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INTERACTION DURING TRANSNATIONAL ONLINE LEARNING: TERTIARY STUDENT AND LECTURER PERSPECTIVES

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INTRODUCTION

Transnational education involves students studying a programme in a different country to that of the provider (Gemmell & Harrison, 2017). There is a growing transnational educational market in response to global demand for internationalised tertiary education (Youssef, 2014). Transnational education can be delivered in several ways, one of which is via online learning (Bruhn, 2017; Ziguras, 2008).

Online learning is broadly defined as education provided through the medium of internet technology (Zulfikar et al., 2019). Online learning may be used in combination with face-to-face teaching in blended approaches or be fully online, providing access to education for students unable to attend campus-based learning due to barriers such as geographical distance (Fraser et al., 2017). Recently, the COVID-19 pandemic caused an uptake in online learning in Aotearoa New Zealand (Cameron et al., 2022). Post-pandemic, transnational online learning is likely to continue to thrive worldwide due to increased resourcing and recognition (Tsiligkiris & Ilieva, 2022).

A foundational theoretical concept in distance education that has evolved to apply to online learning is the categorisation of interaction proposed by Moore (Moore et al., 2005; Vlachopoulos & Makri, 2019). According to Moore (1989), there are three types of interaction in distance learning: learner with content, learner with instructor, and learner with other learners. Learner interaction with content involves any interaction a learner has with course materials, and was considered by Moore to be essential for building knowledge and understanding of concepts. Learner interaction with instructors involves interactions between learners and a person who is facilitating use of the course materials. Learner interaction with other learners is any interaction between learners in a course, and may or may not include the presence of the instructor (Moore, 1989). As all three types of interaction help students learn, it has been recommended that instructors design opportunities for all types to occur in courses, rather than one or two types of interaction only (Martin et al., 2020; Moore, 1989).

Research on interaction in the transnational tertiary education context is emerging. Several studies have considered the perspectives and experiences of students studying programmes delivered online from another country (Dzubinski, 2014; Harrison et al., 2018; Stapleford & Lee, 2020). The cultural context of such research is a limiting factor to generalising results to other countries (Barbera et al., 2016). More New Zealand research is needed for this reason and to address the increasing uptake of transnational education.

RESEARCH FOCUS

This small-scale research study sought to answer the question: How do tertiary students and lecturers perceive interaction during transnational online learning? In doing so, the research aimed to identify ways to promote interaction in transnational online learning.

METHODS

This qualitative research study was conducted in 2021 at an institute of technology in New Zealand. Ethical approval was granted by the institute of technology research ethics committee prior to beginning the research.

Participants in the study were recruited using purposeful sampling from lecturers and students involved in transnational online programmes delivered by the institute of technology. Lecturers resided in New Zealand and taught online to students in other countries. Student participants resided overseas and studied programmes offered by the institute of technology online. Participants differed individually in terms of the duration of their experience in the online learning space. A limited number of participants was recruited due to researcher workload constraints. Figure 1 shows the basic demographic information of the six male participants included in the study.

Participant number	Role	Country of residence	Subject area	Experience
1	Lecturer	New Zealand	Graduate legal studies	5+ years teaching online
2	Lecturer	New Zealand	Graduate education studies	I year teaching online
3	Lecturer	New Zealand	Graduate business and legal studies	2 years teaching online
4	Student	India	Graduate legal studies	3 years learning online
5	Student	Australia	Graduate legal studies	3 years learning online
6	Student	Philippines	Graduate health studies	l year learning online

Figure 1. Participants in the research study.

Semi-structured interviews were used to generate data in this study. Interviews took place virtually using Zoom or in-person on campus, and followed a three-part approach, as recommended by Tolich and Davidson (2018a). Firstly, an introductory question encouraged the participants to talk about their transnational online educational experience; for example, describing what subject area they had been involved in and for how many years. Secondly, there were three questions about interaction in transnational online learning based on the three types of interaction in distance education proposed by Moore (1989). These three questions provided a theoretical basis to data generation and were specific enough to meet the research aim. Finally, a concluding question allowed the participants an extra opportunity to share anything else they wanted to say.

The validity of data generated was based on the participants having authority on the topic of interaction during transnational online learning through their experiences as lecturers and students. Participants were 'experts' on their own perceptions—lecturers of teaching online and students of learning online (Tolich & Davidson, 2018b).

Interviews were recorded and transcribed. Thematic analysis was used to identify themes in the interview transcript data (Braun & Clarke, 2006). Initially, the transcripts were read to build familiarity with the data, which allowed the formation of initial ideas. Then, data reduction occurred by manually coding and re-coding the transcripts into themes, as suggested by Kellam and Cirell (2018). An inductive approach was used in the coding process, where the themes identified were defined by the content of the transcripts (Thomas, 2006). This resulted in a range of themes that were described using the participants' own wording.

