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Using teaching, social and cognitive presences as a lens to reflect on teaching a research module amid COVID-19

Abstract

COVID-19 forced academics to transition from face-to-face to remote teaching using various online platforms. This article focuses on my experiences of teaching a research module during the COVID-19 pandemic in 2020. The social, cognitive and teaching presences from the Community of Inquiry Framework for a successful higher education experience was used as a lens for the study. The data are generated from my reflection on teaching, the WhatsApp chat transcript and student emails. My reflections on teaching a research module suggest that the teaching, social and cognitive presences were experienced to a certain extent. The findings indicate that training and trials in preparation for transition to online teaching are important. In this study trials to familiarise academics and students with online teaching influenced the establishment of teaching presence positively because challenges related to online teaching were identified and addressed before the commencement of the actual online teaching. Therefore, when making instructional decisions, it is crucial first to diagnose and address challenges regarding online platforms. However, being accustomed to traditional face-to-face teaching, dominated by oral communication and telling methods, influenced the social presence negatively. Online collaboration among students was unclear. Notably, my social presence experiences suggest that teaching during and beyond COVID-19 requires a pedagogical approach that relies heavily on the social and collaborative component of learning as a point of departure for the development of online teaching and learning practices. The Community of Inquiry Framework used in this study could be helpful for higher education institutions to evaluate academics and students' experiences of online teaching and learning, particularly when the institution is planning to redesign and implement online courses.

Keywords: COVID-19 pandemic; online teaching; teaching practices; Community of Inquiry; presences.

1. Introduction

In January 2020 when the news reported about COVID-19 in China nobody foresaw that it would have a huge impact on education systems across the globe. The COVID-19 pandemic led to moving from a face-to-face to remote mode

of delivery in South African universities and globally. Teaching and learning in higher education was disrupted by the COVID-19 pandemic that forced changes in various universities' operations. Similar to other universities around the world, South African higher education institutions had to digitalise their operations. From March 2020, COVID-19 lockdowns started and academics had to transition to online teaching. However, my teaching methods were not aligned to rapid changes brought by the COVID-19 pandemic; but teaching in higher education requires one to provide intellectual and academic leadership, to provide tools and help students to work at the higher level (Gutiérrez-Santiuste, Rodríguez-Sabiote & Gallego-Arrufat, 2015). In line with the aforementioned authors, Motala and Menon (2020) assert that teaching and learning in higher education should create a well-educated student equipped with the knowledge, skills and attributes for a rapidly changing era. In light of this, the COVID-19 pandemic is disrupting, reshaping and testing the extent to which teaching and learning in higher education meets the demands of the Fourth Industrial Revolution (4IR) (Onwuegbuzie & Ojo, 2021).

Herein, I reflect on my teaching experiences of an Honours-level research module during the COVID-19 pandemic. I used the Community of Inquiry Framework consisting of teaching, social and cognitive presences that are fundamental for a successful higher educational experience (Garrison *et al.*, 2000). This study contributes to the scholarship of teaching in higher education, especially regarding how the three presences (social, cognitive and teaching) can be used to reflect on online teaching and learning that occur during and beyond times of disruptions. The study sheds light on the theoretical underpinnings of higher education research methodology and are based on this research question: To what extent did social, cognitive and teaching presences emerge in transitioning to online teaching and learning during a disruption?

2. Emergency remote education and online teaching

For the purpose of this study, I define the related concepts used during COVID-19 to refer to online teaching strategies and pedagogies and the brief literature on how universities and lecturers adapted to emergency remote teaching. Emergency remote education (ERE) is a temporary shift in delivery of education to an alternative online mode of delivery due to crisis circumstances such as pandemics, wars, local conflicts and natural disasters (Firdoussi *et al.*, 2020: 3). The COVID-19 pandemic requires social distancing and does not support a face-to-face teaching and learning environment. Generally, emergency remote education and online teaching are used interchangeably yet they encompass different meanings. Bozkurt and Sharma (2020) highlight that online teaching and learning is an interdisciplinary field that has evolved over time and has served to meet the need and to guide education practices. According to Dhawan (2020: 7), online teaching is defined as teaching “experiences in synchronous or asynchronous environments using different devices (e.g. mobile phones, laptops, etc.) with internet access”. In the synchronous teaching and learning environment, students attend live lectures, for example, on Zoom and there are real-time interactions between the lecturer and the students. On the other hand, in the asynchronous teaching and “learning environment, learning content is not available in the form of live lectures or classes, it is available at different learning systems and forums” (Dhawan, 2020: 7). While synchronous teaching and learning environments provide opportunities for a live interaction with the students, asynchronous teaching and learning environments do not. Given the two types of communication in the context of online teaching and learning, it is very important

to understand what communication works best for online teaching and what challenges are encountered by the students and academics with online teaching and learning. The literature on COVID-19 suggests that there is a need for a comprehensive view of the pedagogy of online education that integrates technology to support teaching and learning (Carrillo & Flores, 2020; Carlon 2020, Bozkurt & Sharma 2020). “Teaching and learning online entails a specific process which is visible in the roles, competences and professional development approaches, as well as in the curriculum, pedagogy, assessment and the nature of interaction among the participants” (Carrillo & Flores, 2020: 467).

