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The potential of Zoom technology for enabling creativity in the drama classroom through peer-assisted learning and group collaboration in pre service teacher education

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ABSTRACT

The COVID-19 pandemic has impacted all levels of education around the world in many ways, including in Sri Lanka. In higher education institutions this has involved an unexpected and 'forced' transition from face-to-face to remote teaching and learning modes, with universities being required to create new types of learning environments. This paper reports on work with students in a pre-service Drama and Theatre teacher education degree, with a focus on the final year professional practice component. It reports on an innovative approach involving Zoom technology, adopted not only to evaluate students' learning outcomes and pre-service capabilities, but also to strengthen their collaborative and creativity skills. The findings of the study contribute to strengthening understanding of the potential of virtual, technology-based approaches such as Zoom in changed teaching and learning conditions, and signpost possible future research directions in terms of integrating technology and online delivery for Drama and Theatre teacher education.

KEYWORDS

Creativity; collaboration; drama education; peer-assisted learning; Zoom technology

Introduction

In response to the COVID-19 pandemic, countries around the world are taking emergency measures to respond to the challenge, working in ways that might limit the spread of the virus (Ghebreyesus, 2020). Educational providers are being forced to switch rapidly to 'emergency remote teaching' (Bozkurt and Sharma, 2020) or 'emergency eLearning' (Murphy, 2020), navigating a way through the challenge of balancing safety considerations and the continuing delivery of high-quality learning experiences.

The new dynamics which have characterised the 2020–21 university year, have provided an opportunity to rethink and potentially transform the higher education into a more resilient and flexible system. This involves charting new paths and trialling new approaches. Early research indicates the necessity of blending and transforming existing methodologies, possibly involving total online delivery, including creative arts (Choi et al., 2020; Mak et al., 2021; Tam, 2020; UNESCO, 2021).

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The context of the study reported on in this paper is that of Creative Arts teacher education in Sri Lanka. The focus is one example of transitioning from face-to-face teaching to learning in a virtual context. This involved a steep learning curve for the author of this article, who had to learn how to operationalise new teaching tools, prepare new materials, and make significant structural changes to what had become an established and successful process of evaluation of final year Drama and Theatre pre-service teachers' practicum. Since 2019 all schools had been closed; real-life cohorts of students were unavailable in real time. Moving online was a major shift; and as Lorenza (2020) Davis and Phillips (2020) found, students and teachers in Drama and the Performing Arts would particularly miss the dynamic and relational aspects of teaching and learning face-to-face. The challenge of 'going virtual' offered a unique opportunity to make new theory-practice connections, to create different kinds of relationships and ways of working more collaboratively. This was seen as an opportunity to be part of experimentation and different ways of working in this current very different context.

In face-to-face teaching, decision-making processes are typically managed by expert teachers (Galvis, 2018); online teaching and learning, however, means that technology is the principal 'player' or mode of communication; this requires a very different design approach (Galvis, 2018; Tennyson and Schott, 2010). Up to this point there is little literature that specifically investigates and reports on online teaching and learning in the context of pre-service teacher education, particularly in the domain of the Creative and Performing Arts, which presuppose a high degree of action, interaction and enacted communication. This article reports on the use of an approach which uses Zoom technology, one which may be able to facilitate active learning and creativity through peer-assisted learning and group collaboration in a virtual pre-service teacher education context.

The students involved in this research project were enrolled in the Bachelor of Education Honours in Drama and Theatre Degree Program offered by the Faculty of Education at the Open University of Sri Lanka (OUSL). They were at the final teaching practicum stage of their course. The Faculty has adopted a hybrid mode of teaching and learning as an alternative strategy for them to complete the continuous assessment involved in the course element of Teaching Practice Stage II.

