is essential to assess students' performance. However, due to the pandemic, some student-teachers' class observations lacked student participation, making student assessments challenging. This section explores student assessment in classroom observations for student-teachers during the pandemic.

Evaluation is challenging [in video-based class observation]. We had previously mentioned that we didn't have students [in the class], so it was difficult for us to determine if this classroom was truly meeting the learning needs of students. ... There was a limitation. We tried involving our classmates in classroom observations to see if the students could follow along if implemented. We might have also asked the supervisor for feedback on areas that need improvement. [HARRY, 12:38]

Basically, there were no significant impacts even when conducting video-based classroom observation [in a face-to-face classroom. There are students in the classrooms]. We followed the usual procedures... In essence, the use of video recording for classroom observations did not affect these assessment methods. [MIA, 23:16]

In conclusion, the student-teachers faced challenges assessing students during the pandemic due to the absence of learners in video-based class observations. However, when students were present after class resumed following the easing of the restrictions, the usual assessment methods were unaffected. Alternatives like peer and supervisor feedback were explored to compensate for the lack of student response in virtual classrooms. The impacts of these factors on practical student evaluation are considered in this section.

4.3.3 Student Assessment after Resumption of Classes

During the pandemic, the mode of teaching shifted to online learning. Upon resuming in-person classes, adjustments in assessment might then be necessary to help students readapt to learning on campus. This section discusses the measures and perceptions of teachers in modifying the difficulty of assessments after resumption.

In terms of assessment, after resuming the face-to-face classes, we skipped some evaluations. For example, we only conducted simple assessments, such as evaluating students' language and so on, instead of comprehensive evaluations like we normally do. It would be fairer to make the assessments slightly easier due to the long suspension. [HANNAH, 22:52]

The assessment criteria were slightly adjusted, lowering the difficulty level of the assessment objectives. Students only needed to complete simple tasks to meet the standards. [HENRY, 13:12]

Actually, it had a significant impact, especially on grading. The scoring method changed in my school. The scores for online classes were recorded as "formative assessment" on the scoring sheets, grading from A to E, but not showing the exact scores. I think this had a greater impact on students. ... I believe an easier assessment policy is more beneficial for students. During the online learning period due to the pandemic, teachers were unaware of whether students had grasped the key knowledge. However, if tests or exams were immediately conducted upon returning to school, it would be challenging for students to catch up on their learning progress. [MIA, 21:37]

Overall, this section discusses the necessary modifications in student assessments after shifting from online to in-person classes. Simplified evaluations were preferred, focusing on fundamental skills rather than comprehensive criteria, to ensure fairness for students readjusting to physical classrooms. Formative assessments as cognitive presence with qualitative grades replaced precise scores to acknowledge the unique challenges of online learning.

4.4 Teaching Challenges Faced during the Pandemic

4.4.1 The Change of Teaching Schedule

This section delves into the impact of the pandemic on teaching schedules, focusing on content reduction and duration shortening, and their effects on both students and teachers.

This kindergarten was originally providing whole-day schooling, but it shifted to a half-day schedule due to the pandemic. Children no longer stayed for lunch, and school ended at noon. The two classes had their afternoon lessons via videos filmed by the teachers. Subsequently, they would also provide assessments for students to take home and follow along with the video instructions. There were minor adjustments where the afternoon lessons were geared more towards arts and crafts, allowing students to express their creativity. [HARRY, 18:35]

The teaching schedule was impacted as the content of the curriculum was reduced and the class duration shortened. Therefore, much teaching content had to be simplified while still conveying important information to the students. [HENRY, 09:15]

For instance, in the subject of General Studies, we used to cover the content of four lessons in a week. We adjusted the teaching schedule, stretching the teaching time, preventing students from absorbing too much information simultaneously. ... However, slowing down the teaching schedule made it harder for teachers in the next academic year as they had to catch up with the previous year's teaching content. [MIA, 21:58]

The pandemic led to a simplification of teaching content and modified teaching schedules. While some schools lengthened delivery periods for better student comprehension, others shortened class durations. However, this adjustment challenged teachers who now had to cover delayed content in the future.