There is a growing body of research (Zalat, Hamed & Bolbol, 2020; Fihloinn & Fitzmaurice, 2021; Maphalala, Khumalo & Khumalo, 2021, Chiroma, Meda & Waghid, 2021; Waghid Meda & Chiroma, 2021) examining how universities and lecturers transitioned to emergency remote teaching during COVID-19 lockdowns. A study conducted in 29 countries (such as Ireland, Spain, Germany and Portugal) exploring the type of hardware and software used for emergency remote teaching for mathematics in universities found that diverse communication systems such as Skype, Microsoft Teams, Blackboard Collaborate, Zoom and pre-recorded sessions were used (Fihloinn & Fitzmaurice, 2021). Another study conducted in Egypt by Zalat, Hamed and Bolbol (2020) on the experiences of the academics during the COVID-19 pandemic reveals that synchronous (Zoom and Microsoft Teams) and asynchronous (recorded lectures, supportive videos, external links for recommended websites and electronic books) e-learning were used via a learning management system (LMS). Similarly, to the aforementioned study, Waghid, Meda and Chiroma (2021) found that lecturers in the Kenyan context used synchronous classes and asynchronous methods. The lecturers engaged students in discussions during synchronous classes using Zoom breakout rooms and Blackboard Collaborate (Waghid, Meda & Chiroma, 2021). Transitioning to online teaching and learning during COVID-19 was not an easy process. A study that explored student teachers’ experiences of the emergency transition to online learning during COVID-19 at a South African university highlights some of the challenges that the university encountered. These challenges included digital inequalities, constrained pedagogical approaches, compromised quality and integrity of assessments (Maphalala, Khumalo & Khumalo, 2021).

3. Community of Inquiry Framework

The Community of Inquiry Framework (Garrison, Anderson & Archer, 2000) was used as a conceptual lens to understand my teaching experiences during the COVID-19 pandemic. The Community of Inquiry (CoI) Framework combines the concept of a learning community with that of social activity. According to CoI scholars (Garrison *et al.*, 2000) the essence of educational experience directed towards achieving best results is based on three presences: social, cognitive and teaching, which are crucial prerequisites for a successful higher educational experience. Learning is the result of interaction of the three presences (Garrison *et al.*, 2000). The three presences experienced in a community of inquiry recognise teachers and students as key participants in the educational process.

The cognitive and social presence are dependent on the teaching presence in that “teaching presence is a means to an end – to support and enhance social and cognitive presence for the purpose of realizing educational outcomes” (Garrison *et al.*, 2000: 87). Garrison *et al.* (2000) clarify that the teaching presence is an act of designing, facilitating, and orienting cognitive and social processes to obtain the results foreseen according to the students’ needs and capabilities. The teaching presence is “operationalized through the

design of the educational experience, which includes the selection, organization, and primary presentation of course content, as well as the design and development of learning activities and assessment and facilitation" (Garrison *et al.*, 2000: 89). The teaching presence has three indicators namely, instructional management, building understanding and direct instruction. The instructional management refers to the design and implementation of the curriculum, activities and assessment. Building understanding refers to the practices implemented to foster content knowledge acquisition (such as "creating an effective group consciousness for the purpose of sharing meaning, identifying areas of agreement and disagreement, and generally seeking to reach consensus and understanding") (Garrison *et al.*, 2000: 101).

Social presence is defined as "the ability of participants in a community of inquiry to project themselves socially and emotionally, as real people (i.e., their full personality), through the medium of communication being used" (Garrison *et al.*, 2000: 103). According to Garrison *et al.* (2000), social presence features three indicators. The first indicator is the expression of emotion, which refers to an emotional response to the learning experience that can be implemented through humour and self-disclosure (Garrison *et al.*, 2000). Open communication is the second indicator that is fulfilled through interactions showing mutual awareness, i.e., respect, recognition and acknowledgement for peer-generated contributions (Garrison *et al.*, 2000). The third indicator is group cohesion, which is enhanced through "strategies targeted at making students feel as members of a learning community, which is instrumental in fostering information sharing and collaborative critical thinking" (Garrison *et al.*, 2000: 101). Carrillo and Flores (2020: 468) also relate social presence to the ability of the participants to engage effectively with the community. The community communicates purposefully in a collaborative environment and develop interpersonal relationships by projecting themselves as people they are (Garrison *et al.*, 2000; Carrillo & Flores, 2020).