DISCUSSION OF THEMES

The following themes about how students and lecturers perceive interaction in transnational online learning were generated in the research. Themes have been grouped according to Moore's (1989) three types of interaction and discussed with links to relevant literature.

Student-lecturer interaction

Synchronous and asynchronous

Both synchronous and asynchronous approaches were applied by lecturer participants to communicate with their students. Likewise, student participants reported experiencing both approaches in their studies. This finding aligns with recommendations from other research that both approaches should be used in online learning (Serdyukov & Sistek-Chandler, 2015). Methods used for synchronous and asynchronous communication included video-conferenced classes, emails, shared documents, feedback and forum posts. The variety of methods reported by participants reflects the different modes through which student-lecturer interaction takes place in online learning, as noted by Fraser et al. (2017) in their online learning guidelines.

Applications and technical barriers

Various applications, including Moodle, Google Docs, Google Meet, Zoom and Adobe Connect, were used by participants during online learning. The advantages of applications were apparent in relation to interaction. For example, Google Docs allowed a lecturer to provide copies of assessment templates to his students and give feedback on their work, as well as facilitate class interaction around shared documents. However, technical issues with applications can act as barriers to lecturer-student interaction (Ahiafor et al., 2023; Gavan, 2015). Some student and lecturer participants reported experiencing technical issues using Adobe Connect and suggested the problems were caused by large student numbers. Problems using Adobe Connect along with other videoconferencing applications were found in Tuapawa's (2017) research about online students' experiences, suggesting that technical issues are likely to occur while using various applications, not only Adobe Connect. However, the issue of Adobe Connect raised in the current research would indicate educational providers should choose applications for online learning carefully to ensure they meet requirements.

Lecture recordings

A student in this research was disappointed not to be provided recordings of lectures after he experienced ongoing technical issues with audio quality during online classes. This suggests the student saw value in what the lecturer was saying during the classes and did not want to miss out on hearing those messages. The student believed that lecturers chose not to provide recordings in case it reduced student attendance in online classes by providing an alternative way of receiving content. However, Nkomo and Daniel (2021) found that providing recordings of lectures was perceived by students as an additional learning resource instead of a replacement for attending class, with the benefit of its being useful to revise content before assessments. It has been recommended that lecturers record classes so that students can access content at all times (Tuapawa, 2017). This may be particularly useful for online classes with transnational students as they have been found to encounter more technical issues, such as poor internet connectivity, than domestic students (Ahiafor et al., 2023; Gemmell & Harrison, 2017).

Technical support

Another recommendation to help students overcome technical barriers is to provide self-help resources that problem solve common issues (Gavan, 2015). While providing self-help resources is a reasonable strategy to mitigate technical issues, a student in this research who experienced technical issues suggested his own solution to the problem. Tertiary institutes could provide live technical support during synchronous classes, especially in the first few weeks of the course, to directly help students resolve technical problems. This solution would place responsibility for student access to interaction on the provider and recognise that because transnational students have been found to experience more technical issues than domestic students, they require more support services (Gemmell & Harrison, 2017).

Large student numbers

Large student numbers impeded interaction during video-conferenced classes. A student participant perceived that staff did not interact well with individual students due to the high number of students in his course. He acknowledged it would be not be easy for a lecturer to connect with every individual in a large course. Lecturer participants used strategies to manage large class sizes and capitalise on smaller student numbers. A lecturer divided his class into smaller groups for tutorials and made use of the break out rooms feature in his videoconferencing application to facilitate group activities. He found that smaller groups increased his interaction with students. For another lecturer who taught a small class, discussions and shared activities were possible during video-conferenced meetings. It is clear from this research that smaller groups are perceived to facilitate more individualised student-lecturer interaction. This deduction is supported by the recommendation of Serdykov and Sistek-Chandler (2015) that small groups are used in discussion activities to make interaction more personal.

Nonverbal communication

Nonverbal communication was not easy to read during video-conferenced classes. A lecturer participant expressed his frustration with only seeing the facial expression of students when they talked due to how his videoconferencing software worked. He could not see students when they were listening, therefore missing cues on levels of understanding and engagement that would easily be visible in face-to-face teaching. Another lecturer in this research actively encouraged his students to turn on their webcams so nonverbal cues could be seen. He thought students were hesitant to use webcams due being uncomfortable or lacking a good quality webcam. Although lecturers were aware of nonverbal communication as part of their interaction with students, this topic was not mentioned by the student participants. Nonverbal communication may not have been perceived as an issue by the students as they could see their lecturer's facial expression in video-conferenced classes. This inference is supported by research into nonverbal communication during video lectures that found positive connections between lecturer use of facial expression and student satisfaction with learning (Wang et al., 2019).