4.4.2 The Impact of Wearing Face Masks

Face masks during the pandemic presented challenges in the teaching environment. Student-teachers and students experienced difficulties in communication and understanding due to obscured facial expressions and limited visibility of mouth movements. This section explores the impact of mask-wearing on teaching and learning processes, focusing on language acquisition, emotional expression, and so on. Insights from interviews highlight the obstacles teachers and students faced and the adaptations made to facilitate effective education.

Particularly in language learning, understanding a language or pronouncing a word involves more than just listening. One needs to see the teacher's mouth shape and sometimes how their teeth and tongue work together. A face mask can limit the students' language learning as they can't see your mouth, and can only hear your voice accurately. ... I noticed that face masks hinder emotional reading and expression discernment. More body language was required to convey emotions and instructions, as verbal communication alone, especially with face masks, was often insufficient and could lead to misunderstandings or delays in comprehension. [HARRY, 16:19]

As all students were required to wear face masks, it was difficult for me to recognise their faces. I could only identify some of them who were more active. [MATTHEW, 31:00]

It affected Chinese teaching as sometimes when you needed to demonstrate pronunciation or inform students how to read a word, it could be impacted. Wearing masks affected our intonation and it sounded a bit strange. [MICHAEL, 13:29]

In short, the requirement for face masks in classrooms significantly challenged teaching and learning. Teachers have encountered difficulties in recognising students' faces and interpreting their expressions. Language learning has been affected, as students rely on visual cues for pronunciation and comprehension. Emotional reading and expression have also been hindered, requiring increased reliance on body language. In physical education, face masks restrict breathing and necessitate adjustments to teaching content. Transparent face masks have been employed to mitigate these challenges. These findings highlight the multifaceted impacts of mask-wearing on the teaching framework.

4.4.3 Constraints on Group Activities and Discussions

During the pandemic, schools generally discouraged group discussions or collaborative tasks in order to reduce the risk of virus transmission. This exploration of limiting group activities examines the impact on teachers and students.

I believe that a lack of encouragement for group activities can limit instructional design. Students should interact appropriately with teachers or classmates during classroom activities to make the lessons more enjoyable. If the students are left alone, they may feel bored. Therefore, if students can only do activities individually, there will be many limitations. [HENRY, 07:39]

Limiting group activities had an actual impact. For instance, group collaboration was essential for many activities in General Science. However, these group collaborations were cancelled. This predominantly left instructional content. Thus, students are certainly affected because they typically anticipate and enjoy interactive lessons. ... The same applied to Physical Education. During the pandemic, students had to wear masks in class, which had limitations. One limitation was the potential oxygen deprivation and resulting physical problems for students. Therefore, we needed to consider the design of activities carefully. [MIA, 12:11]

Because of the pandemic, the school didn't allow students to conduct too much group work. I asked my students to do some pair work, but reminded them not to be physically too close. It was difficult for me to design such kinds of activity as students may be too close. In addition, due to the face masks, I needed to spend some time clarifying what the students were saying. The extra time for clarification interfered with me completing the tasks designed in the lesson plan. [MATTHEW, 23:40]

The absence of group activities didn't have much of an impact on me. Since I taught Chinese language during the practicum, I didn't see significant issues with independent learning for Chinese. [MICHAEL, 13:02]

In conclusion, the pandemic reduced group activities in schools, affecting both teachers and students. Teachers faced challenges in designing activities that adhered to social distancing guidelines. Students missed the interaction and enjoyment of group work. The limitations on group activities significantly impacted upon instructional design, particularly in subjects like General Science and Physical Education. Despite some teachers adapting to individual learning, the absence of group activities during the practicum was perceived to have had little impact on Chinese language learning.

4.4.4 Improve Student Engagement after the Resumption of Classes

This section delves into the various challenges and responses faced by educators in improving student engagement and readjustment after the resumption of classes following an extended closure.