Theoretical foundation

Educational research, including that conducted in the field of Drama, concerns itself with the intersection of experience (social interaction), learning, knowing, and understanding. Drama itself inspires curiosity and develops flexibility and the ability to improvise and problem-solve, which leads to learning, imitation, and adaptation (Garaigordobil, 2006). However, the current move to teaching and learning via Zoom represents an extremely complex and challenging mode in this context.

The discussion presented in this paper is underpinned by Vygotsky's socio-cultural theoretical perspective (Vygotsky, 1930/2004) and group development theory (Tuckman, 1965), which provides a framework to support better understanding of what is involved in

teaching and learning via Zoom in a higher education context which is capable of facilitating the development of creativity through the processes of peer-assisted learning and group collaboration. Vygotsky's theory accords priority to the role of social and affective factors, which are particularly important elements of drama, creativity, and group collaboration and interaction. The social and cultural nature of interaction and shared classroom learning experience is key to understanding the nature of the development of creative skills. Vygotsky emphasised the importance of engaging children/young people in dramatic work that is age-appropriate and able to facilitate the exercise of creative imagination (Vygotsky, 1930/2004). Group development theory, as the name suggest, is regarded as a good theoretical basis for the kind of group collaboration and interaction that is involved in peer-assisted learning in the Zoom learning environment. It aligns well with the social nature of drama teaching and learning. There are five elements or stages in group development theory, but this discussion only considers four of these: *forming, storming, norming* and *performing* stages. They are helpful in understanding of the nature of the relationship between interaction, culture and drama, a constant theme in Arts and Drama education.

This research study also was concerned with the how the online learning environment could still be able to cultivate creativity and collaboration.

Literature review

Creativity

The development of creativity has been labelled as a 'grand challenge' in creativity research (Cardoso et al., 2009), representing as it does a complicated, multi-faceted concept which is associated with a variety of characteristics, skills, properties, and behaviours (Jordanous and Keller, 2016). There are many definitions of creative thinking. Plucker and Beghetto), for example, stated that 'Creativity is the interaction among *aptitude, process*, and *environment* by which an individual or group produces a *perceptible product* that is both *novel and useful* as defined within a *social context*' (Plucker and Beghetto, 2004, p. 90) There are six elements to creativity embedded in this definition: (i) the interaction between skills and process; (ii) the environment in which the endeavour takes place; (iii) the development or generation of a noticeable product; (iv) the novelty of the product; (v) the usefulness of the product; and (vi) the relationship of the product to the social context in which it was created. Other researchers agree with this definition, some suggesting that the two key characteristics are that the product is both innovative and suitable (e.g., Hennessey and Amabile, 2010). Robinson and Aronica for their part define creativity as 'the process of having innovative ideas that have value . . . ' arguing that 'imagination is the root of creativity [. . .] creativity is tapping your imagination to work. It is applied imagination' (Robinson and Aronica, 2015, p. 118).

Kampylis and Berki (2014) detail what they define as the four alignments of creativity: (i) Creativity is a skill; (ii) that enables students to apply their imagination to generate ideas, questions and hypotheses; (iii) to experiment with alternatives; and (iv) to evaluate their own and their peers' ideas, final products, and processes. Based on this definition, the following characteristics of creativity can be noted: (a) it is a requirement for creative processes, outputs, and outcomes; (b) it requires the energetic and intentional

engagement of the person[s] who generate[s] the outputs and outcomes of the creative process; and (c) it can be nurtured by suitable education through specific activities that promote creative thinking in students.