Time demands

Online learning is known to attract a different student demographic than face-to-face learning. For instance, students studying online are more likely to be older and have family or work responsibilities (Moore & Greenland, 2017). The students in this research all studied part-time while working full-time, which caused scheduling obstacles to interaction with lecturers and content. A student excused himself at work to attend classes during his lunchbreak. Another worked long hours and found it difficult to complete assigned readings during the day prior to attending synchronous classes in the evening after work. These student perceptions correspond to other research that found instructors consider synchronous interaction less effective due to the busy work schedules of students (Bolliger & Martin, 2018).

Time zones

Time zones as a barrier to interaction is a theme that has been identified in other research on transnational online education (Ahiafor et al., 2023; Gemmell & Harrison, 2017). In this study, time zones were perceived differently by lecturers and students. Lecturers indicated time zones were a potential barrier to interaction. A lecturer noted some of his students were less engaged during synchronous classes because it was night time in their locality. Another lecturer scheduled classes on weekends to suit the time zones of his students in Asia and avoid conflict with his other teaching commitments on weekdays, even though this interrupted his leisure time with family. In comparison, student participants appeared unconcerned about time zone differences, although this may be due to their lecturers having considered the issue in advance. For example, a student was satisfied that lecturers had factored in time zones when scheduling classes. He also appreciated that lecturers were quick to respond to emails so that students could get answers without delay, implying that lecturers replied to emails out of standard New Zealand office hours. This response time would appear to go above and beyond

recommendations from other studies that lecturers reply within 24 hours (Tuapawa, 2017). Harrison et al. (2018) similarly found that transnational students studying online had more favourable perceptions of staff who responded quickly to emails.

Lecturer presence

Lecturer presence in courses can be demonstrated through regular use of asynchronous communication tools such as emails and forums (Fraser et al., 2017). A student in this research reported minimal asynchronous interaction with lecturers and, along with another student, recommended that lecturers initiate increased contact with students. In contrast, a lecturer participant observed that some students email lecturers more regularly than others, suggesting they took a student-led approach to this form of interaction. Regardless of who initiates contact, other research has found that both lecturers and students consider regular asynchronous communication as the most valuable strategy to improve interaction and connectedness between the two parties (Hartline et al., 2022; Bolliger & Martin, 2018).

English language proficiency

English language proficiency was identified as a barrier to interaction by participants. A lecturer recognised that transnational students, while meeting English language proficiency entry criteria for programmes, may be living and working in other language environments and thus have limited daily practice of English. Learning in English can be a disadvantage for students who speak English as an additional language, especially if they encounter English in the learning environment only and not in daily life (Gunawardena & LaPointe, 2008). Where synchronous communication is used, a strategy identified by participants in this research to help transnational students understand lecturers was lecturers speaking slowly and clearly. A student in this research spoke about their reluctance to ask questions in classes because they preferred to have time to formulate ideas into English. The student instead chose to email questions after class to their lecturer. This student's perception aligns with other research, which noted that some speakers of English as an additional language may be afraid of making mistakes when interacting with native speakers (Gunawardena & LaPointe, 2008). For transnational online students, like those in the current research, asynchronous communication may have benefits for students in terms of allowing time to think about responses and consider wording of ideas (Arasaratnam-Smith & Northcote, 2017; Dzubinski, 2014).

Student-student interaction

More student-student interaction wanted

Lecturers encouraged student-student interaction in their courses through various methods. However, the student participants perceived that there could be more opportunities for interaction between students. This viewpoint suggests that lecturers may need to take further action to promote student-student interaction. A student observed that transnational students from around the world could exchange country-specific knowledge and experiences related to course concepts. This perception aligns with the findings of Harrison et al. (2018) that one motivation to study for transnational students was the potential to learn from other students in the programme. One strategy touched on by student participants in this research that lecturers could use to encourage student-student interaction is group discussions and activities. Group work has been rated by both lecturers and students in online learning research to be one of the most important strategies that promotes student-student interaction (Bolliger & Martin, 2018).

