

The Effect of Social Presence on the Online Learning Experiences of Full-Time Masters Students during the COVID-19 Pandemic

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Abstract: The COVID-19 pandemic evoked significant challenges for universities worldwide. Due to government restrictions during this period (2020-2021), the majority of university programmes were forced to rapidly change from traditional classroom teaching to online teaching. Effective online learning is, however, dependent on social presence; being one of the most important determinants of successful online learning regardless of discipline. This research aimed to identify and explore the role of social presence in both asynchronous and synchronous classes, and how social presence affects students' online learning experiences. Further, this study aimed to provide recommendations for teachers wanting to improve the social presence in online classes. A qualitative survey and semi-structured interviews were conducted to better understand students' online learning experiences. Results showed that social presence strengthens students' experiences of belonging in the online learning community, as well as improves the students' sense of engagement with their education. In turn, social presence reduced loneliness and promoted satisfaction. Social presence also helped students improve their academic comprehension and motivation when attending online courses during the COVID-19 pandemic. This study presents several suggestions from participants, such as turning on the camera during synchronous classes, and limiting the number of group members. Combined, these suggestions can help instructors design effective online courses. The study concludes by providing suggestions for future research that may enhance social presence in online learning communities.

Keywords: Online Learning; Synchronous Learning; Asynchronous Learning; Social Presence; COVID-19.

1. Chapter One: Introduction

1.1. Background

The outbreak of the 2019 novel coronavirus (COVID-19) prompted several schools and universities to close temporarily over the following two years (Dhawan, 2020). Undoubtedly, the outbreak evoked a dramatic change in the educational setting. Indeed, it is estimated that the suspension of education affected approximately 70% of students worldwide (UNESCO, 2020), with more than 1.2 billion students in 186 countries having experienced school cancellations due to the pandemic (World Economic Forum, 2020). This situation forced the majority of educational institutions to change their traditional classroom teaching to an online mode of pedagogy, utilising online teaching tools and digital platforms for remote teaching (Dhawan, 2020; UNESCO, 2020). More specifically, teaching instructors were forced to use both synchronous and asynchronous videos to provide online courses (Lowenthal et al., 2020). Moreover, tertiary educational institutions created and provided online learning tools to meet the rapidly changing educational needs elicited by the pandemic (Ananga, 2020). As an example, at the University of Edinburgh in Scotland, recorded lectures were delivered on the university Learn page (this is a virtual learning environment at the university of Edinburgh that gives students access to course materials, feedback and much more), while synchronous workshops or seminars were broadcasted using tertiary applications, such as Microsoft Teams, Zoom, and BlackBoard Learn.

The use of online teaching and learning has grown rapidly with the development of the Internet (Chang & Tung, 2008). According to Allen and Seaman (2007), enrolment in online education has increased markedly faster than the enrolment to

traditional higher education over the past few years. In fact, online education has become a popular way for universities worldwide to offer novel educational recourses in higher education (Ananga, 2020).

Online learning has many obvious advantages. For instance, multi-media and computer networks make learning tools more accessible to users, while also making information and databases more efficient (Chang & Tung, 2008). Although the traditional (face-to-face) classroom setting provides students with more opportunities to interact with each other, Pichette (2009) found that language learners at higher levels experience less foreign language anxiety in the online learning environment than in traditional classrooms. Moreover, online learning has shorter delivery times than traditional classroom-based teaching, enabling instructors to revise learning content quickly (Suresh et al., 2018).

In order for online learning to be effective, social presence needs to be considered. According to Russell and Murphy-Judy (2021), social presence is perhaps one of the most important aspects of a successful online course regardless of discipline. Social presence is strongly linked to the level of engagement and social interaction between cooperating group members. Thus, social presence is considered an important determinant for learning (Goggins et al., 2009; Kreijns et al., 2014; Yang et al., 2007). In online learning specifically, creating a learning community is important, as many students discontinue their education (i.e., drop out) due to the experienced isolation and disconnection from fellow students, instructors, and professors. This being said, the development of effective online learning communities can reduce the feeling of isolation and separation, thereby significantly reducing the likelihood of student drop out (Maddix, 2013).

Although there are many definitions of 'social presence'

used in the literature, this thesis will use the definition proposed by Garrison et al. (2010): “the ability of participants to identify with the community such as the course of study, communicate purposefully in a trusting environment, and develop interpersonal relationships by way of projecting their individual personalities” (p. 32). This definition will be used hereafter, and is discussed in further detail in Chapter 2 (section 2.2.2).

1.2. Personal and Professional Rationale for The Study

The topic discussed in this study emerged from the researcher’s own personal experiences with online learning during the COVID-19 pandemic while studying at the University of Edinburgh. Like most postgraduate students, the researcher was only able to attend online courses at home without the opportunity to interact with fellow students or instructors face-to-face. These experiences certainly elicited a sense of loneliness. It was only after gaining an understanding of social presence in online language learning that a personal reflection was evoked, and it became evident that there is research showing that establishing a social presence may reduce the feeling of isolation and loneliness (Maddix, 2013; Murphy-Judy, 2021; Phirangee & Malec, 2017). Consequently, a growing personal interest developed towards the effect of social presence on postgraduate students’ online learning experiences during the COVID-19 pandemic. After having decided on ‘social presence’ as the research topic for this dissertation, a thorough literature search was initiated in order to identify the target participants and research approach for the present study.

After performing the literature search, it became apparent that there had been very little research on social presence in both synchronous and asynchronous online learning. Indeed, most researchers have preferred to assess social presence in either synchronous classes or in asynchronous classes. For instance, Szeto and Cheng (2016) assessed the social presence in face-to-face synchronous online learning from students’ personal experiences, while Cobb (2009) analysed social presence in the asynchronous course format. As an interesting note, Wise et al. (2004) pointed out that instructors play a crucial role in establishing the atmosphere and environment of social presence throughout the entire learning process. Previous studies have perhaps focused more on students’ online learning outcomes rather than instructors’ online teaching strategies, and further emphasised how instructors ambiguously promote social presence in online learning. Due to the rather recent outbreak of the COVID-19 pandemic, there are few studies that have analysed students’ online learning experiences during this particular period. Similarly, there are few studies that have indicated how instructors may improve social presence in online teaching during periods in which online learning is necessary.

Based on these considerations, the present study will investigate the concept of social presence by analysing students’ online learning experiences in synchronous and asynchronous learning during the COVID-19 pandemic. The study will then use these experiences to offer advice to instructors whose aim is to establish a social presence in online learning.

1.3. Research Context, Purpose and Significance

In order to better understand students’ experiences with

online learning, two research questions arise: *i*) What is the effect of social presence on students’ online learning experiences during the COVID-19 pandemic? *ii*) What improvements can be made on students’ online learning experiences based on the effect of social presence?

This study aims to identify and explore the role of social presence in both asynchronous and synchronous classes, and how social presence affects student’s online learning experiences. Based on these experiences, the study will also provide advice to promote social presence in online learning with the objective to assist teachers to prepare online courses more effectively.

This study used qualitative surveys and semi-structured interviews to better understand student experiences with online learning. Thematic analyses were then used to assess the data derived from the surveys and interviews. All participants were Chinese full-time postgraduate students who attended online courses during the COVID-19 pandemic (2020-2021) at the University of Edinburgh.