Peer-assisted learning (PAL)

Peer-assisted learning (PAL) refers to the development of new knowledge and skills through active learning support from and between peers. It specifically involves individuals who are peers and not professional teachers, who are learning themselves through teaching each other (Wadoodi and Crosby, 2002). It is not only a group activity or experience of cooperative problem-solving, in which peers are not actually teaching or assessing (Olaussen et al., 2016). In the case of this study, at its most simple, it is drama student teachers teaching drama student teachers. Researchers have provided evidence of the importance of PAL and group collaboration during the creative process (e.g., Hooker et al., 2014; Vygotsky, 1978). Hooker et al. (2014) describes how 'often creative forms of work and creative ideas are forged within a small group of colleagues' (p. 220); and Zimmerman (2009) argues that 'creativity is a complex process that can be viewed as an interactive system in which relationships among persons, processes, products, and social and cultural contexts are of paramount importance' (p. 386). Sawyer (2007) notes that improvisation is key to creating innovative products. Bryant (2017) reports that students like to ask each other for help, and that collaboration empowers students in a class. It has been demonstrated that PAL provides a milieu for divergent thinking, which is key to the creative thinking process (Sowden et al., 2015; Shin, 2010). Sawyer (2007) suggests that group collaboration needs to start from detail; that it can be risky and inefficient, but that educators should allow time and space to let creative products emerge.

Research indicates that creativity skills are observable, learnable, and can be enhanced (Amabile, 1996; Craft and Jeffrey, 2008; Lucas, 2016). Basham et al. (2020) argue that educators should take a teacher-as-designer role by creating learning environments that assist students' learning to be creatively engaged in a global world. Creativity, however, needs freedom; and it is important to help students understand that making dramatic acts – creating drama – may involve making errors and experimenting with ideas and activities (Irugalbandara et al., 2020). Zimmerman (2009) described teachers who help to develop creativity in their students as needing to be 'knowledgeable about the subject matter, communicating effectively, using directive teaching methods, making classes interesting and challenging, and helping students become aware of contexts in which art is created and why they and others have needed to create art' (p. 393). Psychological protection and freedom are both needed to foster creativity, and both are rooted in trust in freedom of expression (Gude, 2015). Educational environments, therefore, should offer well-designed learning experiences that are conducive to creative development and take into account the above considerations.

Method

Research question

The study is framed around the response to the main research question: *How does Zoom technology help to enable creativity in the virtual drama classroom through peer-assisted learning and group collaboration?*

Sample

The sample consisted of 34 final year pre-service student teachers who were registered in the year 2018/2019 in the Bachelor of Education Honours in Drama and Theatre Degree Programme at the Open University of Sri Lanka (OUSL). The Stage II Teaching Practice evaluation was conducted by the author, whose own first step into her teaching/academic career started with a Bachelor of Arts in Aesthetic and Cultural Studies (First Class Pass) in one of the national universities in Sri Lanka. She later completed her PhD in Drama Education at Queensland University of Technology (QUT) Australia in 2020. She now has more than 17 years' professional experience in teaching Aesthetic Education at both undergraduate and post-graduate levels in Sri Lanka.

Procedure

In 2021 the Faculty of Education in OUSL shifted to a 100% virtual instruction mode of delivery. This move resulted in the Department having to face a number of challenges and constraints in relation to evaluating the Teaching Practice Stage II for the cohort of student teachers. The main problem was the fact that the students were pre-service teachers and school principals did not give permission to use their school students' actual lessons for observation by an external evaluator. An alternative means of evaluating was therefore required. Using the concept of PAL, informed by the understanding that students can effectively learn from their peers in a social setting as they work towards a common goal of understanding, the Department decided to implement the PAL approach for the pre-service teachers in this situation. It decided to adopt a hybrid model to conduct teaching practice evaluation, using real-time remote video lessons, for example, via Zoom.

Zoom is an interactive audio and video program based on cloud technology that enables representative real-time remote learning (Kim, 2020). The Department realised that managing the transition from face-to-face to online teaching and examination would require support and preparation for these pre-service student teachers if productive outcomes were to be achieved. Guidelines were therefore produced and distributed to the group, advising them on how their teaching practice evaluation would be conducted via Zoom sessions, and how to keep detailed records to provide evidence of their teaching activities using both online and offline modes. The guidelines included comprehensive instructions, such as how to prepare lesson plans for virtual teaching, how to adapt online strategies related to teaching, learning, group discussions, display of teaching-learning aids, use of interactive whiteboards, formative/summative assessment, and feedback. All the student teachers were then asked to send two lesson plans via email the day prior to their evaluation, and a Zoom-based workshop was conducted to

familiarise them with new procedures adopted to award marks through the evaluation process, and to show them how to keep relevant records. They were also instructed to inform the evaluator of any changes that may be incorporated into the hybrid mode in respect to any situation/function related to their homes. Finally, the existing Teaching Practice-Stage II evaluation sheet was adapted to accommodate the hybrid mode evaluation model.