Cognitive presence relates to knowledge building. Garrison *et al.* (2000: 89) define cognitive presence as the extent to which participants "are able to construct meaning through sustained communication" in a community of inquiry. There are four unchanging, non-sequential indicators in cognitive presence: state of dissonance, exploration, integration, and resolution (Garrison & Anderson, 2003; Garrison *et al.*, 2000). The state of dissonance or feeling of unease is described as that of a triggering event or communication. The second category is that of exploration in a search for information, knowledge and alternatives that might help to make sense of the situation or problem (Garrison *et al.*, 2000). Garrison *et al.* (2000) explain that integration involves looking for insights and gaining some understanding of the acquired information and knowledge to make sense of the situation or problem and attempting to orient one's attention. The fourth category is the resolution of the issue or problem and application of an idea (Garrison *et al.*, 2000).

Researchers (Garrison, Cleveland-Innes & Fung, 2010; Gutierrez-Santiuste *et al.*, 2015; Bozkurt, 2019; Bozkurt & Sharma, 2020, Carlon, 2020; Chiroma, Meda & Waghid, 2021; Waghid, Meda & Chiroma, 2021) have used the Col Framework to design and reflect on synchronous and asynchronous teaching and learning. A study conducted in Spain by Gutierrez-Santiuste *et al.* (2015) used the Col framework to analyse student communication in chats, forums and emails and find correlations among the three presences. One of their findings is that in forums, the cognitive dimension of communication was explained more fully by social and teaching than in chats and emails (Gutierrez-Santiuste *et al.*, 2015). Carrillo and Flores (2020) employed the presences to analyse 134 empirical studies in their desktop study on COVID-19 and teacher education. Using the three presences, Carrillo and Flores

(2020) have provided insight on the online teaching and learning practices in the context of COVID-19. Additionally, Carlon (2020) explored students' perceptions of the effectiveness of the teaching, social and cognitive presences when transitioning to a foreign language teacher trainer course online at an Italian university during the pandemic. The findings of the aforementioned study reports that the instructor focused more on content and skills development, while to a certain extent overlooking the necessity to foster social presence (Carlon, 2020). Waghid, Meda and Chiroma (2021) have assessed cognitive, social and teaching presences during emergency remote learning at a South African university. These authors established that exposing students to all three presences give them opportunities to attain 21st-century skills that are essential graduate attributes. In light of the findings of these studies, I am using the Community of Inquiry as a framework for reflecting on online teaching and learning in a research module during the COVID-19 pandemic.

4. The honours research module

Research studies in the Teacher Development Studies discipline focuses on researching and theorising formal and informal processes and policies that contribute to the development of teacher learning, teacher identities, teacher socialisation and teacher knowledge(s), among other things (Research module course outline, 2020). Research and scholarship in Teacher Development Studies focuses on the processes of teacher development that can take place against a backdrop of initial or continuing teacher education programmes or interventions, but that are not limited to such programmes and interventions. The research module is vital towards developing adaptable graduates who can easily navigate to Master's level and beyond. The aim of the module is to develop students' ability to pursue a specific line of empirical or theoretical research in education, with particular reference to the South African context, through a supervised independent research project (IRP). The module also supports students in developing their academic literacy – that is the ability to write clear, relevant and interesting academic texts and to read, understand and respond to academic texts (Research module course outline, 2020). Typically, scheduled contact sessions are used to introduce the concept of “action research” and to support students while they identify their research focus and research processes. After the closure of campus due to the COVID-19 pandemic, all staff were expected to work from home. The closure of the campus led to online teaching where the research module was delivered and supervised through online platforms.

5. Methodology

In this study, the learning community consisted of eight part-time students in their final year of Honours in Bachelor Education, contract lecturers hired to assist in supervision and myself. In 2020 the eight students, who are full-time teachers, were doing action research as an independent research project that contributes to their own professional development. These teachers teach in different school contexts, five of them are in secondary schools and the three are in primary schools. The teaching experience of the seven (one male and six females) teachers range from 1 to 2 years. One female teacher has taught for 18 years.

I adopted the autoethnography methodology to reflect on the online teaching and learning of a research module during COVID-19. The autoethnography in this study provides a framework for disciplined inquiry that bridges the tension between personal, social, theoretical/practical and self/other to inform theory and to highlight the lived experiences and struggles with it (Starr, 2010). Considering that engaging in an autoethnography can be a transformative process,

this study is thus located in an emancipatory paradigm. Cohen, Manion and Morrison (2011) indicate that the aim of the researcher within the emancipatory paradigm is the emancipation of the individuals and group in an egalitarian society. In line with Cohen *et al.* (2011), I reflected on my teaching experiences during the disruption that came with the COVID-19 pandemic in order to change my online teaching practices.