1.4. Dissertation Overview

This dissertation contains five chapters. The first chapter (Introduction) has described the theoretical background and the rationale for undertaking this study. Based on these considerations, the aims and specific research questions for this dissertation were then outlined, together with a brief summary of the methodology used to answer these questions. The second chapter will explore the topics of online learning and social presence, with a particular focus on recent developments in online learning and the significance of social presence in online learning. The third chapter will provide a thorough explanation of the methodology used in this study. This includes detailed information concerning the theoretical framework, tools used to collect data, analysis techniques, ethics, and a consideration of methodological limitations. The fourth chapter will present the results in the form of a thematic analysis based on the conducted interviews. This chapter also discusses the findings within the current academic literature. The fifth chapter will provide a summary of the main findings, as well as a discussion regarding the limitations of the current study and suggestions for the design of future online courses.

2. Chapter Two: Literature Review

This chapter will first provide a definition of the concept of online learning, followed by a brief description of the development of online learning during the COVID-19 pandemic. Next, there will be a discussion regarding the difficulties and solutions associated with online learning. Then, the literature review will introduce and define three distinct online presences, and further discuss the significance of social presence in online learning. Here, it will also be pointed out several issues that teachers face while trying to improve social presence in online learning environments. The chapter will be concluded by outlining current research gaps, the aims of the present study, as well as the specific research questions.

2.1. Online Learning

2.1.1. Defining Online Learning

Means et al. (2014) stated that online learning refers to the interaction between the learner and the content through the Internet for learning, which may be part of a formal course or programme. The definition by Means et al. (2014) does, however, only provide a general understanding of online

learning, as it covers only human interaction with the Internet. In contrast to this definition, online learning should be considered a tool that can make the teaching process more student-centred, more creative and even more adaptable (Dhawan, 2020).

After analysing 46 definitions of online learning, Singh and Thurman (2019) stated that “online learning is defined as learning experienced through the Internet in a synchronous or asynchronous classroom where students interact with instructors and other students and are not dependent on their physical location for participating in this online learning experience” (p. 302). Because the definition of Singh and Thurman (2019) is, to date, the clearest definition, this definition will be used in this dissertation. This is primarily because it specifically addresses interaction while also including the various types of online classes (synchronous and asynchronous).

Synchronous learning is when the learner and instructor are both present (online) at the same time, while asynchronous learning is when the learner is not present with instructors or other learners in the learning environment (Russell & Murphy-Judy, 2021). In synchronous learning, students may attend live lectures so as to experience real-time interaction between themselves and instructors. Synchronous classes may include group work and giving/receiving instant feedback (Dhawan, 2020), enabling students to have plenty of social interaction (McBrien et al., 2009). Conversely, it is likely that less interaction will occur in asynchronous classes because the lectures are typically pre-recorded (Chou, 2002). This being said, discussion boards and social media platforms (e.g., Padlet) are frequently used in the asynchronous setting because they offer students the opportunity to ask questions, post their work, and comment on each other’s posts. Thus, social media platforms can have a positive impact on learning engagement in asynchronous learning activities (Northey et al., 2015; Levine, 2007).

As mentioned in the Introduction, the COVID-19 pandemic caused a vast number of schools and universities to close. As a result, online learning became an important tool as teaching materials had to be made accessible to students on mobile phones or laptops without leaving home (Basilaia et al., 2020). Additional benefits of online learning will be presented later in this study.

2.1.2. The Development of Online Learning

Over the recent decades, people’s lives have become increasingly intertwined with the use of technology (Munoz et al., 2021). The Internet and social media platforms have made the exchange of information available to people worldwide. This has resulted in a new trend in education; also known as online learning (Baker & Unni, 2018). In fact, online learning has become a common method of delivering instructional materials in higher education across the world (Ananga, 2020).

During the COVID-19 pandemic, schools and universities were forced to close temporarily (Dhawan, 2020). As mentioned in the Introduction, the closure of schools impacted over 1.2 billion students in 186 countries (World Economic Forum, 2020). As a response, tertiary educational institutions have explored and implemented online learning tools to meet the rapidly changing needs of educational institutions (Ananga, 2020). For instance, some instructors have created synchronous and asynchronous videos for online course delivery (Lowenthal et al., 2020). The majority of universities have also utilised applications such as Microsoft

Teams, Zoom, Google Classroom, VLEs, BlackBoard Learn, Moodle, BrightSpace as well as the universities’ own websites (e.g., Learn) to offer both synchronous and asynchronous lectures for students. According to Shim and Lee (2020), most students felt that online learning provided a pleasant and convenient educational environment during the pandemic, as the students could attend classes from anywhere as long as they had access to a personal computer and the Internet. This being said, some students also mentioned that they felt a lack of communication. Adnan and Anwar (2020) found that students missed face-to-face interaction and the social activities of a traditional classroom in the online learning environment. Improving social presence may, therefore, promote further interaction between teachers and students. This will be discussed in section 2.2.2 and section 2.3.

2.1.3. Problems and Possible Solutions for Online Learning

It is important to address some of the challenges and difficulties associated with online teaching tools. These difficulties can be related to technology itself, such as download errors, login problems, video issues (Dhawan, 2020). Students may also struggle to understand the technological needs of the chosen course. Some students may not know where to access the online content, while others may struggle with using specific applications (e.g., Microsoft Teams or Zoom). It is also necessary to take into consideration economically vulnerable students who may not have access to a personal computer or a tablet device. As such, not all students may have access to the necessary technology in order to conduct assignments.

Sometimes, students may also find that online learning is uninteresting and unengaging, as this mode of learning can be time consuming and requires time flexibility which students do not always have (Dhawan, 2020). In fact, Parkes et al. (2015) found that students sometimes perceived themselves to be unprepared for balancing a social life, studying, and family time in an online learning environment (i.e., time management issues). Song et al. (2004) also mentioned that students partaking in online learning have technical and time management issues as well as a lack of community. For example, some students may desire a two-way interaction in order to better understand the teaching goals. Combined, these factors are crucial barriers to effective online learning.

Despite the challenges highlighted above, the important role of online learning should not be underestimated or ignored. To overcome the technical challenges associated with online learning, teachers should properly explain how to use the technological applications, and try to upload pre-recorded lectures, or even record synchronous workshops. Teachers can also send to students the relevant teaching materials, such as Microsoft PowerPoint and reading material.

In terms of economically vulnerable students, the majority of universities now provide laptops through the university library services that students can borrow. Moreover, the Department for Education in the United Kingdom provided more than 1.3 million laptops and tablets to assist underprivileged students undertaking online learning during the COVID-19 pandemic (GOV.UK, 2020). Indeed, it appears that technical issues can be readily overcome by the already-existing infrastructures and services.

In order to deal with time management issues, teachers can create deadlines and reminders for students to keep students aware of and attentive to upcoming work. Moreover, efforts

should be made to humanise the learning process as much as possible (Dhawan, 2020): for instance, at the beginning of the course, the teacher should describe to students how many times they ought to go through the reading material. At the same time, students should not underestimate the time and effort required to learn new material. In turn, this will provide opportunities for students to learn how to manage their time effectively.

In order to establish an effective learning community, social presence should be taken into consideration. Indeed, implementation of social presence may help to create an effective learning community and to reduce the sense of separation (Maddix, 2013; Russell & Murphy-Judy, 2021). For instance, this can be done by creating synchronous face-to-face workshops via Microsoft Teams or Zoom; by designing interesting tasks for group work during workshops; and by frequently using discussion boards to promote interaction between students and teachers (Chou, 2002; McBrien et al., 2009; Russell & Murphy-Judy, 2021). In turn, students may increase their participation and engagement in the online setting. Implementing a social presence will offer several benefits to improve online learning and students learning performance. Detailed descriptions of what social presence is, and how it may benefit students, will be addressed later in this dissertation (see section 2.2.2).

