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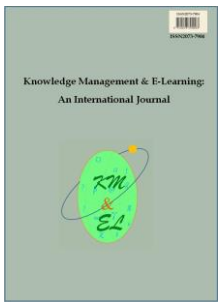

Knowledge Management & E-Learning: An International Journal (KM&EL)
ISSN 2073-7904

Recommended citation:
Sun, S. Y. H., Strauss, P., & Yu, B. (2025). The shift to the online environment: The experience of Chinese international students during Covid-19. *Knowledge Management & E-Learning, 17*(4), 557–574. https://doi.org/10.34105/j.kmel.2025.17.026

Knowledge Management & E-Learning, 17(4), 557–574

The shift to the online environment: The experience of Chinese international students during Covid-19

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Abstract: This study investigated the experiences of a group of international Chinese students at a New Zealand university who were rapidly transitioned to online learning due to the COVID-19 pandemic. Drawing on research into the experiences of students during the pandemic, and ecological and systemic considerations of the learning environment, this study explores students' activities, focusing on the challenges these students faced and the specific actions they took, i.e., what they actually did to navigate their learning environment to ensure effective learning and the achievement of their desired outcomes. The findings, based on semi-structured interviews with twenty participants, reveal that these challenges were complex but largely related to interaction and communication. Building on the findings, the study examines various ecological aspects within the complex online learning context and suggests design solutions to improve communication and interaction. The study highlights the importance of considering students' sociocultural contexts to ensure effective communication in online learning environments. It concludes by emphasizing the need for an ecological approach to designing learning experiences in the post-COVID-19 era. The study's recommendations highlight the importance of systemic planning, collaborative mechanisms, and cooperation across various departments and agencies within a university.

Keywords: Learning environment; Ecology of learning; Systemic considerations; Engagement; Interaction; Communication; Online learning; Administrative support services

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1. Introduction

The COVID-19 pandemic changed the higher education landscape overnight (Dunbar-Morris et al., 2023). Subsequently, there has been a great deal of discussion around the challenges faced by students and staff during the sudden shift to online learning that was necessitated by the pandemic. Unfortunately, much of the research in the area has painted a negative picture of the impact on student learning and wellbeing (e.g., Ives, 2021; Martirosyan et al., 2022; Oladele et al., 2022; Perets et al., 2020; Ruegg, 2023). Limbu and Pham (2023) point out that the sudden transition had grave consequences on e-learning service quality (ELSQ) and student satisfaction. While recent research has given us greater insight into this transition, more exploration of the impact on international students is needed.

The New Zealand government adopted the policy of "*go hard and go early*" in response to the spread of the pandemic (Holloway, 2022), and by mid-March 2020, a strict nationwide lockdown was in place. The speed at which the lockdown was imposed was challenging for all tertiary students, but international students were at a particular disadvantage. They had little time to decide whether they wished to return home. Those who opted to stay often found themselves living on their own as robust physical distancing measures limited contact to a single household (Holloway, 2022).

There was real concern about the situation in which these students were placed. Firstly, on a purely financial level, export education is a lucrative industry for New Zealand. Before the pandemic, international education was New Zealand's fifth-largest source of export revenue, valued at around NZ$5 billion (Choo, 2023). Secondly, and of greater concern for this study, New Zealand prides itself on the standard of care it offers international students (Choo, 2023). New Zealand and Australia are the only two countries that have a legal framework specifically aimed at monitoring the well-being of international students (Ramia, 2017). The New Zealand Pastoral Care Code is intended to ensure these students have "*a positive international study and life experience*" (Ramia, 2017).

Offering all tertiary students a positive learning experience during the pandemic was difficult for staff despite the fact that most universities had already started investing in cloud-based technologies, which enabled the sudden change to online learning (Holloway, 2022). However, in keeping with universities around the world, the sweeping nature of the changes required meant that major adjustments needed to be made. Academic staff had to repurpose and redeploy resources, upskill their digital competencies, and develop new material to transition from traditionally face-to-face programs to online learning (Izumi et al., 2021).

The enormous change in learning mode was challenging for students as well. Händel et al. (2020) noted that many students seemed ill-prepared for online learning. Worryingly, it seems that those who were not ready for the challenges of online learning and who lacked the equipment and skills to participate in digital courses might be more at risk of suffering from higher stress and loneliness (Händel et al., 2020; Ramos-Morcillo et al., 2020). It appears that international students might well have been at a greater disadvantage than their domestic peers. Siczek (2020) argues that because these students had crossed "*cultural, linguistic, geographical, and even epistemological boundaries*", they might be well equipped to deal with the challenges they confronted.