In order to generate data on my teaching experience of 2020, I wrote my reflections for each online session in my personal journal from April to November 2020. This is supported by Qutoshi (2015) who states that autoethnography enables the researcher to engage with exploration of lived experiences as a primary source of evidence. I also analysed the transcript of WhatsApp chats with the students (as others), email interactions, written reflection activities and the research module course outline for 2020. I assigned each student a number (Student 1–8) to anonymise their responses. However, the written reflective student submissions from the first contact session were submitted anonymously and could not be assigned a number. Inclusion of data from others is supported in Starr (2010) when she says that autoethnography requires parity in data gathered from the self and others as well as how they are brought together to create meaning. The Col Framework (Garrison *et al.*, 2000) was used to analyse the data deductively. The indicators for each presence were useful to trace the presences from the data. Ethical clearance (Ref HSSREC/00000033/2019) was amended in 2020 as per the protocol of the university.

6. My autobiographical details: Transition from schoolteacher to teacher educator

I am an academic in a School of Education at a South African university. I have been a schoolteacher for 26 years and I have taught Afrikaans Eerste Addisionele Taal (Afrikaans First Additional Language) as well as Economics in township and rural secondary schools. During my school teaching, there was no need to use technology in schools and it was not compulsory. I only felt a need for computer literacy in 2004 when I was promoted to the post of a deputy principal in a well-resourced school. I registered for a computer literacy course to acquire technological knowledge for administrative purposes. My computer skills were enhanced during my PhD journey; my supervisor and the university's library training helped me to improve on my technological knowledge. Currently, I am teaching at Honours level and supervising MEd and PhD students in the Teacher Development Studies (TDS) discipline. COVID-19 disruptions occurred during my second year of teaching at university level, a time where I am transitioning from school teaching to university teaching. Though I was not competent with digital pedagogies, my colleagues in our discipline nominated me to be a discipline champion. This gave me an opportunity to attend more training about the use of Zoom and online assessments as well as the range of pedagogies and content specific methods using online learning. I have relied on my colleagues in the Information and Communication Services (ICS) department of the university for technical assistance through Skype and emails even before the disruption period. My friend's critical support and advice kept me going in times of disruptions.

7. Findings and discussion

In this section I use the presences to reflect on teaching the research module. The section is organised into three themes, namely, teaching, social and cognitive presences.

7.1 The teaching presence

Garrison *et al.* (2000) stipulated that the teaching presence in the CoI is the act of planning, facilitating and orienting cognitive and social processes to obtain the results foreseen according to the students' needs and capabilities. The teaching presence is indicated by instructional management, building understanding and direct instruction. I never thought that the 8th of February 2020 would be the first and last face-to-face session with my IRP students. My reflective diary shows that in this session I presented the course outline, assessment tasks and content that was based on identifying a research title; research focus, rationale and research questions. The students were provided with the printed course outline and resources needed to craft the research proposal and the final action research project. After the lecture, the students were asked to reflect in writing about the session and to state how they would like to be supported in their journey of conducting the action research. Six students submitted reflections. I asked them not to include their names because I wanted them to write freely about the areas of improvement in my teaching. From the students' reflection, I noted that the six students seemed to be more concerned about assessment and action research processes. For example, one of the students wrote:

I am nervous yet excited because this module aims at improving my daily teaching methodologies. I would like to have feedback from the lecturer about assessment and ways of conducting action research effectively.

One of the six students who did not understand the content, reflected as follows:

The presentation of this course outline, assessment tasks and readings was well done but I am still confused but after reading at home everything will be clear.

The reflections seem to suggest that the instructional management issues of the research module were addressed. According to Garrison *et al.* (2000) the instructional management involves the structural concern including setting curriculum and methods of assessment.

After the closure of the university in March 2020, I had to plan for remote teaching. I was lucky to start teaching the research module before the disruptions of COVID-19 pandemic because the students' reflections were useful in assisting me to plan for remote teaching. Table 1 below shows the topics and how the teaching took place during the disruption.