Lastly, in order to help students understand the teaching objectives, teachers can provide detailed online instructions. As Keeton (2004) demonstrated, effective online instructions may promote feedback from students, encourage them to ask questions, and enhance their understanding of the specific course content. Online courses should, therefore, be designed in an innovative, interactive, and student-centred way (Li, 2017).

2.2. The Definition of Presence

This dissertation used the conceptual framework from the Community of Inquiry (CoI), as presented by Garrison et al. (2000). Specifically, the CoI framework comprises three overlapping constructs of presence: teaching presence, social presence, and cognitive presence. As pointed out by Garrison et al. (2000), these three constructs of presence are some of the most essential prerequisites for improving the experience of online education.

2.2.1. Teaching Presence

Teaching presence is purposefully designed and implemented in online courses to assure a simple, natural flow of course material and to prevent learners from feeling isolated (Russell & Murphy-Judy, 2021). Successful online learning requires a student-centred design, which means that teachers must create activities, environments, and resources that will help students learn. Therefore, teachers play a crucial role in every phase of online learning (Rapanta et al., 2020).

Teaching presence can bring several advantages to students' online learning. First, teaching presence may enhance student's learning motivation: Baker (2010) showed that student perceptions of teaching presence are related to student motivation to learn in online courses. For example, feedback from teachers is one of the most important motivational factors for students to continue their studies (Rapanta et al. 2020; Zilka et al., 2018). However, Zilka et al. (2018) found that providing students with untimely and general feedback may evoke a sense of alienation, and thus emphasised that timely feedback is more useful. Based on these considerations, instructors are important in online learning, and establishing

a teaching presence will positively affect student's motivation for learning as well as minimise the feeling of alienation (Baker, 2010; Richardson & Swan, 2003; Russell & Murphy-Judy, 2021).

2.2.2. Social Presence

Whereas teaching presence is mainly concerned with the teacher's ability to manipulate and adapt the learning environment, social presence explains the features of social interaction in a communicative context. More specifically, social presence is the participation and social interaction among members of a cooperation group (Goggins et al., 2009; Kreijns et al., 2014; Yang et al., 2007).

In order to teach effectively online, social presence must be considered, as it is one of the most important aspects of a successful online course regardless of discipline (Russell & Murphy-Judy, 2021). In the online learning environment, creating an effective learning community is important as many students choose to discontinue their education due to the experienced isolation and disconnection from professors and students in this educational format. On the other hand, the development of online learning communities can reduce this sense of isolation and separation, thereby reducing the likelihood of student dropouts (Maddix, 2013).

There are a number of different definitions of social presence. For instance, Gunawardena (1995) defined social presence as "the degree to which a person is perceived as a 'real person' in mediated communication" (p. 151). This definition, however, may be too narrow, as it did not mention interaction between learners and the social environment provided for learners. The definition proposed by Garrison (2010) appears to be more suitable for this dissertation, as it aligns well with the current online learning environment. As mentioned in the Introduction, Garrison (2010) defined social presence as "the ability of participants to connect with the community such as the course of study, communicate purposefully in a trusted atmosphere, and develop interpersonal relationships by projecting their individual identities" (p. 32).

Social presence has been shown to have a positive impact on students' online learning experiences. This being said, in a study by Kuo et al. (2014), the interaction between students did not appear to have a beneficial effect on their satisfaction. According to a quantitative study by Richardson et al. (2017), however, there appears to be a positive relationship between study duration and student satisfaction, suggesting that there is a link between social presence and satisfaction. Although quantitative research may be limited in certain methodological aspects (e.g., lack of depth in experience descriptions (Choy, 2014)), the research by Richardson et al. (2017) may still be valid. Indeed, Benbunan-Fich et al. (2003) also pointed out that there is a positive relationship between social presence and students' satisfaction with e-learning, as assessed by student participation in group activities. Similar results have been found by Cobb (2009), who reported that students are generally satisfied with online courses and feel comfortable interacting in the online environment. Based on these considerations, it is evident that social presence may enhance students' learning satisfaction. Therefore, it is worthwhile investigating whether this is the case in the context of online asynchronous and synchronous learning as well. Other essential aspects of social presence will be discussed in a later section (see section 2.3).

2.2.3. Cognitive Presence

Garrison (2007) defined cognitive presence as "a cycle of

practical inquiry where participants move deliberately from understanding the problem or issue through to exploration, integration, and application.” (p. 65). In other words, cognitive presence means that online learners can find the most effective way to solve learning problems through critical and continuing communication and thinking (Kozan & Richardson, 2014). This being said, cognitive presence alone is not sufficient to create and sustain a community of critical learners (Garrison et al, 1999). Indeed, social presence is also required, as it may assist the cognitive presence by indirectly supporting critical thinking carried out by the community of learners (Kanuka & Garrison, 2004). According to Ke (2010), students who have a better understanding of the learning community also tend to report a higher degree of learning satisfaction. These students may get to express diverse opinions in classroom discussions while still maintaining focus on the online discussion environment. These findings also indicate that a curriculum that combines class and group discussion is associated with higher degree of knowledge production and social interaction, and may therefore be related to cognition and social presence (Ke, 2010).

To summarise, teaching presence, social presence, and cognitive presence are all important concepts of successful online learning, and are strongly linked by the concept of social presence to provide students with an effective learning environment and positive experiences.

2.3. The Importance of Social Presence

Previous research on social presence has shown that social presence will benefit the students in many ways. For instance, in section 2.2.2, it was discussed how social presence can improve students’ learning satisfaction. Although some researchers have claimed that online learning may elicit feelings of isolation and loneliness (Haythornthwaite et al., 2000; Li, 2017), the development of a social presence may reduce student loneliness and create a stronger sense of community (Maddix, 2013 Phirangee & Malec, 2017; Richardson & Swan, 2003; Russell & Murphy-Judy 2021). According to Phirangee and Malec (2017), social presence may provide learners with the opportunity to connect knowledge bases to generate shared meanings and a more complete comprehension of the subject matter. It is this strong social presence and feeling of community that will make students feel less lonely and alienated. Moreover, this may even promote the formation of friendships and a further strengthening of social bonds (Phirangee & Malec, 2017). This being said, the study by Phirangee and Malec (2017) had only a sample size of six participants, and the results may not be entirely generalisable. However, Maddix (2013) reported similar findings, showing that professors and students who take part in vibrant learning communities that encourage dialogue and discussion, create learning communities where students feel more connected and supported in their learning, thereby reducing student isolation. Similarly, Akyol and Garrison (2008) examined a semester-long course, and found that collaborative activities improve students’ sense of group belonging, bringing them from an individual to a holistic viewpoint. Accordingly, social presence may reduce the feeling of loneliness, and make students more connected to their learning community.

Social presence is regarded as an important determinant of successful online learning (Garrison & Arbaugh, 2007; Richardson et al., 2017). However, there are a number of challenges associated with the assessment of social presence

(Lowenthal & Dunlap, 2014). Sometimes, unstructured group discussions have negligible effects on student learning performance (Law et al., 2019). However, in comparison to a traditional learning environment, interactions and discussions among students in the online learning environment are typically more free and less directed. These unstructured discussions, particularly when there is a confusion regarding the purpose of the discussion, may cause students to project themselves socially and emotionally (Rourke et al., 2001). This type of discussion may also cause students to deviate from the intended learning objective, thus resulting in a negligible effect on learning performance (Rourke et al., 2001). Since the purpose of social presence in the educational setting is to encourage quality interaction to accomplish desirable educational goals together (Garrison, 2007), it seems necessary to plan activities in advance for effective learning experiences. Teachers may, for example, encourage students to actively study subject material during these discussions (Aragon, 2003).