We were interested in the experiences of the international students at our own university in New Zealand. We decided to focus on undergraduate Chinese students. In 2020, there were just under 23,450 international students enrolled at universities in New Zealand, and almost 47% were from the People's Republic of China (Education Counts, 2023). In a study that sought to understand the impact of the pandemic on Higher Education globally, Moscaritolo et al. (2022) surveyed 781 international students from around the world. They found that Asian and Chinese international students were most impacted by the pandemic. Zhai and Du (2020) have also raised concerns about the mental health of Chinese international students, but research into the educational experiences of this cohort during the pandemic, especially in Western countries, appears limited.

2. Theoretical framing

Theoretically, this study is informed by current research on the systemic approaches and considerations of the learning environment and investigations into student experiences during the pandemic, particularly the challenges facing international students.

2.1. Systemic consideration of the complex learning environment

The widespread agreement that tertiary educational institutions had not always responded appropriately to student needs during lockdown has led to a desire to rethink and reengineer educational futures (Naidu, 2022a). Studies in online learning before or during the COVID-19 pandemic primarily focused on courses, teacher capabilities, learners, technologies for teaching and learning, and engagement (Doo et al., 2023; Martin et al., 2020; Mishra et al., 2021). Part of the current problem, therefore, appears to be that research has tended to concentrate on individual aspects of online learning rather than examining the complex learning environment as a whole (Naidu, 2022b; Tamim, 2020). For example, Barnett (2022) highlights the lack of community and sense of belonging generally felt by students during the pandemic and suggests that this issue could be better addressed by considering their overall learning ecology – the life of the student within and beyond the university.

Stefaniak et al. (2022) have also criticized this piecemeal approach, noting that most investigations have failed to explore how these issues are interrelated. The reality is that, beyond providing online learning content, the roles of educational institutions, teachers, and support staff are multifaceted (Weldon et al., 2021). We agree with these researchers that for online learning to be successful, the learning environment as a whole needs to respond in a concerted and coordinated way to the challenges students face (Veletsianos et al., 2022).

Indeed, a growing body of literature that views the learning environment as a whole has been emerging, advocating ecological, systemic considerations. For example, Ellis and Goodyear (2010) attempted to frame the connections between learners, teaching design, and campus planning (at a university) within a learning system. Luckin et al. (2013) modeled and charted a learner's context and their interactions with other people and resources across a range of locations, resulting in an ecology of resources model. The ecology of the contemporary learning system is, researchers assert, complex, dynamic, and constantly evolving; the learner, at the centre of the system, is constantly interacting and communicating with various possible connections that penetrate the entire ecology of learning (Ellis & Goodyear, 2010; Giovannella et al., 2020; Goodyear et al., 2021; Moore & Piety, 2022). An example in the present study occurred when students combined the use of a university website designed specifically for their course with their preferred social networking app (WeChat) to collaborate with fellow students for group work.

A systemic approach to investigation places student activities at the centre of the learning environment, focusing on their interaction and communication with peers, teachers, universities' infrastructures, and their wider social networks.

2.2. Student experiences during the pandemic

When the pandemic struck in early 2020, students were required to adapt quickly to new ways of learning (Goldie et al., 2023). A plethora of studies have since been carried out examining the difficulties and challenges that confronted students during the Covid pandemic. Most investigations tend to isolate individual issues and ignore how these issues are interrelated (Stefaniak et al., 2022). Nevertheless, studies with a broader and more holistic approach to the learning environment as a whole are emerging. For example, Henry (2021) sought to understand the student experience beyond the classroom and "*in its entirety*". This entirety embraces not only challenges facing students, but also constraints related to teachers and the institution (Ndibalema, 2022). Chen (2023) noted that academics were "*frantically*" acquainting themselves with online platforms while the institutions were also struggling with operating in a restrictive environment (Adedoyin & Soykan, 2020).

In this complex learning ecosystem, students also have to interact with university systems (technology and processes) for online delivery (Henry, 2021). It is therefore not surprising that student engagement, interaction and communication in the online environment have enjoyed a great deal of attention in online learning literature, especially so in the post-COVID-19 era (e.g., Engel et al., 2023; Kelly et al., 2024; Koh & Daniel, 2022; Limbu & Pham, 2023).