Table 1: Plan of action for remote teaching and learning of the research module in 2020

Session	Topic	Plan of action for remote teaching and learning
Session One 4 April	Students' presentation: Literature review and theoretical/ conceptual frameworks (situated learning theory/model of teacher change.	Communication and consultation via Zoom, WhatsApp and emails. PowerPoint with audio uploaded on Moodle and emailed to students.
Session Two 18 April	Methodology section: Clarifying the steps involved in your Action Plan Designing your data collection instruments, data analysis etc.	Communication and consultation via Zoom, WhatsApp and emails. PowerPoint with audio uploaded on Moodle and emailed to students

Session	Topic	Plan of action for remote teaching and learning
Session Three 13 June	Research proposal oral presentation guidelines	Communication and consultation via WhatsApp & email, PowerPoint with audio (uploaded on Moodle)
Session Four 4 July	Ethics explanation on ethical clearance amendments were given.	The amendments to the existing Ethical Clearance were done online through the university's Research Information Gate system after the students submitted their final research proposals.
Session Five 11 July	Oral presentation of the proposals by the students	The formative assessment was conducted via Zoom by the two supervisors.
Session Six – Eight 15 - 29 August	Data collection implementation of the teaching strategy within action research stages in schools took place.	Supervision (individual and group). Consultation was done via WhatsApp and emails
Session 9 11 September	Students to reflect on their implementation action research stages in schools. Data presentation and analysis	Discussion via WhatsApp Messaging & Zoom with the two supervisors. Students presented on Zoom and WhatsApp and were given support and alternative ways of implementing their teaching strategies
Session 10 19-26 September	Discussion of findings	Via Zoom students were shown how to engage with findings using the situated learning theory and situated learning theory/ model of teacher change. WhatsApp was also used.
Additional Session 3 October	Address issues relating to compiling your research report	This was not a formal session. Students had to arrange meetings with their individual supervisors to discuss draft IR reports. First draft IR report sent to supervisors by 15 September 2020.

In preparation for the implementation of the plan of action for remote teaching and learning, I participated in training for online teaching and learning that included how to use Google Classroom, Zoom and how to record PowerPoint lectures with audio. After the training, the university initiated trial runs of online teaching and learning across all modules. This trial period, known as dry runs, seemed to emphasise that “the use of suitable and relevant pedagogy for online education may depend on the expertise and exposure to information and communications technology for both lecturers and the students” (Pokrel & Chhetri, 2021: 135). I therefore had to combine the information from online training conducted by the university and support from my colleagues and friend to ensure that I was prepared. The aim of the teaching trial or dry-run was to test the system, technology and academic resources and to prepare students and lecturers for the real teaching and assessments that was going to be administered later, according to the curriculum for each module. The dry-run activities also aimed to familiarise students with online teaching and learning, such as using PowerPoint with audio, Zoom and WhatsApp. The following activity was conducted during the dry run: presentation of individual research idea. This task was based on the content that was covered in the first session:

You will each be given 5 minutes to present the rationale and proposal for your study. Prepare a power point presentation that you will share on our next zoom session (course outline, 2020).

This activity was initially planned for the second face-to-face session (4 April 2020) but I had to adapt it for online teaching. Six students presented their ideas on Zoom. Importantly, practising presentations on Zoom during the dry-run prepared students for their proposal presentation, which was one of the assessment tasks. The dry run allowed me to confirm the most authentic form of assessments that could be used. When I was reflecting on the dry-run teaching experience, I found that online teaching presented challenges for me and the students. Preparation for online teaching requires time and familiarity to develop and deliver e-resources as shared in my experience:

I had to develop [a] power point presentation [sic] and then I had to record myself explaining in each and every slide. This seemed easy but in practice it was difficult. If there are 12 slides, I have to talk to all of them. Emailing and uploading on Moodle presentations was a challenge because the size limit of mega bites of some presentations were above the limit; this requires me to eliminate some of the information. With the live Zoom session, I forgot to record the session; I only discovered at the end of the session. However, the more I used the Zoom conferencing, the more comfortable I became with its function.

Some of the challenges mentioned in the above extract are addressed through ongoing training provided by the university and support from colleagues. The university has provided data from different mobile networks for academics and students. Due to connection problems, it was not easy to get all the students online at the same time. Two of the eight students had a challenge in accessing Moodle, participating in Zoom sessions and WhatsApp chats. This is due to the poor national infrastructure such as a lack of electricity in some rural areas and planned power cuts by the national electricity provider, known as load shedding. As confirmed by Wolhuter and Jacobs (2021), while the ICT revolution means students can access internet resources using personal computers and mobile telephones, the lack of national infrastructure hinders the use of online teaching and learning. Furthermore, one of the two students that had challenges, did not have a laptop and was using a cell phone to do the tasks. WhatsApp was mostly preferred by students and was more accessible. These findings corroborate the findings of Mpungose (2020) about the preferred use of easy communication tools for learning. Mpungose (2020: 397) contends that “students are more exposed to informal e-learning platforms such as WhatsApp, which is social and addresses societal communication needs, and leads to students being driven more into informal experiences in unpacking the content”. The challenges that emanated from the dry-run online teaching are confirmed by Pokrel and Chhetri (2021:136), who found that the “challenges with e-learning are accessibility, affordability, flexibility, learning pedagogy, life-long learning and educational policy”.