The duration of the evaluation period of Teaching Practice-Stage II was 3 weeks, from 26th July to 13 August 2021. Each PAL session lasted 40 minutes, each student-teacher conducted two 40 minute drama lessons, one for drama theory and one for drama practical. Altogether 68 lessons were observed. All student teachers were placed in two large groups of 17, sorted into morning and afternoon groups, providing two different lesson experiences. Students rotated between facilitating their assigned groups and participating as a class member for a lesson presented by their fellow students. Apart from the observation evaluation sheet, the researcher maintained a reflective diary to record her experience of issues such as how the breakout room was used in each lesson, what went well, and what was challenging. At the end of each lesson, 5 minutes was allotted to fellow students filling in their feedback forms and uploading them to Google drive.

All the lesson topics were taken from the Sri Lankan Teachers' Guide for drama teaching (https://nie.lk/pdffiles/tg/sGr08TG%20Drama.pdf), which aligns with the traditional lecture method which characterises general education in Sri Lanka (Irugalbandara and Campbell, 2020). However, the researcher's PhD work had involved the development and trialling of a significantly different approach to drama teaching: these student-teachers were therefore asked to explore different ways of teaching their students which involved giving space to the creative processes of imagining, expressing, responding and performing (Irugalbandara, 2020). They were also asked to incorporate content knowledge about the art of theatre through activities, interactions, and experience rather than through reading and note-taking. The lessons incorporated new teaching and learning activities, such as the activity known as the 'hot-seat' technique, used for the first time by the researcher for her PhD study and now gaining attention in Sri Lankan classrooms (Irugalbandara et al., 2020). These activities encourage social interactions, group collaboration, role-play and experiments with dramatic expression: these are learning experiences which reflect creative and flexible teaching approaches which meet lesson requirements in new ways.

Analysis

A qualitative content analysis approach was utilised to analyse the data. In principle, aspects of the process can be readily described, but at times the process partially depends on the researcher's insight or intuitive action, which may be difficult to describe to others (Elo and Kyngäs, 2008). For the purpose of validity, the researcher followed three main phases: first, the collection of all suitable data for making sense of what was observed; second, matrix development, whereby all data are reviewed for content and for correspondence with the identified categories (Polit and Beck, 2012); third, description of results by the content of the categories describing the phenomenon, using a selected approach.

Results

The use of breakout rooms and collaboratively structured activities enables creativity

All main sessions were comprised of 16 student-teachers. To facilitate collaborative learning and peer interaction, the teacher used the 'automatic' breakout room option for spilled participants; four student-teachers were allocated to each group; ten minutes were given for the task completion. The teacher did not allow student-teachers to return to the main session unless it auto-closed in the configured time.

It was observed via both visual observations and audio data how important the breakout rooms were in terms of helping to enable creativity in the virtual drama classroom. The data revealed that student-teachers appeared to feel more comfortable discussing ideas and expressing themselves during various activities (Robinson and Aronica, 2015). They were more eager to contribute their ideas and interact when the researcher re-entered each room. For example, one group was preparing to perform animals' dramatic movements through an improvisation technique, students were practiced in their own space to walk like a lion. While they were moving the teacher came to the group and asked "how did you feel about that? It was observed that this question lead to an increase in the frequency of questions from the students and fostered more creative thinking opportunities like exploring and investigating. The teacher gave many chances to voice their ideas and students responses showed how they were learning to think and respond to their thoughts. It further noticed that preparing for lesson presentations involved a collection of thoughtful decision-making processes and involvement seemed their active participation