When I returned to teaching, I observed K1 children in November. Some students adapted well, but others struggled. Some felt nervous and scared on their first day back at kindergarten and some even cried. Some had difficulty adjusting their sleep patterns, resulting in tears, and crying upon returning to kindergarten. Although it had been two months since the start of the

school year, the situation persisted. ... Due to the pandemic, children were out of school for an extended period. For example, at our school, starting from N1, we focus on teaching children's self-care skills, such as getting things, changing shoes, using the restroom and eating independently. However, after the kindergarten closure, many students struggled even with basic tasks like queuing. Communication with others was also significantly affected. ... Teachers needed to start over and teach them gradually, just like when they first started schooling. I tried to make the instructional activities as interesting as possible to engage students and temporarily distract them from their anxiety. Additionally, I provided them with toys to play with, helping them become familiar with the classroom environment [HARLEY, 21:35]

Students couldn't adapt immediately. After they returned to school, I observed that they felt tired and had difficulty adjusting to campus life. ... For instance, in Physical Education, we incorporated more game-based instructional activities to help students restore their physical fitness through play. We also emphasised stretching and warm-up exercises to improve their physical capabilities gradually. In the case of General Knowledge, we adjusted the teaching progress. [MIA, 19:20]

The resumption of classes revealed a significant struggle in students' adaptation to school life. The student-teachers highlighted varying issues from disrupted sleep patterns to decreased physical fitness and communication struggles. Teachers implemented strategies, including gamified learning, familiarising students with the environment, and slower teaching progress to ease students back into a normalised learning state gradually.

4.4.5 Decline in Students' Abilities

In this section, we explore the decline in students' skills, specifically in writing and fundamental knowledge, as observed by teachers. The pandemic-induced shift to online learning and subsequent return to physical classrooms has revealed significant gaps in students' abilities, requiring additional teacher support and guidance.

In terms of writing, the control of the fine motor skills of the children's hands tended to be slightly inferior compared to those who constantly practiced. When students were writing, teachers might need to provide extra assistance. [HARRY, 14:30]

Teachers noticed that students' performance had significantly declined when classes resumed after the pandemic. From the start of the pandemic in 2020, the teachers who took over these students said that their basic skills had worsened. ... I believe the pandemic has had a negative impact on students, as they've had less time to absorb knowledge. Furthermore, when physical classes resume, we won't reteach the points covered in online classes. Therefore, students either learn what they can or miss out on some aspects. The impact was even more significant in secondary schools than primary schools. [MIA, 36:11]

I feel that the overall impact of the pandemic on students has been negative. As a teacher, I found that the students did not master many key concepts due to the suspension of classes during the pandemic. For instance, it was very difficult to fill in the gaps in knowledge that second-grade students missed due to the suspension of classes, especially when you need to start teaching third-grade material immediately. Students might find it hard to comprehend the lessons. [MICHAEL, 41:17]

Overall, the student-teachers perceive that the pandemic has largely negatively impacted on students. Teachers have observed a significant decline in their abilities and grasp of critical concepts due to class suspension during the pandemic. Students have also had less time to absorb knowledge from online lessons, which is not reiterated in physical classes.

4.5 Influences on Student-Teachers

4.5.1 Increased Workload

This section examines the relationship between video content creation and workload, specifically focusing on its implications in an educational environment. It delves into the complexities of video creation, the dedication it requires and its overall impact on the responsibilities of those involved.

It increased the workload. Having never filmed before, if you cannot find someone to assist you, you need to set and check the camera position yourself to ensure that it can clearly capture you. During the teaching process, if you inadvertently make a mistake or feel the explanation wasn't good enough, you'll stop and reshoot. There is also the task of editing, which significantly increased the workload. [HANNAH, 25:25]

The process increased the workload. You might need to prepare more detailed content, explaining each step clearly and in detail. Sometimes a video could not be completed in one take, you had to ensure the video is clear and understandable for students. When you need to perfect every step, you might have to shoot multiple times to produce a satisfactory video that can help students. This process could consume a lot of time. [HARRY, 20:32]