The teachers’ role in promoting a social presence is, however, unclear. Because previous research has primarily focused on students’ online learning outcomes rather than teaching strategies used by the teacher, little is still known about how teachers can promote social presence in this context. In an attempt to fill this knowledge gap, Savvidou (2013) showed that there is a clear association between teacher participation and social presence, and suggested that teachers must set up smaller online groups to encourage higher levels of social presence. Wise et al. (2004) also pointed out that teachers play an important role in creating a social presence throughout the entire learning process. Thus, teachers need to understand how to properly develop social connections within their learning environments. From the teachers’ perspective, Aragon (2003) offered useful guidance for teachers to enhance social presence. More specifically, he encouraged teachers in asynchronous classes to actively participate in online discussion boards as it replaces the otherwise oral discussions and interactions from the traditional classroom setting. Conversely, in synchronous classes, teachers should design themes and provide tasks for group discussions (Aragon, 2003).

Having reviewed the literature, it is evident that social presence in online learning greatly benefits students’ learning outcomes and performance while also creating a sense of community that prevents isolation and alienation. Although there are certain challenges associated with social presence in online learning, more research should be conducted in order to provide useful guidance for teachers.

2.4. Chapter Summary

As indicated above, previous research has indicated that social presence is beneficial in online learning. It is unclear, however, how social presence affects students’ online learning experiences, particularly during the sudden COVID-19 pandemic. It is also unclear how teachers can create better online learning environments for their students. In order to address the gap, the aim of this study was to identify and explore the role of social presence in online learning, and how social presence has affected student’s learning experience during this pandemic. The objective of this study was to provide recommendations for instructors to improve social presence in online learning. With the above aims in mind, this study aimed to answer the following research questions:

- i) What was the effect of social presence on students’ online

learning experience during the COVID-19 pandemic?

ii) What improvements can be made based on the effect of social presence on students' online learning experience?

3. Chapter Three: Methodology

This chapter provides an overview of the methodology used in this dissertation. First, there will be a presentation of the research design as well as the rationale for choosing the specific methodology. Then, the following two sections will explain the processes involved in participant recruitment and selection; the design of research instruments; data collection; translation, and data analysis. Next, ethical issues will be discussed before, finally, study limitations will be provided.

3.1. Rationale for Research Design

In order to address the two research questions in this study, it was necessary to gain a deeper understanding of how social presence may affect student experiences in online learning. This was primarily because different students are likely to have heterogeneous feelings and experiences. Thus, qualitative research appeared to be the best approach to answer the specific research questions. Unlike quantitative research, which focuses on generalisation of wider data sets, qualitative research focuses on individual circumstances and experiences, and the meaning that diverse actors attach to them (Arthur et al., 2012). Accordingly, a qualitative research framework would enable the researcher to capture rich data about the students' online learning experiences. Moreover, a qualitative research framework was the best approach to explore students' perspectives while answering the research questions, as this would help the researcher understand how students interpret their personal learning experiences (Merriam & Tisdell, 2015). This would also allow the researcher to access the students' personal ideas for online course development. As per the qualitative methodological framework described above, a qualitative survey and semi-structured interviews were used to answer the research questions in this dissertation. Additional details will be outlined in the following section.

3.2. Participants and Sampling Method

3.2.1. Survey Design and Respondents

In order to include the views of different students in this study, snowball sampling was used. More specifically, snowball sampling is a sampling method that creates a group of participants through personal recommendations from members of the target population (Frey, 2018). The purpose of snowball sampling in this study was to connect with students who were not directly associated with the researcher (e.g., students from other programmes, or students from different locations). It can be argued that, in snowball sampling, the final study sample is still restricted by the connection of the initial sample and may thus be homogenous (O'Reilly, 2009).

This being said, the main purpose of snowball sampling is to help the researcher initiate contact with participants who will require high degree of trust (Lewis-Beck et al., 2004). In this particular study, participants were expected to share their personal feelings, and trust was essential. As such, snowball sampling can build this trust between the researcher and the participants because the researcher may have characteristics similar to the participants, and may already be acquainted with the participants (Lewis-Beck et al., 2004). As a result of this trust, and the familiarity between the researcher and

participant, a meaningful social and interactional connection can be created (Frey, 2018). Moreover, although students may be located in the same place as the researcher, or even be undertaking the same programme, students are still likely to have different experiences and perspectives, thus representing a heterogeneous study sample.

The survey was sent to potential participants via WeChat. Moreover, the friends and acquaintances of participants were encouraged to participate as well. It was important to create inclusion criteria that were in accordance with the study objective, and that could be used as a guide to identify potential participants who would provide useful information. Since this study focused on postgraduate students' online learning experiences during the COVID-19 pandemic (year 2020 and 2021), the inclusion criteria to complete the survey were as follows: the students were required to be full-time Chinese postgraduate students undertaking a master's degree at the University of Edinburgh in Scotland. This group of students was chosen specifically because they experienced language barriers, time zone differences and other challenges when undertaking online courses.

The rationale for these inclusion criteria was that the researcher is a Chinese postgraduate student from this specific university. Thus, the researcher was already familiar with the university's online course organisation, as well as the Chinese students at this particular university. Moreover, due to strict international travel restrictions evoked by the pandemic, it was particularly difficult for Chinese students to travel to Edinburgh during this period. As a consequence, most of the students were forced to complete the online courses from home in China. A total of eleven participants eventually completed the survey.

3.2.2. Interview Structure

Purposive sampling was used to select interview participants based on responses provided in the survey. Purposive sampling was used to find participants with specific characteristics that would provide useful information for the research analysis (Lewis-Beck et al., 2004). The purpose for using purposive sampling was to help the researcher identify participants that were particularly suitable to invite for interviews. As Daniel (2012) demonstrated, purposive sampling may be well-suited for studies focusing on specific segments of a target population. Therefore, in order to obtain valid data, purposive sampling was considered the most suitable approach for this study.

The criteria for selecting specific participants for the interview were as follows: the participants had to be full-time students undertaking a master's degree, and it was emphasised that participants should attend different study programmes. This was important, as students from different study programmes would ensure that the responses (i.e., data) were as heterogeneous as possible. Moreover, it was also important that interview participants had provided meaningful responses in the survey (see section 3.5 for more details). Indeed, the overall aim of the purposive sampling was that these selected participants would provide the best replies to be analysed and interpreted further. A total of seven participants were invited to interviews; two of which completed pilot interviews in order to enhance the reliability of the research questions. The remaining five students completed the formal interview.

3.3. Research Instruments

3.3.1. Survey

Qualitative surveys aim to provide an in-depth understanding of social topics by utilising qualitative data (Braun et al., 2020). Surveys with closed-ended questions require respondents to select a pre-defined answer from a set of fixed alternatives (Antoun, 2020), while surveys with open-ended questions provide respondents with greater freedom to choose how and what to respond (Given, 2008). Although closed-ended questions are easier to categorise for further analysis and interpretation, it may be considered problematic as it can influence respondents in unexpected ways (Antoun, 2020). In the present study, an online qualitative survey was created, comprising ten open-ended questions about social presence in online learning. Although answering, collecting, and analysing open-ended questions in this format was time-consuming, this format allowed participants to freely respond to what they themselves desired. Moreover, this format allowed participants to determine the amount of commitment they wanted to give to their contributions (e.g., time spent on filling out the survey and level of detail in the responses) (Terry & Braun, 2017). Another reason for using this format was because it allowed access to participants' personal perspectives and experiences, which would further help the researcher answer the research questions (Braun et al., 2020). Moreover, during the COVID-19 pandemic, online surveys were considered safer compared to physical papers, as neither the researcher nor participant had to meet in person. Furthermore, in this study, the online survey would act as a prerequisite for an in-depth interview since the responses would provide the researcher with the necessary information for further communications.