When students were involved in the group activities in the breakout rooms, they were observed deciding what to do next, for example, by trying to recall prior experiences with the same individuals or similar situations, then deciding how to act – instantly, in the space of a second. For example, one group was given situations from scenario cards: they had to enact their version of different characters, with different character traits, such as a politician, a teacher, or a sailor. Another example, a student-teacher was given three different topics and she instructed her peers to develop a short performance. The breakout rooms were used for rehearsals. There was no prescribed interpretation or action. The participants used their imaginations to explore and perform different possibilities. For example, one used her in-character performance to present a critique of the present education system, presenting a novel, personal and rather surprising argument. She was observed to select her ideas and comments carefully, using her viewpoints relating to the Sri Lankan education system to shape her dramatised performance. She interrogated the 'teacher' in the imagined scenario in critical ways, stepping outside conventional boundaries as she shaped her character performance.

It was observed that the design and structure of the experience created a more stimulating, flexible and supportive environment for these pre-service teachers, comparing with the traditional drama teaching approach in Sri Lanka (Irugalbandara and Campbell, 2020).

It was conducive to the increased expression of creativity, satisfaction and enjoyment. The atmosphere of both 'teachers' and 'students' was relaxed and generally enthusiastic. The use of the breakout rooms as an arena for dramatic activities clearly re-engaged students and decreased previously observed boredom in the main sessions. They also made it possible to assist students one-on-one and to check in with students in smaller groups. All lessons started with a warm-up activity, the *forming* stage. It was evident from observation that these warm-up activities helped the students relax and feel comfortable in the unfamiliar format of the virtual classroom. All lessons were designed for the 'real' students' class level, which seemed to provide a 'fun' element for the student- teachers.

The breakout room small groups resulted in more active engagement by the students. They used video conference tools' functions as well as external tools to visualise their responses and contributions. Brief observation of each breakout room provided information about levels of involvement in the given activity in the *storming* stage: the small groups on the whole were actively involved in the task, after which their peers were then responsible for contributing, listening, summarising, and sharing their ideas in the group. It was observed that the teams then moved gradually into the *norming* stage, when individuals were assigned a specific activity for a group presentation. The element of *performing* stage, with group roles, seemed to generate a positive emotional working climate.

Peer-assisted learning is an effective approach to the development of creative ideas, in respect to both learning processes and final products

Vygotsky's sociocultural lens helped to understand the effectiveness of interactions observed in peer-assisted learning and group collaboration in relation to creativity and performance in this drama education context. The small virtual groups proved effective for facilitated collaborative efforts. Vygotsky (1978) believed that knowledge always began with social interactions. When students are participating in teamwork with peers, a collective idea is formed by the interaction, which is qualitatively dissimilar from the concept produced by the individual. Further, this collective thinking offers the chance to be engaged in combined decision-making processes which are more sociocultural. Most of the student-designed lessons combined elements of role play, story-telling, improvisation, 'hot-seat' and the design and making of props; all of which appeared to contribute to positive outcomes. In terms of process, in the main session, each student teacher informed their peers about their lesson goals and expectations, providing guidelines before everyone entered the breakout rooms. Their peers were then responsible for contributing, listening, reacting, summarising, and sharing their ideas in the group. Sometimes students were assigned an individual specific activity for a group presentation, which was helpful for those who were quieter or more reluctant to contribute to the shared discussion. Given the two different time frames for theory and practical lessons, students were grouped either randomly or strategically, which meant that they had the opportunity to work with peers each time in different time slots.