I believe that filming videos increased my workload. Apart from preparing basic teaching materials, I also needed to learn how to edit a video, enhance its aesthetics, and ensure a smooth teaching process within the video. These were all skills that required special learning. [HENRY, 04:23]

Observing classes by filming increased my workload, as I was unfamiliar with videography. I had to seek advice from others, such as the IT department, and inquire with school authorities about filming permission due to concerns over violating student privacy. It was crucial to capture from the right angles, avoiding the students' faces. As such, it took a considerable amount of time for me to learn. [MIA, 24:27]

I was asked to assist a teacher in preparing a video consisting of specific applications requiring certain skills. Since it required a few days for me to work on it, I took more time to do it." Researcher: "Did you know how to use it?" "No, the teacher sent me a link to self-explore the video. I also discussed with the teacher to see how to make the video. [MATTHEW, 37:30]

Filming videos didn't increase the workload. You still need to teach and prepare the educational content. The only difference was that you needed to record it using a smartphone. Even if the supervisor is not present, what you do remains the same. ... Since I usually make videos, I think very few people are unfamiliar with it now. Because I was familiar with the filming process, I didn't feel that it added to my workload. [MICHAEL, 23:09]

Overall, including video creation in educational practices adds a significant workload. Detailed preparation, multiple retakes, self-learning of videography, editing skills and privacy concerns were highlighted as key contributing factors. While a few felt familiarity mitigated this impact, most of the student-teachers found this approach time-consuming and increased their workload.

4.5.2 More Familiar with the Technology Tools

Now, we present insights from the interviewees highlighting their increased familiarity with technological tools after the process of adapting to new modes of learning and teaching during the pandemic. The interviewees shared their experiences of learning about electronic products, PowerPoint, video editing, filming techniques and mastering the online class setup.

It enhanced my understanding of electronic products. I wasn't familiar with these electronics before, so I had to learn before filming. I started with PowerPoint, such as how to add flashing text effects, or include images and music. During the pandemic, I also learned video editing and post-production techniques to make the videos more engaging, adding subtitles to make it clearer for the supervisor. [HANNAH, 26:54]

I think of this as a learning process involving video editing and filming, mastering shooting angles, and understanding the workflow of filming videos or participating in online classes. As you spend more time filming, you become more adept and conscious of how to make it more appealing to students, and how to facilitate students to do what you want them to do at home. With more filming experience, you really become familiar with it. [HARRY, 21:39]

I had grown familiar with using electronic products since I never attempted filming classes before. I learned how to use these devices, to shoot videos and understand how to position the camera. Essentially, I had gained an additional skill. [MIA, 25:25]

In summary, the student-teachers demonstrated that using technological tools facilitated their transition into digital learning environments, and led to personal skills enhancement. By exploring these tools, they gained confidence, mastered new techniques, and found innovative ways to engage students in at-home learning, ultimately cultivating a deeper understanding of the evolving technology.

4.5.3 Impact of Online Practicum without Students

The impact of an online practicum without students may affect student-teachers' instructional experience, job prospects and future academic pursuits. In the following analysis, we delve into the perspectives of per-service teachers regarding their roles, and explore the implications of this impact.

An entirely online internship without students definitely has an impact, as it reduces practical experience. In my Higher Diploma programme, I only had two practicums. One became void due to the lack of students, leaving only the second one. After completing the second practicum, I would have graduated and could have applied for teaching jobs. However, my experience would have been limited as the second practicum was only about 20 days long. Having only 20 days of experience before becoming a teacher would have had an impact. That's why I decided to pursue a Bachelor of Education degree. ... It is related to the pandemic because I lack sufficient teaching skills. After graduating from my Higher Diploma programme, I struggled to communicate with students during my second practicum because it was my first opportunity in a face-to-face classroom. I had no prior experience, and with only 20 days, there were many things I didn't know. Even though I learned more during my second practicum, I didn't have another chance to apply it before graduating. That's why I need to continue studying and have more practicum experiences. [HARLEY, 06:26]