The online qualitative survey was created in Google Survey. The primary reason for using this application was that the researcher was already familiar with its features. Using this application, the researcher was simply required to send a URL link to participants that would give them access to the survey. Once the participant had completed and submitted the survey, the researcher could access and assess the survey responses immediately. Overall, the survey was forwarded to eleven participants via WeChat; a communication platform commonly used by Chinese students. Since the researcher and participants were Chinese, it was considered convenient and acceptable to use this platform to communicate with the participants.

In order to ensure validity and transparency of the data, survey questions were prepared both in Chinese and English (see Appendix B). This would allow participants to respond in the language that they were the most comfortable with. This being said, the use of a survey may constitute some methodological limitations as it requires both literacy and digital skills. As a consequence, the participants with poor literacy and digital skills may be excluded because they may misunderstand the questions and answer incorrectly.

3.3.2. Semi-Structured Interviews

After the completion of the survey, participants were selected for interviews. Interview was an efficient tool to further understand participants' experiences, feelings, and interpretations of the world around them (Merriam & Tisdell, 2015). There were three types of interviews conducted in this study: fully structured interviews; semi-structured interviews; and unstructured interviews (Robson et al., 2016). Structured interviews typically use pre-determined questions and

phrases, but this may cause some problems since the interview will strictly adhere to a pre-determined script. As a consequence, the researcher may not always access the participants' personal opinions (Merriam & Tisdell, 2015). Conversely, the use of semi-structured interviews allows the researcher to bring forth more useful information by asking participants to clarify and expand on their responses (Gray, 2004). Thus, semi-structured interviews elicit an in-depth approach with open-ended questions (Newcomer et al., 2015). Therefore, compared to structured interviews, semi-structured interviews were considered to be appropriate as they could provide the flexibility required for this study. Although both unstructured and semi-structured interviews can be considered flexible, the unstructured interview is a non-standardised conversation that can be difficult to analyse (Gray, 2004). Overall, semi-structured interviews contained neither a pre-determined script nor an unstructured conversation (Merriam & Tisdell, 2015), and was considered the best approach for this specific study. Although semi-structured interviews can be time-consuming and labour-intensive (Newcomer et al., 2015), they are usually considered worthwhile due to the benefits outlined above.

The semi-structured interviews in the present study included seven participants. Each interview lasted for approximately twenty minutes, and was conducted via Microsoft Teams. This communication application was frequently used at the University of Edinburgh, meaning that both the researcher and participants were familiar with its functions. After obtaining participants' written consent (see section 3.5), the interviews were video recorded using the same communication application. To ensure the validity of the data, all interviews were conducted in Chinese since using English may have impaired the accuracy of the participants' responses (Welch & Piekkari, 2006). Indeed, using participants' own native language (here Chinese) may enhance the quality of responses (Abfalter et al., 2020; Gawlewicz, 2016). Both interviewees and the researcher were comfortable using Chinese during the interviews.

3.4. Data Collection and Analysis

3.4.1. Pilot Survey and Interviews

In order to enhance data reliability, a pilot study was conducted prior to data collection. The pilot study included the completion of the qualitative survey as well as interviews with two postgraduate students from the University of Edinburgh. Interestingly, one of the participants in the pilot study did not understand the term "asynchronous learning". Because this was a crucial term in the survey, and in order to save time during the subsequent analysis process, the researcher decided to explain and define the term at the beginning of the survey. More specifically, the term was explained by giving some examples from the online classroom, such as pre-recorded lectures (see Appendix B). After this, these two participants, Hao and Ye, completed pilot interviews. Unfortunately, during the interview, Ye did not provide meaningful information. Conversely, Hao provided extensive responses in both the survey and the interview. Therefore, the inclusion criteria for the follow-up interviews were based on survey responses. In brief, the answers needed to be meaningful, and further demonstrate extensive online learning experiences. As such, the pilot studies assessed the feasibility of the study design, and thereby helped the researcher make necessary adjustments prior to data collection (McCartan et al., 2015).

3.4.2. Survey Data Collection and Analysis

As mentioned in section 3.3, survey data were collected through Google Survey via the URL link sent to eleven students via WeChat. The data analysis was undertaken through thematic analysis, which followed the six phases of analysis as put forward by Braun and Clark (2006): “familiarising with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report” (p. 87).

Prior to coding, the data were reviewed multiple times in order to become familiar with the content. Next, the Chinese

responses were translated manually into English. The responses were then uploaded to Microsoft Excel for data storage, coding, and thematic analysis. The initial codes are shown in Table 1 below. Following this, the researcher categorised the rest of the survey into specific codes, and created new codes when the existing ones were not appropriate. Finally, the coding was double-checked to ensure that the coding was correct and accurate, and that all of the codes were categorised appropriately. Appendix F shows the final version of the coding.

Table 1. Example of initial survey coding.

Survey			
Name	Extract from the survey	Code	Theme
Ye	Expand my thought on some legal cases.	Improve learning	Positive Feelings
Ho	Reduce my motivation	less motivation	Negative Feelings
Fen	Set "turn on the camera" as the mandatory requirement	Turn on Camera	Suggestion

3.4.3. Interview Data Collection and Analysis

As mentioned in section 3.3, semi-structured interview data were collected from seven participants via Microsoft Teams. Thematic analysis was used to analyse the interview data. Thematic analysis is a straightforward type of qualitative analysis that does not require extensive theoretical and technical expertise, and includes methods such as discourse analysis or conversational analysis (Braun & Clark, 2006). These analysis techniques are typically used to explore the realities and experiences in various social discourses (Robson et al., 2016). As such, this analysis technique was considered the most suitable approach for this study. Like the analysis of survey data, interview data were reviewed multiple times before coding so as to become familiar with the content.

Thematic analysis was then conducted by transcribing the seven interviews from spoken to written texts. This phase of the analysis process also helped the researcher become more acquainted with the contents of the interviews (Riessman, 1993). Appendix E shows an example of a transcript with the themes highlighted. Next, the data with significant features were coded (see Table 2 for the initial coding of interviews). To assist with data storage, English transcripts were uploaded to Microsoft Excel as performed with the survey data. The rest of the interviews were then categorised using these codes. New codes were created when the existing codes were inappropriate. Finally, the researcher again reviewed the data to ensure that all codes were appropriately categorised. The final version of the interview coding is included in Appendix F.

Table 2. Example of initial interview coding

Interview			
Name	Extract from the interview	Code	Theme
Fen	In the synchronous classes, I feel I am in a community.	Being in a community	Positive Feelings
Fen	Sometimes, I only focus on myself.	Less engaging	Negative Feelings
Jia	The number of participants can be smaller.	Limit group discussion members	Suggestion

3.5. Ethical Issues

The protection of research participants is paramount (Merriam & Tisdell, 2015). As required, therefore, all procedures in the present study were in line with the guidelines of BERA (2018). Furthermore, the study received ethical approval from the University of Edinburgh ethics committee (on May 5th 2021). Participants were then contacted, whereby they received the written purpose of the study and the invitation for participation. Before collecting data, the participant information sheet and participant consent form were provided to all participants (see Appendix G and

H, respectively). After participant consent had been provided, the interviews were completed at self-selected times. Participants were further informed that they could withdraw from the interview at any time, without any reason. Combined, these actions guaranteed authenticity, which referred to the intention of capturing participants’ experiences in a faithful manner (Merriam & Tisdell, 2015).