During the pandemic, one of the most frequently encountered difficulties was, according to Marković et al. (2021), the lack of two-way communication and limited opportunities for interaction, discussion and participation in class. The general lack of quality interaction with other students and teachers has been a significant problem (Azmat & Ahmad, 2022; Dunbar-Morris, 2023). A large-scale study in German universities (incorporating the experiences and perceptions of over 18,000 students) examined how learning success during the pandemic was influenced by the general setting (digital teaching), the opportunities for interaction, and the digital competences of the teachers and students (Engel et al., 2023). The study found that a key factor for learning success appears to be peer-to-peer interactions because engaging in interactive learning activities "*might reduce the perception of transactional distance and allow for social exchanges*". Another study (Potra et al., 2021) suggests that the inability to socialize with classmates and to

partake in the wider university experience is considered a significant and often debilitating challenge for many students.

The lack of peer interaction and communication also appeared to affect group work detrimentally during the pandemic. Working with peers was largely problematic, and common group work issues – such as imbalances in individual contributions, differing learning requirements, preferences, goals, and communication challenges – were exacerbated in the online environment (Dunbar-Morris, 2023; Henry, 2021). Magen-Nagar and Shonfeld (2018) believe that if online groupwork is to be successful, a number of factors deserve consideration: students need to be working in supportive and familiar groups of peers; there needs to be consistent teacher support and feedback; the technology employed needs to be reliable and easy to use. That is an ideal situation and achievable only if considerable teacher and institutional supports are available and all the actors (e.g., learners, teachers, technicians, administrative and managerial staff) are willing to put in concerted efforts to renegotiate the tertiary learning environment.

A search of online learning literature indicates, however, that less is known about the challenges faced by institutions than those confronting teachers and learners (Martin, 2022). In a review article that investigates the impact of e-learning service quality on student satisfaction during the Covid-19 pandemic, Limbu and Pham (2023) found that little research has focused on the quality of administrative assistance and support service, in particular, student-administrative staff communication.

To understand student experiences and challenges, it is important to recognize that challenges at the organizational level are systemically related to challenges at both the learner and teacher levels, and the three levels "*are nested within each other … in the online teaching and learning system as they interact and influence each other*" (Martin, 2022). Tsai et al. (2020) noted that when the pandemic struck, "*all the actors of the educational system were forced to transition to remote education*". This change meant that all staff had to rely heavily on various technologies. For some, this entailed a dramatic shift in how they worked, and unsurprisingly, many encountered significant difficulties. These difficulties affected their interactions with other staff and the students they were tasked with serving.

In this study, we investigate the insights of a group of international Chinese students as to how the changes in the learning environment as a whole impacted their learning and wellbeing.

3. Methodology

3.1. Method

This study adopted a constructionist approach, employing semi-structured interviews to interact with participants. The researchers sought to engage in dialogue with participants, following Koro-Ljungberg's reasoning (2008) that the goal of interviews is "*to examine how knowing subjects … experience or have experienced particular aspects of life*". We aimed to investigate the experiences of Chinese first-language students enrolled in academic programs during the COVID-19 pandemic. Ethics approval was sought and obtained from the university's ethics committee.

3.2. Research design

We targeted undergraduate students who may have been less equipped to handle educational challenges compared to their more experienced postgraduate counterparts. To promote candid and open discussion, all interviews were conducted by the third researcher, who, at the time of the research project, was a postgraduate student at the University. There was no power differential as the third researcher was not employed by the University. He is also a first-language speaker of Chinese.

The Chinese Centre at the university was approached for assistance, and an email (in Mandarin) explaining the research project was sent out to international undergraduate Chinese students. Notices were also posted in the university buildings' elevators. Potential participants contacted the third researcher directly. Information sheets were provided in both Mandarin and English.

We collaborated to develop the interview questions (see Appendix I). The experiences of the third researcher as a student were invaluable in guiding the development of these questions. The interview covered:

- Student experiences of online learning
- Support offered by lecturers, administrators, and university management
- Advantages and disadvantages of online learning
- Changes/improvements the students would like to see in the provision of online learning

The interviews were recorded and transcribed in Mandarin by the third researcher. The transcripts were returned to the students for member checking. Subsequently, the third researcher translated all the interviews into English. This translation was reviewed by the first researcher, who is herself a first-language speaker of Chinese.

3.3. Data analysis

Seven interviews were randomly selected by the first and second researchers for analysis. They convened to discuss their coding and the various themes they had identified. Subsequently, the second researcher completed a first draft analysis of the entire set of interviews. The researchers then focused on the overarching themes, such as communication difficulties, that emerged during the analysis (King et al., 2019). They reconvened to discuss these overarching themes.