Creativity and expression lie at the heart of drama, which involves social situations (environment), imagination, relationship, reconstruction and transformation in the process of creating perceptible 'product' that is both novel and useful (Plucker and Beghetto, 2004). When using story-telling or hot-seat techniques it was noticed that the student-

teachers seemed confident and comfortable in offering their own interpretations of stories rather than reproducing given situations provided by the lesson. Sometimes, they combined groupings of voices, to provide vocal colour in a given situation. This was initially surprising, as it was not expected that students would come up with these kinds of original or different ideas. These were signs of new thinking and new responses to new ways of teaching.

The following is an example taken from the 'hot-seat' technique which was included in a lesson designed for Grade 7 students. The focus of the lesson was environmental protection. The selected characters were a journalist, a teacher, a Minister of the Environment, and a timber merchant. The groups were divided up and characters allocated. What happened was interesting. There was a fair degree of dramatic tension associated with the topic, and the strategy adopted meant that the process was totally unpredictable, and this was seen to lead students to consider issues more in-depth. When arguments started, it was unclear what would happen next. What emerged from the interaction was how the different characters in this imagined encounter took no responsibility for their actions. The politician, for example, claimed that he had no educational qualifications – raising an issue often debated in the Sri Lankan context, so the students focused on it, wanting to know more. Also referenced and questioned by the students was how the teacher had taught them, bringing into critical focus the question of the effectiveness of environmental education in Sri Lanka: the immediate issue in the imagined scenario connecting with the 'real' state of play in their own educational experience. Even though journalists try to expose the issue, and teachers teach about the environment, the relevant authorities ignore the warnings and do not support the environment. Playing out this imagined scenario encouraged the students to explore alternative ways to address the problem. The language and actions they used were dramatised; they aren't using their usual vernacular language, but more formalised, dramatic speaking styles. Some were modulating their voices and using dramatic gestures and body language. The atmosphere during the lesson was dynamic. All the students participated, with enthusiasm and motivation; the whole effect was one of an enjoyable dramatic experience. The hot-seat characters inhabited their dramatic roles convincingly, with enthusiasm, and reacted to each other energetically, engaging with the argument, tackling the problems, and discussing issues openly. The atmosphere was collegial and interactive, and even though a few of the students dominated the discussion, it did not disrupt the overall dynamic of the lesson.

Interestingly, it was observed that team members were able to either avoid or solve problems in the overall process and the progress of the action. As noted previously, sometimes students were assigned a specific individual activity, which suited their personality, if they were quieter or more reluctant to contribute to the main discussion.

The students themselves talked about how this system of peer-assisted learning in breakout rooms allowed them to collaborate and work more effectively in smaller groups; how it gave them time to think and gather their thoughts without feeling rushed or pressured. They also spoke about how this approach helped to increase their confidence in speaking up in a small group. The successful development of creative thinking skills requires this kind of relaxed, open, and engaging approach and context (Craft, 2001; Craft et al., 2007).

Creativity results from interactions related to participants' ability to engage effectively and collaboratively with their learning community

The effectiveness of the online Drama and Theatre class as a space to adopt and develop collaboration skills was evident in the lesson observations. Students were seen to accept and engage with their allocated roles at the start of each group activity, working together towards a shared goal. In one main session, for example, the student-teacher divided the class into 4 breakout rooms. Each group leader was asked to mime an action that would signal an environment. Each of their peers had to guess the environment then enter the virtual space and perform a balancing action. This process kept going until the entire group was in the virtual environment, and they were able to create a complete picture. This was a collaborative process, with the group demonstrating cooperative and supportive skills. Each group member was seen to be taking individual responsibility for part of the collaborative process of achieving the group goals. The students spent a significant proportion of their allotted time sharing their thoughts, giving each other constructive feedback, arguing issues, and demonstrating their preparedness to keep an open mind and consider possibilities and alternatives.

Overall, the observation data identified an increasing capability to interact and to build relationships with peers as the main element of the students' progress and development in relation to creativity. The observation via online Zoom sessions clearly identified peer-assisted collaboration as a key functional aspect of creative outcomes. It was also reflected in the pre-service student teachers' perceptions of and reflections on their online learning experience. They commented that the Zoom platform allowed them the experience of bringing different groups together with a common goal. To achieve this goal they were required to interact, argue, reflect and consider different points of view.