To ensure credibility, which refers to the true understanding of participants’ views (Merriam & Tisdell, 2015), the researcher would ask the participants to confirm whether the researcher fully understood their responses. Appendix E shows the example of a full transcript from an interview. This

transcript also contains rhetorical questions to ensure that the researcher fully understood the responses.

Privacy protection was also considered, as this study was conducted with confidentiality and privacy. Therefore, pseudonyms were used to name all participants, and video recording of interviews had to be approved by each participant prior to interviews. For reasons of confidentiality, data were stored in a password-protected file on the researcher's personal computer. Only the researcher and principal supervisor had access to the data. It was also ensured that the data was collected only for this dissertation, and would be deleted after the dissertation was submitted.

3.6. Methodological Considerations

The methodological framework used in this study may have some limitations. Firstly, snowball sampling has some limitations (O'Reilly, 2009): as already mentioned (see section 3.2.2), some students may be excluded due to the way participants are identified using this strategy. This is indeed an unfortunate situation, as these students may have novel views and perspectives on the specific research questions. Secondly, there was limited time available to collect, analyse and interpret data. This may have adversely affected participant recruitment. If more time had been available, more participants would have been available to partake in the study, and the results may have been of even higher quality. Overall, these methodological limitations can have affected the transferability of the research, as the student population may have been homogenous and of limited number.

4. Chapter Four: Result and Discussion

In this chapter, the main findings from the qualitative survey and semi-structured interviews are presented. Moreover, this chapter will provide a discussion in the context of previous literature. The titles for each section and sub-section are based on the themes that emerged in the thematic analysis. The two research questions will be answered specifically in section 4.1 and 4.2. Section 4.1 will focus on the positive and negative feelings associated with social presence on students' online learning experience during the COVID-19 pandemic. Section 4.2 will present the suggestions from the participants that may help instructors design attractive online courses.

4.1. RQ1. What is the Effect of Social Presence on Students' Online Learning Experience during the COVID-19 Pandemic?

4.1.1. A Sense of Belonging

Participant attitudes towards online courses are diverse. More than five participants in this study stated that they felt they belonged to their learning community, and did not report feeling lonely while taking part in online courses. For instance, in the survey, one participant (Fen) stated that:

"In the synchronous classes, I feel that I'm a part of the community and not alone. I feel connected to my teachers and peers. (All of the interview and survey examples are translated from Chinese (Mandarin) to English by the researcher)"

Another participant (Ning) expressed similar feelings. In the interview, she shared her experience from joining online group discussions with her fellow students:

"I feel like I'm part of a community. Take group discussions as an example, they help me cultivate a team responsibility.

Because my group members and I are all working towards one specific goal – completing the task – the work efficiency is high, and we have a strong sense of belonging."

It seems that social presence can provide students with a strong sense of belonging to the learning community, and may even help students feel connected to their fellow students and instructors. As such, social presence may also reduce loneliness that – again – will result in positive online learning experiences. This being said, some participants still felt lonely during online courses. Ju expressed this in the interview:

"None of us have actually met in person, so I sometimes doubt that they are my classmates. To me, they are netizens. There isn't even a sense of classroom atmosphere at all. I'm feeling rather lonely."

The interaction between students and instructors, in her opinion, does not improve her sense of belonging to the group. This might be because the online learning environment is so different from the traditional offline (face-to-face) classrooms. Thus, students may not be accustomed to the online presence and may feel uncomfortable and lonely as a consequence (Russell & Murphy-Judy, 2021).

4.1.2. A Sense of Engagement

Throughout the qualitative survey and semi-structured interviews, more than half of the participants expressed that they felt engaged when taking part in online group discussions. For example, in the interview, one participant (Jia) mentioned:

"I feel quite engaged when I participate in the group discussions because everyone actively discusses topics, especially some life-related topics."

Another participant (Ju) confirmed these feelings regarding group work:

"While preparing the group presentation, everyone cooperated, got to know each other, and discussed with each other. This made me feel very engaged in the whole process."

These statements show that social presence may positively affect students' feelings of engagement, and may help students become familiar with instructors and fellow students during collaborative activities. However, negative feelings must also be taken into consideration because not all students enjoy group activities, and not everyone is willing to interact with others (Wise et al., 2004). For instance, in this study, two participants mentioned that they felt less engaged during the online courses:

"I think group discussions are a waste of time and not very engaging. After being divided into groups, everyone is reluctant to speak. These students rarely discuss and respond to each other."

This response must be considered, as it appears that social presence may not always help the student feel engaged. Indeed, some students appear not to talk at all during these group discussions. This unwillingness to interact may not be entirely related to social presence: sometimes it can be related to personal emotions and traits of the individual student. As an example, one participant mentioned in the survey that she felt embarrassed to speak English in front of the other students (see Appendix F). Another participant said that he felt nervous when participating in group activities (see Appendix F). Although there are some social and psychological factors that evidently influence students' feelings of social presence and engagement, these findings are still noteworthy, as they may contradict previous research in the field.

Interestingly, two participants said they felt less engaged in learning because of untimely responses in discussion boards.

Specifically, the participants expressed that comments, such as feedback or answers, were useless due to the sometimes slow responses from fellow students and instructors. One participant said:

“I can post questions in the discussion board, but the teacher's response time is very slow. I think it's a waste of time and not very engaging because it's not efficient.”

In online asynchronous classes, discussion boards play an important role in establishing the interaction that is comparable to offline (face-to-face) classrooms. It is generally believed that discussion boards can connect students and instructors in a similar way as in natural, interpersonal interactions in traditional classrooms (Levine, 2007).

The slow interaction in online discussion boards has likely evoked a feeling of impaired social presence. Nevertheless, not all students have such unpleasant feelings. Some participants expressed that discussion board responses promoted learning. This will be discussed in detail in section 4.1.3. Overall, these results show that social presence may help some students feel more engaged in their online courses, especially in group activities (e.g., group discussions and presentations), whereas other students may not find the social presence and group activities pleasant.

4.1.3. Promote Understanding and Motivation

In this study, three participants felt that social presence in both synchronous group discussions and in asynchronous interactions improved their understanding of the curriculum. For instance, one participant (Ning) explained:

“In workshops, group discussions can deepen my understanding of a topic. Besides, the feedback from the teacher helps me improve my understanding of those concepts, and inspires me to think more deeply about the concepts.”

These feelings were confirmed by another participant (Jia):

“Sometimes my classmates will explain the answers to me, which is very helpful. Also, the feedback from discussion boards and quizzes helps me understand the literature and consolidate knowledge.”

Furthermore, in the survey, three participants felt that the interaction between instructors and students improved their learning motivation. One of them (Ning) stated:

“I feel very pleased and motivated when I have a clear understanding of the concept; when I can express my opinions freely, and receive positive feedback from everyone.”

It appears that social presence may improve learning comprehension and learning motivation, resulting in effective online learning experiences. Some students, however, had realised that group discussions were not as beneficial as originally thought, and may even be a waste of time:

“In group discussions, my group members don't focus on the questions. We just hope that all the questions are correct, so sometimes we ask other groups what answers they have chosen. I think it's a waste of time.”