Brinkmann and Kvale (2014) distinguish between "*arithmetic intersubjectivity*" and "*dialogical intersubjectivity*". The former refers to reliability measured statistically, while the latter refers to "*agreement through a rational discourse and reciprocal criticism between those interpreting a phenomenon*". The researchers of this study adopted the latter approach.

4. Results

Twenty students agreed to participate in the research. Their demographic data, collected and presented in Table 1, provide insight into the characteristics of the participants.

Table 1
Student profile

Code	Age	Discipline area	Years in NZ
S1	23	International hospitality management	5
S2	22	Industrial design	6
S3	30	Medical laboratory science	5
S4	22	Business	3
S5	24	Event Management and Marketing	5
S6	23	Sports and Recreation	2
S7	21	Computer and Information Sciences	4
S8	20	Applied mathematics	5
S9	23	Computer and Information Sciences	5
S10	23	Business	4
S11	19	Education	5
S12	25	Business	5
S13	21	Communication design	9
S14	26	Business	1
S15	30+	Interpreting and Translation	7
S16	24	Law	6
S17	22	Health science	7
S18	19	Education	5
S19	23	Biomedical science	3
S20	50+	Interpreting	30

Overall, the physical infrastructure surrounding the students was not a matter of great concern. What students appeared to miss was the social aspect of learning. It became evident that the effective (re)design of the learning environment for online learning by the teachers and the university was largely absent. This was identified as the primary factor contributing to most of the difficulties they faced. The major challenge reported by the students was communication – not only in interacting with their lecturers and peers but also in deciphering institutional communication during the sudden transition to online learning.

Three distinct areas of communication concern were identified, although these categories overlapped: (a) communication with lecturers, (b) communication with peers, and (c) communication with the university authorities.

4.1. Communication with lecturers

4.1.1. During online classes

There was widespread anxiety about communicating with lecturers. The online class environment did not appear to encourage students' active participation. For instance, S10 remarked, "*It was really weird to talk online, and I felt no students were talking at ease.*" Several students mentioned finding it embarrassing to ask questions online and more difficult to follow the answers when delivered online. They also felt that asking questions in face-to-face classrooms was less confronting than asking the same questions online. S3 said, "*The downside [of online teaching] was extremely obvious when I was asking some hard-to-explain questions.*" S8 described the cumulative effect of misunderstandings: "*For*

every single question I wanted to ask, it would come with a series of other questions that I hadn't understood from previous classes." Additionally, students indicated that not being able to see the lecturer's body language was a source of frustration.

4.1.2. Before and after online classes

There were numerous complaints that lecturers were slow to respond, and some students even reported that lecturers with large classes did not respond at all. For example, one lecturer only responded on the day that classes were held, leaving students feeling "*uneasy and uncomfortable*" (S12) about what would happen if they needed to contact the lecturer urgently. On the other hand, a few students felt that email communication was more effective than asking questions face-to-face. One reason cited was that students felt it enabled them to present their questions better:

> *"To be honest, I was not confident in speaking to [lecturers] in English. Instead, typing down all my concerns in emails was more suitable for me as I could organize my own language, making sure the message was precise and easy to understand. For example, I would list every question like a shopping list so they could easily grasp where my questions were coming from." [S5]*

Another advantage was the permanency of the email response. As one student (S15) noted, "*I could always go back to read what was mentioned earlier instead of trying to cram everything into my brain when talking to teachers face-to-face*."

4.1.3. Pre-recorded lectures

Academic staff often record and/or transcribe lectures, giving students the opportunity to re-watch or re-read the work at their leisure. However, pre-recorded lectures were not universally popular among students. Students pointed out that they could not ask lecturers to slow down or explain the material in more detail, leading to frustration. One student (S8) recalled that the pre-recorded lectures "*made me question what's the point of studying at university since I can do the same thing watching YouTube videos or learning from other websites.*"

However, there were a few students who appreciated the flexibility of pre-recorded lectures that could be watched whenever it suited them. Some even considered it the most popular strategy employed by lecturers. For example, S13 described it as "*a lifesaver,*" and it was the "*go-to tool*" of S19.

Another concern raised by students was that pre-recorded lectures lacked the personal touch. Students appeared to feel somewhat isolated, and some believed that lecturers should have made the effort to contact students individually. One student mentioned that their program leader had phoned to check on them, which left a considerable impression. "*It was so nice of him to do such a thing, and it was quite memorable for me*" (S19).