Challenges for learning via zoom

When considering the challenges associated with the Zoom initiative, it was clear that poor network connections were the main barrier to effective engagement. Many of the group reported that regardless of the app they were using, or whether they were working with desktop or mobile devices, Zoom always lagged, disconnected, or buffered if the network connection was weak. Participants regularly left the main session and then had to login again. Most were located in very rural areas in Sri Lanka, therefore often experienced being dropped out of sessions automatically; and most of the time the quality of the screen and the sound were problematic. This situation distracted from the lesson flow, causing frustration to both the researcher and the student teachers participants. For this model of teaching/learning to work smoothly, capitalising on all its potential features, it needs at least 3 Mbps internet speed. In longer sessions – such as 80 minutes – it used more data. The main challenge, therefore, relates to the fact that not everyone has access to a stable or high-speed internet connection in their home. Some students moved to different locations to get better network coverage, and others used public Wi-Fi available spaces; but the connection still slowed down when many people were using it simultaneously. These issues are not ones only experienced within Sri Lanka and these fundamental access issues remain a challenge for the full realisation of the potential of online learning.

Discussion

In the current context pre-service teacher education is needing high-quality professional learning programs capable of providing virtual environments and strategies to support students to develop their professional capabilities. Appropriately designed and delivered evaluation systems are a core element of such provision. Pre-service teachers need to receive evidence-based feedback on their performance, and opportunities to experiment, reflect and collaborate (Coggshall et al., 2012; Zou et al., 2021). The findings from the classroom observation data discussed in this paper suggest that Zoom technology offers a promising alternative remote teaching strategy which can encourage and support creativity, group collaboration and peer-assisted learning. Some researchers have found difficulties in building relationships with peers via Zoom (Rakap et al., 2015). Evidence from this study, however, suggests that collaboration between peers can be a key feature of teaching in this mode; that it supports the development of social presence and interaction, including increased participation, prompt communication, ongoing group discussion, timely and relevant contributions, and improved commitment to task (Vinagre, 2017).

Most significantly perhaps is the observation that throughout these Zoom sessions there was a noted increase in student-teacher and student-student interactions and in the generation and collaborative exploration of innovative ideas that feed into creativity (Robinson and Aronica, 2015). The use of online breakout rooms represented an innovative teaching approach, an approach that has the potential to make a significant contribution to contemporary teaching and learning methodology in the current context; most specifically in the current pandemic situation.

Mumford and Dikilitaş (2020) made the point that interactions between peers and teachers may be key to promoting collaboration but are not in themselves enough to ensure the establishment of a social presence. While this is true, the results from this study showed a level of interaction and response to each other and a sharing of ideas that can be seen as an effective enhancement and building of a social presence. As Vygotsky (1978) argued, knowledge – and creativity – always begins with social interactions; and that when students engage in teamwork with peers, collective ideas are generated which can be qualitatively different to those produced by an individual; this collective thinking process affords opportunities to engage in combined decision-making processes which are essentially sociocultural in nature.

An additional benefit seen to result from peer-assisted interactions via Zoom learning was the ability to adopt a more critical perspective in the context of the participants' everyday creativity. The study of learning theories and the exploration of different approaches to teaching drama to enable creativity invited these pre-service student teachers to examine their existing beliefs and understandings, to consider different conceptual perspectives. The online virtual classrooms proved to be effective tools to support and encourage reflection in relation to theory, at the same time as they provided opportunities for the practical application of drama pedagogy (Liu, 2012) and content (Lenkaitis, 2020). According to the National Standards for Quality Online Teaching (2019) online teachers need to demonstrate professional responsibilities in keeping with the best practices of online instruction; and this includes the ability to support learning and facilitate presence (of teachers and learners) via digital pedagogy.