Based on this statement, it seems that the quality of the discussion is not as high as the student originally thought, and the discussion ends up going ‘off the track’. In this case, group members appeared to be more concerned with providing accurate answers rather than communicating and discussing with each other. Thus, the participant felt very little social presence during the interactions, and consequently felt little improvement in her understanding. Overall, these results indicate that social presence may help some students to develop a deeper academic understanding and to enhance learning motivation by engaging with instructors and fellow

students. Other students again may struggle to see the benefit of such activities.

4.1.4. Discussion

Overall, these results show that social presence may have diverse effects on students' online learning experiences in both synchronous (e.g., online workshops and group discussions) and asynchronous classes (e.g., discussion boards).

Although some researchers claim that online learning may lead to the feeling of isolation (Haythornthwaite et al., 2000; Li, 2017), establishing social presence can reduce this feeling (Maddix, 2013; Murphy-Judy, 2021; Phirangee & Malec, 2017). An important finding in the present study was that students, undertaking online courses during the COVID-19 pandemic, expressed lower degree of loneliness and higher degree of belonging to the learning community when social presence was implemented in online classes. More specifically, many participants expressed that collaborative activities, such as group discussions and group presentations, made them feel less lonely, and that they were a part of a learning community. This finding corresponds with the findings of Maddix (2013), who showed that creating a learning community can reduce feelings of isolation among students. As such, the learning community can improve the connection and support from fellow students and instructors in the process of learning. Similarly, a study by Akyol and Garrison (2008) showed that collaborative activities can enhance students' sense of group belonging, bringing them from an individual to a holistic viewpoint. Although the participants in the study by Akyol and Garrison (2008) were not international students, their findings still showed that social presence has a positive effect on students' online learning experiences.

Another important finding in this study was that some students still felt lonely, and had no sense of group belonging. This finding may be crucial for instructors, as it raises an awareness of what actually goes on behind the computer screen (Phirangee & Malec, 2017). As a response, instructors should develop new teaching strategies to help these students overcome this sense of disconnection. For instance, instructors may be able to organise more diverse group activities for different students, interact with students more frequently, and find new ways to support their learning in an attempt to provide a social presence and a feeling of belonging (Maddix, 2013; Murphy-Judy, 2021).

Another important finding was that some students felt a sense of engagement when taking part in online courses. This is interesting, because in the study by Wise et al. (2004), the authors found that social presence did not affect students' sense of engagement. The results from this study indicate that social presence may positively affect students' feelings of engagement while also reducing any feelings of loneliness. Indeed, these findings are consistent with those of Sung and Mayer (2012), who found that social presence can encourage learners to engage in meaningful online learning and overcome feelings of isolation. Similarly, Molinillo et al. (2018) pointed out that students who experience a high level of social presence are more likely to experience a sense of engagement in online collaborative learning. Although the participants in the study by Molinillo et al. (2018) were not postgraduate students, these findings still demonstrated that social presence has positive effects on students' online learning experiences.

Some participants in the present study also explained why

they felt a lack of social presence, such as untimely responses in discussion boards. Tu and McIsaac (2002) pointed out that response times are critical to online interactions, especially in asynchronous communication, because students may perceive a lower social presence if the instructor does not respond within the expected time. While certain participants felt that the feedback on discussion boards improved learning (see section 4.1.4), there were others who complained that the delayed response from instructors made them feel that the interaction was ineffective. These findings imply that untimely responses may have adverse effects on students' feeling of social presence. They also suggest that timely interactions in discussion boards are vital as they are linked directly to social presence (Tu & McIsaac, 2002). When designing online courses in the future, it is therefore important that instructors pay more attention to their response times, and provide students with clear timetables in advance to help them understand the timing of future feedback.

It also appears that social presence can lead to higher levels of student satisfaction. Although some students have negative feelings towards online courses, most participants felt that social presence reduced their loneliness, and created a sense of belonging in the learning community when taking part in group discussions and presentations. The findings in this study are therefore consistent with previous research, as mentioned in Chapter 2 (section 2.2.2). Specifically, previous research has shown that social presence is positively related to students' satisfaction when participating in group activities (Benbunan-Fich et al., 2003). Moreover, some students felt that social presence can enhance their sense of engagement. This aligns with the findings of Cobb (2009), who showed that social presence can promote student satisfaction with online courses, and further make students feel comfortable interacting in the online environment. Although the study by Cobb (2009) did not focus on the online learning experience during the COVID-19 period specifically, these results still indicate that social presence can increase student satisfaction.

When considering students' academic improvement in the online learning environment, there was an important finding in this study (see section 4.1.3). More specifically, some participants felt that the interaction between instructors and fellow students elicited a deeper understanding of the curriculum. This result is consistent with the findings of Phirangee and Malec (2017), who showed that building a social presence provides learners with the opportunity to connect knowledge bases, and to create a shared meaning and understanding. As such, social presence helps students to gain a better understanding of concepts and topics.

Some participants also mentioned that they felt motivated when interacting with their instructors and fellow students. This implies that social presence may improve motivation. This aligns with the findings of Weaver and Albion (2005), suggesting that there is a connection between students' perceptions of social presence and their motivation to engage in online discussions. Haines (2021) also found that group activities can increase the social presence in virtual learning groups. For instance, students are willing to work harder on behalf of the group because they feel that other group members are doing the same. In the present results, one participant confirmed this notion, as she felt a strong team spirit during group presentations. Based on these considerations, the findings in this study clearly show that social presence may improve students' comprehension and motivation when taking online courses during this special

period. It must still be noted that one participant experienced less social presence during this period, because group discussions tended to deviate from the intended topic. The instructor may enter different groups at random, listen to the conversations, and offer immediate comments to guarantee that their discussions are relevant to the subject. It should also be recommended that future studies examine novel strategies to ensure that students hold effective and high-quality discussions in the online group discussions.

It seems reasonable to conclude that social presence provides students with a strong sense of belonging to the learning community as well as a feeling of engagement. Moreover, social presence reduces loneliness; enhances levels of satisfaction; improves academic comprehension, and motivates the students during the COVID-19 pandemic. This being said, the current findings also show that some students may still experience impaired social presence throughout their online learning. In order to deal with these unpleasant feelings, section 4.2 will focus on the students' own suggestions about how to better create a sense of social presence in the online learning environment.

4.2. RQ2. What Improvements can be Made based on the Effects of Social Presence on Students' Online Learning Experience?

4.2.1. Turn on the Camera

In order to help students gain positive online learning experiences through social presence, three participants suggested turning on the camera during synchronous classes. These students felt that this may help them feel more engaged and get closer to the instructors and fellow students. This feeling was vividly expressed during one of the interviews (Fen):

"That experience is great, and I suggest that everyone turn on their cameras. This will not only help students to concentrate, but will also help teachers pay more attention to us students. That is to say, everyone can see each other's facial expressions and movements, which I believe will make it more interactive."

Turning on the camera may be beneficial for both students and instructors in order to achieve a social presence. Robinson (2013) found that audio-visual communication allows students to vividly interact with both the instructor and fellow students. In turn, this may help students identify with larger groups. This specifically implies that, with the camera open during the classes, students will have more opportunities to feel a social presence through face-to-face interaction and eye-to-eye contact. This behaviour is perhaps more genuine during offline interaction compared to having conversations over a machine.

The exposure of student's privacy should also be taken into consideration, as privacy-conscious students may be concerned about their privacy when using online applications, thus attempting to take precautions to protect themselves (Baruh et al., 2017). Therefore, Shim and Lee (2020) suggested that information on how to protect student's privacy should be provided. For instance, the instructor can notify all the students in advance that they must keep their cameras on during the course. If students are reluctant to do so, they must be required to explain their reasons to the instructor.