After completing an entirely online practicum without any student present, my first face-to-face teaching experience at the school after the easing of the pandemic had a profound impact on me. I realised that there were many things I didn't know, and I was unsure how to guide the students through the tasks. As a result, the first one to two weeks were quite challenging for me as I tried to adapt. I would have been genuinely worried if all my practicum had been limited to online experiences. Learning how to lead students through activities and handle unexpected situations is something I believe would have been better learned before starting a teaching job, rather than afterwards. ... I believe that online practicum can impact recognition and further education. Others might perceive that you have only taught students online but haven't had the practical experience of teaching in face-to-face classroom settings. Face-to-face teaching challenges a teacher's ability to adapt to unpredictable situations and respond to each child's needs. [HENRY, 23:38]

I believe that student-teachers without face-to-face teaching practicum will face challenges finding future employment. Online and face-to-face teaching are fundamentally different.

Face-to-face instruction provides practical experience and enables teachers to assess student reactions and feedback, which is lacking in online classes. Therefore, I was concerned that teachers with only online teaching experience might struggle with the skills required for in-person instruction [MIA, 35:05]

Overall, the absence of students in online practicums has a significant impact on student-teachers. Limited practical experience and unfamiliarity with routine tasks and handling unexpected situations makes the transition to face-to-face teaching challenging. The student-teachers recognised the need for in-person teaching experiences to develop crucial skills. They expressed concerns about their future employment readiness and emphasised the fundamental differences between online and face-to-face instruction. Notably, one interviewee mentioned that the lack of student interaction during online practicums made for an insufficient experience, motivating him to pursue further education to acquire additional teaching techniques. These observations underscore the substantial impact of online practicums without students on student-teachers.

4.5.4 Positive Influence of the Pandemic on Student-Teachers

This section explores perceived positive influences of the pandemic on the student-teachers, encompassing skills development in digital teaching and handling unexpected situations.

I believe that there are both pros and cons for teachers. Some people may think that I missed two opportunities to have practical experiences at school due to the pandemic, which might have resulted in a lack of experience. However, don't think that I couldn't learn anything through making videos or simulating classes on ZOOM. My filming and video editing skills have improved, and my teaching methods for online classes are clearer compared to teachers who haven't experienced this period. Overall, I see it as a valuable experience. [HARRY, 29:00]

The impact of the pandemic on teachers, I believe has both positive and negative aspects. In this era of digitalization, the pandemic has taught us how to use electronic devices to arrange live broadcasts or create videos in case of unexpected situations, without disrupting students' learning progress. [MIA, 36:57]

It has positive impacts on teachers. During the pandemic, including online teaching and handling unexpected events, I believe many schools hoped that teachers would have experience dealing with such situations. For schools, having teachers who have already dealt with emergencies allows for a quicker response and eliminates the need for retraining if similar circumstances arise again. [MICHAEL, 38:51]

Overall, the pandemic, despite presenting challenges, has been beneficial for the student-teachers by fostering their digital teaching skills and preparing them for unexpected scenarios. This resulted in personal skill development and equipped them to promptly address similar future situations, thereby mitigating disruption in learning.

5. Conclusion and Discussion

Due to the COVID-19 pandemic, there was a sudden switch from a face-to-face learning environment to remote teaching and learning at short notice which greatly impacted upon student-teachers in teacher education, particularly their practicum practices. In this study, we have explored and compared the perspectives of eight student-teachers in the Hong Kong and Macao SARs on their practicum experiences during the COVID-19 pandemic. Besides post-practicum interviews, other corresponding data including teaching plans and video recordings, have shed light on the similarities and differences of student-teachers' practicum experiences across the two SARs in three main aspects, namely the practicum reflection and assessment, challenges related to online practicum, and supervision and support during practicum.