Another teaching presence indicator is building understanding. In the community of inquiry, building knowledge occurs through the process of creating effective group consciousness for the purpose of sharing meaning, identifying areas of agreement and disagreement to reach consensus and understanding (Garrison *et al.*, 2000: 104). Although teaching and group supervision took place via Zoom and WhatsApp and was mostly attended by six students, I failed to create opportunities for sharing knowledge among students. A contract lecturer was appointed to assist with the supervision of four out of the eight students. I shared the

facilitation of the Zoom sessions with the contract lecturer who was also supervising four of the eight students. My reflection journal says:

We first sat to divide the topics amongst both of us. I took literature review and she took theoretical framework. We supported each other to prepare power point presentation [sic] with audio, uploaded it on Moodle and emailed to the students.

Garrison *et al.* (2000) argue that sharing facilitation among teachers (academics) and some or all the participants is appropriate in higher education. The Zoom sessions were recorded and the recording links were shared with students because Moodle does not take long recordings due to file size limits. One of the students took a leadership role and posted all the email communication to students on WhatsApp. Sharing the recordings benefited the two students who had connection challenges. Special informal sessions were also held on WhatsApp. However, the two students, who had no access to Moodle, missed much of the Moodle communication in response to concerns and group engagement. This implies that not all people are well connected or digitally savvy (Williamson, Eynon & Potter, 2020). Connectivity challenges were also experienced by Firdoussi *et al.* (2020), in their study conducted on distance learning in higher education during the COVID-19 pandemic in Morocco. Their findings report that technical challenges are one of the main reasons for abandoning the transition to online education; ranging from equipment to internet connection issues or availability of platforms (Firdoussi *et al.*, 2020).

Direct instruction as a third indicator of the teaching presence refers to the “practices implemented to manage activities, to facilitate reflection and discourse by presenting content, questions, guide and summarize discussion and confirm understanding through different types of assessment and feedback” (Carlson, 2020: 235). My role was to facilitate reflection and discourse by presenting the content proactively, guiding and summarising the discussions, as well as confirming understanding through various means of assessment and feedback (Garrison *et al.*, 2000). My reflections show that I was not proactive in presenting the content as I relied on delivery via Zoom and recorded PowerPoint presentations. However, various forms of assessment were used. The assessment tasks included the oral presentation (5%) the written proposal (10%) and the written final report (85%). As indicated by Gutiérrez-Santiuste *et al.* (2015), assessment should also promote students’ participation and meaningful engagement. These assessment tasks required individual and group participation from students. For example, for the online oral presentation, all the students chose to present their research proposal live on Zoom. In my diary I reflected that:

An oral presentation of final research proposal was done on the 11th of July via Zoom. Six of eight students successfully managed to share their ideas with their peers. The students received feedback and the module rubric was used to award marks. One student in a rural context did not manage to join us via Zoom and the eighth student opted to deregister. Sadly, one of the students deregistered, she sent an email saying that she was suspending her studies because she was not in the right space.

The above extract indicates the successes and challenges of online teaching and learning during a disruption. Kiernan (2020: 1) asserts that, “online learning is not an inherently active process...and as such pedagogical strategies that require active student engagement, which are central to many active learning situations became increasingly complicated and out-of-reach”. Students were supported by the supervisors via online platforms. I commented at least twice on students’ draft proposal and research report drafts and offered appropriate guidance.

I noticed that some of the written feedback and explanations were unclear to students. The following is an example of my WhatsApp interaction with Student 3.

Hi... Can you please provide me with more clarity on the action research implementation I am not getting full understanding of using memrise as per the article that you emailed? (Voice note from Student 3)

I also responded with a voice note:

Hi, Student 3... please take memrise article as an example. It has good examples that is showing how to organise our actions. I wanted to show you how to explain each stage of action research. Start by explaining what is involved in each step (Lecturer).

The above WhatsApp interaction suggests that asynchronous communication was a challenge in that it did not always convey the exact message or explanation. I tried to address this by sending a voice note as shown in the aforementioned extracts. The voice notes were then followed by text messages in WhatsApp. The next extract shows Student 3 agreeing about the article and I followed up with a question and explanation. Seeing that I confused the student, I apologised for the unclear communication.

Thank you Mem I was so worried and confused. I am working with the same article that you have emailed to us. I double checked your emails and found the same one. Thank you so much for the clarification. The article has given me a better understanding of each stage (Text message from Student 3).