4.2.2. Limit the Number of Group Members

Some participants felt that other students were not

particularly engaged in group discussions. To address this issue, three participants offered suggestions: specifically, they believed that allocating only a few students to each group during discussions may be helpful. For example, in both the interview and the survey, one participant (Jia) said:

“The number of participants can be smaller so that every student can have the opportunity to speak, and be more focused on the discussion. In groups of five or six, some students may not be willing to speak, so I believe that a smaller number of students will feel more interactive.”

By reducing the number of students in each group, every student will be provided with more opportunities to express their ideas, and thereby become familiar with each other. Savvidou (2013) provided a similar suggestion, recommending that instructors set up small online groups, as smaller groups can provide higher levels of social presence compared to larger groups. Wang (2009) also mentioned that when two students are paired into a group, they may even build a friendship and trust, as well as learn to respect each other's opinions. Together, the students will then make progress through interaction and cooperation. However, very small group sizes may adversely affect the discussion, as not everyone is willing to talk in group discussions (Wise et al., 2004). Some students may feel embarrassed and nervous when talking to others in a second language (e.g., see Appendix F), while others may talk about irrelevant topics (see section 4.1.3). Combined, unfortunate situations may cause ineffective discussions. Thompson and Ku (2006) found that ineffective communication between group members is the main problem in online collaborations, and that contrasting ideas within the group may cause conflicts.

Overall, this study mainly focused on understanding students' online learning experiences, anticipating that social presence would enhance online learning experiences. The current results clearly indicated that social presence provides students with a strong sense of belonging to the learning community as well as a feeling of engagement, reduced loneliness, improved academic understanding, and enhanced learning motivation during the COVID-19 pandemic. Furthermore, this study also focused on providing instructors with some recommendations based on students' perspectives, such as turning on the camera during synchronous classes and limiting the number of group members. There are, however, no empirical support to know whether the suggestions provided by our participants are truly beneficial. Thus, researchers should further explore these suggestions in order to assess their usefulness.

5. Chapter Five: Conclusion

5.1. Summary

The main goal of this study was to describe the role of social presence in the online learning experience of postgraduate students, and to explore the importance of social presence in online teaching. Moreover, the study aimed to provide recommendations to improve the effectiveness of social presence in online teaching. To better understand students' experiences, a qualitative survey and semi-structured interviews were used as the methodological framework. The results showed that social presence has positive effects on students' online learning experiences, and provided students with a strong sense of belonging to the learning community with a feeling of engagement. In turn, this reduced loneliness and promoted satisfaction. Social

presence also improved student's academic comprehension and motivation when taking online courses during the COVID-19 pandemic. To provide instructors with recommendations to further enhance social presence in online learning, one may ask students to turn on their cameras. One may also limit the number of group members in discussions, so as to provide students with more opportunities and time to express their ideas and become acquainted with each other.

5.2. Implications for Social Presence and Online Learning

The present study contributes to the body of literature pertaining to social presence in online learning. The findings of this study can be applied to enhance the understanding of social presence in online learning, and to better understand how it affects students' online learning experiences. As mentioned in the previous section, few studies have focused on social presence in both synchronous and asynchronous online courses. It is therefore novel that this study assessed students' online learning experiences in both synchronous activities (e.g., workshops, group discussions and group presentations) as well as asynchronous activities (e.g., discussion boards). This study also indicated that establishing a social presence can help students achieve positive feelings in both synchronous and asynchronous online courses. At present, there are few studies that have analysed online learning experiences of students during the COVID-19 pandemic. This research found that, during this special period, some students felt lonely when online teaching was provided. Therefore, one may suggest that when developing effective online courses, universities must take social presence into consideration as it may reduce student loneliness and promote student interaction within the learning community.

This study also provided some useful recommendations for instructors in online teaching. Because some students still experience a low social presence in online learning, some suggestions were offered from the students' own perspectives. Firstly, participants suggested turning on the camera during synchronous workshops. In order for students and staff to reach an agreement regarding the use of cameras, the instructor should ask every student to agree to turn on the camera, or put this as an official recommendation in the course handbook. If some students have concerns regarding their appearance or privacy, students should explain their reasons to the instructor prior to the online class. The instructor must then attempt to convince the students to turn on their cameras by explaining to them the benefits of doing so. Participants also suggested that limiting the number of group members in group discussions may promote social presence. To achieve this, the instructor should set up more breakout rooms when organising group discussions, so as to limit the number of students in each group. The instructor may also ask students how many group members they would like in each group.

Lastly, some participants feel less social presence because of untimely responses. To circumvent this issue, instructors need to pay more attention to the response time as it can enhance social presence and make the students feel more engaged in asynchronous classes. Perhaps instructors can also provide a clear timetable for the expected response times. Although it is still unclear whether these suggestions are truly beneficial for promoting social presence in online learning, the present study has attempted to provide some new ideas for instructors to design future online courses.

5.3. Limitations

The above section demonstrates the contribution of this study. There are, however, some limitations. Some of the participants were friends of the researcher, and another participant attended the same programme as the researcher. As such, these circumstances may have affected the confirmability of the interview data. However, as a researcher, it is important to clearly take a stance so as to be in a position to carefully monitor participants' perspectives, opinions, and personal experiences while also striking a balance between the individual and the universal (Berger, 2015).

Secondly, participants in this study were limited to one university (University of Edinburgh), and one grade level (postgraduate students). As a result, the study sample may not be representative of all students in the country. Moreover, participants may differ in other aspects too, such as prior education or course programmes as well as financial background. This limitation may have affected the transferability of the research, and one may not be able to transfer the present conclusions to other contexts.

Translation is the third limitation. Because participants came from various regions of China, the spoken Chinese language may have been slightly different from that of the researcher's own spoken language. Moreover, English is the researcher's second language, meaning that translating a transcript from Chinese to English may cause subtle translational errors. These errors can adversely affect the credibility of the research findings, because although the researcher repeatedly ensured that she had understood and interpreted the participant responses correctly, participant perspectives may still differ slightly from the intended meaning.

Lastly, the time constraint of this research is an obvious limitation. Since the researcher was inexperienced, the limited time may have impacted the ability to recruit an adequate number of participants. This may also have influenced the credibility of this study. If additional time had been given so that more students could have participated, the study findings may have been further enhanced.

5.4. Recommendations for Future Research

This study offers four key recommendations for further research on the design of online courses. First, as mentioned in section 5.3, the study sample is limited in terms of participant selection, and is therefore not appropriate for students in other ages (e.g., middle school students or high school students). These age groups may have differing opinions and perspectives regarding social presence in the online learning environment. Therefore, further research should assess the learning experiences of students at different ages and levels in order to help instructors design better online courses.

Second, to improve social presence and achieve positive online learning experiences, some participants suggested that all students should turn their cameras on when having synchronous classes. Turning on the camera, however, may expose students' privacy (Baruh et al., 2017). Therefore, further research should be conducted to determine whether putting on the camera helps students experience more social presence in the online learning environment, and how to simultaneously protect student's privacy.

Third, another suggestion from participants was to limit the number of group members in group discussions. From their perspective, it seemed that smaller groups can sustain a higher

level of social presence compared to bigger groups. This is in line with the suggestions made by Savvidou (2013). However, Thompson and Ku (2006) pointed out that having too few students in a group can lead to ineffective discussions and group conflicts. As a result, further research should identify whether an ideal group size exists to promote social presence and the opportunity to interact with fellow group members.

Last but not least, based on the participants' negative experiences with online group discussions, this study suggested that it will be worthwhile for future researchers to examine novel strategies to ensure that students have effective and high-quality discussions in the context of group discussions.

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