Forum use

Several factors were perceived to influence student-student interaction and these were mentioned especially in relation to forums. Lecturers observed that peer interaction increased over time as students became more

comfortable communicating in the online learning environment. A lecturer in this research commented that only half of students participated in forum activities and this was perceived as being caused by students' individual level of engagement as the forum activities were not compulsory. This viewpoint is supported by the research of Harrison et al. (2018), who found that some transnational students were comfortable using forums while others did not like them. Forums may be an unfamiliar context that students need time to overcome apprehensions about (Arasaratnam-Smith & Northcote, 2017). The lecturer has an important role to play in promoting student-student interaction in forums. In this research, a lecturer participant explained how he worked to make discussion forums welcoming and inclusive to encourage student interaction. Forums with a positive atmosphere are more likely to encourage voluntary engagement and lecturers can facilitate this through moderating discussions and providing guidelines (Vlachopoulos & Makri, 2019; Serdyukov & Sistek-Chandler, 2015).

Contact outside course learning environment

All the students in this research initiated contact with other students outside of the course learning environment in order to provide or receive support with learning. Some described successful contact while others had attempted contact but found classmates were not receptive. Lecturer participants also reported hearing about student-student interaction outside of the course format. Students in online learning can choose whether to communicate with other students outside of course structures and this can be positive for students who may not socialise as well in face-to-face settings (Arasaratnam-Smith & Northcote, 2017).

Student-content interaction

Institute resources and relevance to assessment

Student participants spoke broadly about interaction with general institute resources as well as course specific content. Students in this research used Studiosity (an online learning advice service) and library databases to help with creating assessments. This use of resources for assessment preparation agrees with a lecturer participant's view that content was accessed by students as long as they could see how it was relevant to assessment. Further supporting this view is a student's praise of course resources that helped him format assessments and reference literature. These findings endorse the recommendation of Vlachopoulos and Makri (2019) that course content should be related to assessment and easy to access to encourage student interaction.

Content suggestions

Student participants made recommendations about how lecturers could improve student interaction with learning resources. Students suggested lecturers could provide more information about what was available as both had had experiences with resources that were unclear or hard to locate. This perception is comparable to other research that found students believe lecturers could provide more information and orientation around how to use learning management systems (Tuapawa, 2017). A student in this research wanted to see more variation in learning resources provided by lecturers to keep the course interesting, suggesting gamification to engage students. Gamification strategies such as point systems and leader boards were also recommended by Fraser et al. (2017) to motivate students to engage with content. Another student in this research thought quick revision tasks like quizzes would help students find time to interact with content. As discussed earlier, transnational online learners may be time poor due to work and other commitments, and therefore quick tasks could increase student-content interaction.

Lecturer awareness

Lecturer participants spoke less about student-content interaction than the other two types of interaction. Furthermore, lecturers had less to say about student-content interaction than the student participants, who, as discussed above, spoke about the institute's resources and provided suggestions to improve content interaction.

This is concerning as student-content interaction can be considered essential to building understanding of ideas (Moore, 1989). This theme from the findings suggests that lecturers could increase their awareness of how transnational online students interact with content.

RECOMMENDATIONS

The themes of this research provide the basis for recommendations to improve interaction in online learning for transnational students, as per the research aim.

To promote student-lecturer interaction:

- Provide live technical support during the first synchronous classes in courses to help students and lecturers fix
 any technical issues encountered.
- Provide recordings of synchronous classes for students to access in case of technical issues and as a revision learning resource when preparing for assessments.
- Speak slowly and clearly during synchronous classes to help speakers of English as an additional language understand what is being said.
- Divide students into smaller groups to facilitate more personal lecturer-student interaction during synchronous classes.
- Encourage students to turn on webcams so their facial expressions and body language are visible.
- Initiate increased asynchronous communication with students to demonstrate instructor presence.

To promote student-student interaction:

- Plan group work activities in courses.
- In forums, take an active role in encouraging student-student interaction.
- Encourage student-student contact outside of the course learning environment. For example, organise an optional study buddy system.

To promote student-content interaction:

- Ensure content is relevant to assessment.
- Provide orientation to resources and services available to transnational students.
- Keep course content interesting for students by varying types of activities.
- Provide quick revision and learning activities to suit time poor students.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

A limitation of this study was the small participant sample size. This restricted the potential representation of different populations amongst participants and is unlikely to have achieved thematic data saturation (Guest et al., 2020). For example, all participants were male and associated with the same institute of technology in New Zealand. Therefore, the results of this research have limited generalisation to wider lecturer and student populations in transnational online education.

Future research could investigate the perspectives of larger participant populations in transnational online learning to increase diversity and applicability of findings. The impact of implementing the recommendations of this study could also be researched. To further investigate Aotearoa New Zealand contexts, te ao Maori concepts relevant to interaction such as whanaungatanga, as discussed by Douglas (2022), could be considered in the transnational online learning space.

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