Did you find the methodology section in the article? The methodology section of that article explains clearly what happen in each stage of the action research. I am so sorry for the vague comment (Lecturer).

The findings from WhatsApp transcripts seem to indicate that oral communication was more beneficial than the written communication. It created live interaction with the students. In line with Garrison *et al.* (2000), I also believe that oral communication is a rich medium.

7.2 Social presence

Social presence involves the interpersonal and intrapersonal relationships that take place in online learning (Garrison *et al.*, 2000). The social presence is indicated by the expression of emotion in response to the teaching and learning experience, open communication and group cohesion (Carlson, 2020). Expression of emotions as an indicator of social presence emerged from the WhatsApp conversations indicating that the students were faced with uncertainties, stress, anxiety and isolation. For example, Student 4 expressed her emotions below:

May I just take a moment to thank you for not giving up on me. *Ngiyazi ngihluphile kakhulu futhi* [I know that I was giving you problems]. At times it get overwhelming. I am a mother of three kids. *Ziyangishuka* on daily basis. But that is not an excuse. But I just wish to thank you for continuous support and motivation (S4).

Student 4, whose school is in a rural area, showed appreciation of the support and highlighted her home challenges as a mother. When she says "*Ziyangishuka*" she meant that her children need her attention every day. This situation is echoed in the findings of the study conducted by Maphalala *et al.* (2021) that unfavourable home environments, particularly in rural communities, are not conducive for online learning. The point of departure was to ease the tension and uncertainties from students through talking with them about the whole situation

and what they were experiencing. This is supported by a group of South African academics in *A Proposed Plan for Social Pedagogy Alternative in the Time of Pandemic* (Unknown, 2020) that advocated that the pedagogies employed during the pandemic must allow students to be active citizens and engage in a socially responsive way.

Open communication with students occurred via the WhatsApp group and individual chats that provided us with an opportunity to communicate more often. The extract from the WhatsApp group shows my encouragement of communication:

I am interacting with all the students through Emails and WhatsApp group continuously. I requested students to engage on WhatsApp Group on Friday and Saturday evenings (Lecturer).

However, the WhatsApp transcripts show that students preferred to chat with me individually rather than using the group chat. One of the eight students (Student 2) only used the WhatsApp group twice to acknowledge receipt of emails. Yet, he interacted with emails, individual WhatsApp chats and Zoom. Interestingly, the action research project of Student 2 was about online teaching strategies. Part of his email:

Well... I'm going to be using Guskey for my theoretical framework. Thank you very much for that article you sent, it is a massive help. I look forward to the presentations on Saturday. (S2)

The conversation through WhatsApp with students became more regular over time. In relation to regular communication, scholars (Vinagre, 2017; Theleen *et al.*, 2020) assert that an effective approach to social presence includes consistent participation, prompt communication, regular group discussion, timely and relevant contribution and commitment to tasks.

The group cohesion seemed to emerge during the first Zoom session when a YouTube video on the new normal was used as an ice-breaker activity. In this video clip, attention was paid to Sonya Renee Tylor, a writer and the motivational speaker, when she says:

We will not go back to normal. Normal never was. Our pre-corona existence was not normal other than we normalized, greed, inequality, exhaustion, depletion, extraction, disconnection, confusion, rage hoarding, hate and lack. We should not long to return my friends. We are being given the opportunity to stitch a new garment. One that fit to all new garment (Tylor, 2020).

I related this quote to the renewal and innovation in teaching strategies at schools and higher education. According to Feng, Xie and Liu (2017) ice-breaker activities are important and helpful for building a high degree of social presence in the initial phase of teaching. Motta and Bennett (2018) as well as Bozkurt and Sharma (2020) regard digitally-enhanced ice breaker activities as a way of fostering students' social presence during emergency remote teaching to enhance a pedagogy of care. This is supported by Dhawan (2020) who stressed that academics should make efforts to humanise the learning process to the best extent possible. During the disruption, I tried to focus on relationships, caring and building humanity. Collaboration amongst students as members of a community of inquiry is central; however, the WhatsApp group chats do not show that the students were sharing knowledge. It appears as if the sharing of ideas amongst students only occurred during the virtual proposal presentation, because it was part of assessment. As suggested by Carlon (2020), additional

social presence activities could have highlighted the pedagogical value of online collaboration in terms of knowledge building.