Practicum reflection and assessment are crucial to determining the student-teachers' readiness to teach and their ability to articulate connections between their experience and course content, including knowledge, skills and values. Hence, the practicum is a crucial stage in the student-teachers' educational and learning process. During the pandemic, K-12 schools were closed for certain periods. Students-teachers from both SARs discussed their experiences of learning how to use various electronic gadgets, for example, Powerpoint, video editing and filming techniques, as well as class setup on online platforms for their own lessons and/or how to conduct virtual lessons for their supervisors' assessment and self-reflection. However, practicum reflection and assessment in Hong Kong tended to be more detailed and stringent than that of Macao. Student-teachers in Hong Kong, for example, reported that not only were they required to review their own videos and send them to their supervisors for further evaluation, they also had to evaluate their peers' videos and complete evaluation forms. In contrast, Macao student-teachers had greater freedom and flexibility in completing self-reflections. The reason for this cross-cultural difference may be related to the parental pressure on teachers in Hong Kong since one of the student-teachers indicated that teachers fear making mistakes in front of parents, and parents tend to complain when teachers aren't teaching well. In fact, it is not uncommon as the education sector in Hong Kong is geared toward ensuring top teaching quality among teachers, so even student-teachers go through a rigorous assessment and evaluation for their teaching abilities.

Although online practicum can be beneficial for student-teachers as it enhances their digital teaching skills and prepares them for future scenarios, it also poses several challenges. For instance, with the online practicum, they have to familiarise themselves with the different technological tools. Even though the student-teachers in both SARs expressed their discomfort and difficulties in adapting to such new approach of learning and teaching, they nonetheless greatly valued this new approach. It not only facilitates their transition into digital learning environments and personal skill enhancement but also allows student-teachers to take a more comprehensive review of their own performance since they can review their lessons at any time and somewhere appropriate, provided they have the necessary equipment, so they can improve their teaching based on that information.

Having difficulties in designing lessons and assessing the understanding of the students is another common challenge for student-teachers in both SARs. For instance, the pandemic led to a simplification of teaching content and shortening of lesson times. Student-teachers were required to make adjustments to their lesson plans to ensure that their students could learn and understand the required contents within the shortened timeframe. In addition, student-teachers also expressed difficulties in interacting and assessing the understanding of their students, especially language learning, since students relied on visual cues for pronunciation and comprehension. This finding suggested that teachers in Hong Kong and Macao greatly value the importance of mouth movement and facial expression in their language teaching. Lastly, student-teachers in both SARs were concerned about the absence of students in online practicum. The transition to face-to-face teaching was also challenging due to limited practical experience, unfamiliarity with routine tasks, and an inability to handle unexpected situations. They further recognised the need for in-person teaching experiences to develop crucial skills, and had concerns about their future employment readiness, emphasising the fundamental differences between online and face-to-face instruction.

Despite the challenges faced by the student-teachers in both SARs, they continued to receive support from their supervisors and onsite mentors through various platforms such as instant messenger and emails, which were effectively used in the supervision. Student-teachers reported that online feedback was prompt and personalised, aiding them in their instructional improvements. Furthermore, they also received important feedback and support from their onsite mentors relating to teaching techniques, student interaction and self-improvement, crucial to the professional development of student-teachers. Overall, the shift to digital mediums for supervision did not lead to significant differences in the feedback experience among the student-teachers in both SARs.

In conclusion, during the pandemic, student-teachers in both SARs experienced unprecedented change and displayed great flexibility in handling new challenges, especially in their own practicum practices. While the interviews have highlighted the common challenges faced by student-teachers across both

SARs, there are still differences due to subtle contexts in education training between Hong Kong and Macao. The study provides empirical evidence, on one hand in local context to depict practical concerns of student-teachers, supervisors and TEIs in teacher education programmes offered in both SARs; on the other hand, in global context to contribute to the dialectic of embracing digital learning and teaching trend in practicum in the post-pandemic era. For future development of innovative pedagogy in practicum experience using emerging technologies, or in face-to-face mode, or blended mode, educators put technical skills, communication between student-teachers and supervisors, parental involvement into consideration. In addition, future research can investigate the review assessments of student-teachers including quantitative research for larger scale analysis and longitudinal studies can examine the long-term impacts of COVID-19 on student-teacher training.

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