Throughout this evaluation process, it was noted that the student teachers used their digital pedagogical tools to support creative modes of communication, collaboration, and interaction with their peers. Some used practical drama videos to consider different classroom practices in a safe environment (observation), to link theory and practice in a supportive setting (contextualisation), to support professional dialogue through the joint construction of knowledge (reflection), and to develop critically-informed personal teaching practices (action) (Wang and Wiesemes, 2012). The use of Zoom was also seen to provide members of the group with the opportunity to observe others' synchronous instruction or to share their own pre-recorded asynchronous instruction. Observing each other and providing and exchanging feedback is part of the process of professional development.

While the results of this study are overall positive and informing and confirm the effectiveness of Zoom as an additional platform for teaching and learning, some significant challenges were identified. Institutions introducing new learning platforms such as Zoom need to carefully consider aspects of availability and functionality of any such platforms. Students in this study encountered various problems relating to video screen management functions. Zoom technology – and other related systems – need now to become elements of pre-service teacher education programs. There is work to be done at an institutional and classroom level if remote teaching and learning – due to COVID-19 or any other future requirements or circumstances – is to be continued or expanded.

The pandemic is triggering a re-thinking of how education can be modified and transformed. It is promoting the understanding that learning can happen anytime, anywhere, in different ways. While our ultimate wish is for life to return to 'normal', that we will be able to physically teach Drama and Theatre in 'real' classrooms filled with 'live' students, the ability to teach and learn virtually and via technologically mediated ways is proving to be an enriching as well as challenging experience.

Conclusion

This study has identified implications for pre-service teacher education in relation to enhancing creativity in the drama classroom through peer-assisted learning and group collaboration. First, it has identified the need to go beyond emergency online practices to ensure the development of a strong, evidence-based approach to online teaching and learning that acknowledges the nature, potential and requirements of drama and theatre pedagogy. Second, it has highlighted the need for a creative pedagogical approach that targets the social and collaborative nature of learning as a foundational starting point for the development of online teaching and learning (Chandler, 2016). In order to achieve the objective of ensuring equity and inclusion in the educational experience, this pedagogical initiative requires partnership with governments and other related organisations.

Further research

This study suggests that further research attention is needed in relation to issues addressed in this paper, for example, in relation to the broader curriculum area of the creative arts. The study has shown that the Zoom platform and the breakout rooms elements utilised in this study potentially lead to the development of learnable and

teachable creativity skills (Craft and Jeffrey, 2008), which stimulate students to apply their imagination, to generate ideas, to experiment with alternatives, and to evaluate their own and their peers' ideas, final products, and processes. However, the small scale of the study described in this paper prevents the drawing of general conclusions about good practice in teaching other creative arts disciplines via Zoom platforms. The use of Zoom and breakout rooms may or may not enable creativity in learning across the different areas of the creative arts; further research in additional contexts can investigate whether similar outcomes can be achieved.

Studies have predicted that teaching and learning approaches will necessarily be blended or even fully online in the near future due to continuing issues associated with COVID-19 (Martin, 2020). There is therefore a need for ongoing and increased research relating to teaching and learning support, facilitating techniques, effective and specific approaches to enabling creativity and collaboration via different modes in the context of the professional development of creative arts teachers. This kind of research will strengthen professional knowledge, capacities and professional dispositions.

Higher education authorities are currently in need of guidance and support in relation to the provision of effective virtual environments and to the skills and practices needed to support virtual learning; and teacher educators in turn need to deepen their knowledge of the utilisation of new technological platforms to facilitate their students' professional development and collaboration across disciplines.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributor

Dr Ayomi Indika Irugalbandara is a Senior Lecturer in the Aesthetic Education at the Open University of Sri Lanka. She completed her PhD in QUT, 2020. Her main research area is Drama Education. She has strong views on the value of creativity, imagination and innovation in the aesthetic curriculum in Sri Lanka.

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