7.3 Cognitive presence

The aim of cognitive processes is to promote construction and confirmation of meaning and understanding within a community of inquiry (Gutiérrez-Santiuste *et al.*, 2015). The cognitive indicators consist of the state of dissonance, exploration, integration and resolution. COVID-19 and online teaching in particular, created uncertainties and stress in my family and work life. While there were plenty of online tools introduced, I felt uneasy changing my pedagogical approaches. I shared my frustrations with my friend who is well versed with technological changes. I noted in my reflective journal that when I was lamenting about the sudden shift to online teaching, my friend said, “You will learn technology forcefully” (30 March 2020). This statement is supported by Dhawan (2020: 7) who says that “online teaching is no longer an option, it a necessity”. I realised that I had to change my attitude towards online teaching before changing others. Teaching remotely is different from face-to-face delivery, it requires academics and students to have the right attitude in embracing the new paradigm (Oyedotun, 2020).

The WhatsApp chats showed that state of dissonance occurring. The following interaction between myself and Student 1 highlights a state of dissonance:

Let's keep on motivating each other, no one should think of deregistering. You are almost there (Lecturer).

It feels very overwhelming, especially with no contact sessions. I am not even sure if I'm doing the correct thing for our proposal. Do I just follow the instructions you have laid out in all the documents? (S1)

Let's use Zoom because we will be able to share the screen (Lecturer).

I will speak to others as well perhaps they also require a group discussion (S1).

The above chat seems to spark the student's curiosity for group participation on Zoom (perhaps relating to a need for social presence) because the student mentioned that she was going to speak to other students about the group session.

The students constructed meaning through engaging in contact sessions on Zoom, reading and applying the action research in their classroom practices, with the assistance of the supervisors. Exploration and integration of knowledge seem to be evident in their application of the research concepts when they were developing their research proposals, implementing the action research and writing up their final research reports. The following WhatsApp voice note was sent by Student 3 after the data analysis session shows this exploration and integration:

Hi Mem! [sic] In the research proposal I have stated and explained that the study was going to adopt qualitative approach but, I feel that due to learners' test results which is in numbers, the study is both quantitative and qualitative. Should I leave it in qualitative approach or explain that it is using both approaches? Can we have a Zoom session to look at my data? (Student 3' voice note).

The nature of the research module requires the students' critical thinking about an area of concern that they wanted to change or to study in their classrooms. Students applied the knowledge acquired from live lectures and interactions with peers and supervisors to develop the research proposal and to implement the action research cycle and write the final report. Student 3 reflected about using the action research approach in their classroom practices:

I noted that implementing this [literature webbing] technique during the English Home Language lesson has had a positive effect on other subjects. I emphasized with learners how important it is to read all the information and study the pictures. During History and Natural Science lessons I have noticed that learners are taking more time reading their case studies and sources which has improved their performance in their class activities (S3).

In line with Garrison *et al.* (2000), it appears as if the students were engaged in critical thinking (evidence of cognitive presence) as a result of the social and teaching presences developed in the online learning environment.

8. Conclusion

This article presented my reflections on the teaching of a research module during COVID-19, using the lens of the Community of Inquiry Framework. This framework emphasises the need to integrate teaching, social and cognitive presences. A face-to-face research module had to transition to an online mode of delivery because of the pandemic. My reflections indicate that Zoom and WhatsApp were used for live or synchronous teaching and learning environments. However, a lack of national infrastructure such as electricity and internet connectivity challenges in certain areas of the country minimised students' participation in the live sessions. The asynchronous teaching and learning environment were facilitated through the Moodle LMS, recorded PowerPoints with audio, recordings of Zoom sessions and emails. In this study, trial runs to familiarise academics and students with online teaching influenced the establishment of teaching presence positively because challenges related to the online teaching during the disruption were identified and could be addressed before the commencement of the actual online teaching.

My teaching experiences seem to suggest that the teaching and cognitive presences of Col were experienced to a certain extent during the disruption. As staff and students were accustomed to face-to-face teaching, which is dominated by oral communication and telling methods, the social presence was negatively influenced. Online collaboration among students was unclear. In line with Carillo and Flores (2020), the social presence in this study suggests that teaching during and beyond COVID-19 requires a pedagogical approach that relies heavily on the social and collaborative component of learning as a point of departure for the development of online teaching and learning practices. Using the Community of Inquiry Framework in my teaching reflections highlighted areas for further personal and professional development. Notably, the findings indicate that training in preparation for the transition to online teaching is important.

As COVID-19 is not yet over and post-pandemic teaching and learning approaches may be different, there is still a need to analyse changes in teaching and learning. Therefore, the Col Framework used in this study could be useful to higher education institutions to evaluate the effectiveness of online teaching and learning, particularly when the institution is planning to implement or restructure online modules. Importantly, the three presences should also be

experienced by the students. Future research could use the Col Survey to investigate the students' perspectives of teaching, social and cognitive presences in the context of online learning during the COVID-19 pandemic.

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