4.2. Communication with peers

Unfortunately, online peer communication did not seem to offer any advantages for this cohort.

4.2.1. Group work/assessment

The majority of concerns raised revolved around logistical difficulties and technical issues. Students found it challenging to find suitable times to meet online, and the use of different social media apps by students led to connectivity issues. However, the main concern appeared to be the effectiveness of online meetings. For example, S16 noted that "*more ideas were sparked*" in the face-to-face classrooms. Additionally, online meetings seemed to consume much more time than in-person meetings, with S2 mentioning that "*a task that could have been done in hours took a whole day to complete*." There were also concerns about a lack of focus during online meetings, as noted by S13, who observed that "*the discussions always turned to small talk*." Furthermore, S9 mentioned that team members "*wanted to vent whenever possible*," which left everyone feeling "*a little unsettled*" and slowed down progress.

4.2.2. Online environment and interaction

The online environment presented challenges for students in terms of communication and interaction, contrasting with the comfort and mental well-being they experienced during face-to-face meetings. For example, S13 expressed enjoyment in talking to classmates in person, while S20 reminisced about the happiness derived from face-to-face interactions with lecturers and fellow students.

Due to the limitations of the online environment, students expressed concerns about being denied the opportunity to develop networks that could aid in their career development. Interviews indicated that students found the online environment unsettling, hindering their ability to realize their potential.

Furthermore, there were discipline-specific concerns. Students enrolled in legal papers felt that the quality of debate suffered in the online environment. A medical laboratory science student noted that the two practicums, each lasting 15 weeks, were considerably curtailed. Although this did not impact the students' grades, they were concerned about the loss of valuable hands-on experience that could affect their future performance.

4.3. Communication with various university authorities/agencies

The students were also asked about the quality of administrative support services (ASS) offered by the University. Approximately a quarter of the students felt that the University had done a good job, while the majority believed that the University could and should have done a great deal more. Once again, the biggest issue highlighted was communication. While 11 students (55%) directly complained about communication failures, several other concerns also implied a breakdown in communication.

These difficulties emerged early as students were frustrated with the way the University communicated the transition to online teaching. Unlike other universities in New Zealand, this University chose to delay moving to online teaching for five weeks after the start of the lockdown. During this period, alternative completion options for the semester, such as block teaching, were considered and communicated to students. However, the University ultimately decided to move solely to online teaching. This decision left the University out of step with other institutions in the country and caused a great deal of anxiety among students. One student noted, "*We were really panicking*" (S7).

Much of the anxiety stemmed from the belief that the University had not adequately informed students about its plans. For example, students were unsure whether assignment dates would be altered to accommodate the five-week transition. When the decision to go online was finally made, one student complained about having to "*rush to pick up what was left and try to finish all the assignments before the due date*" (S10).

Students also expressed frustration that the University appeared unprepared and lacked proper contingency plans. It was argued that there should have been at least a "*plan B at the beginning of the first semester so that it wouldn't end up like that*" (S9). Annoyed by the University's initial reaction, the students appeared to pay very little attention to subsequent messages and notifications sent out to them. When questioned about this lack of attention, the students claimed the messages were so repetitive and impersonal that they "*just got used to them and no longer took any notice of them*" (S18). The volume of correspondence was an added distraction. There was also concern about the timing of the emails. Sometimes, email notifications were sent out so long in advance that students forgot about scheduled dates. At other times, students were drip-fed information by the University's administrative support services (ASS) and left waiting anxiously to be informed of events. This was particularly noticeable during the five-week hiatus before online teaching commenced.

One cohort that appears to have suffered considerably as a result of the confusion was the group of international students who arrived at the University once lockdown had commenced. Their late arrival was not due to any negligence on their part; they had simply got caught up in the chaos that heralded the beginning of the pandemic. However, it was very difficult for them to obtain the basic information they needed, such as student numbers, passwords, and links to online classes.

However, it was not just academic issues that concerned students. Their isolation during this period meant that the need for greater pastoral care increased. Unfortunately, in New Zealand, "*the discourse about caring for the wellbeing of international students seemed to be more rhetorical than actual during the pandemic*" (Choo, 2023). One student contrasted the university's response unfavourably to that of the Chinese Consulate in New Zealand, which provided its students with protective materials, including masks and medicines, during the lockdown. "*I found the speed of execution, the caring gesture, and positive attitude to be praiseworthy, and I believe it is something that the University can look into. This is real help and should be provided and is needed*" (S9).

The university counselling services did not appear to be popular with this cohort. For example, S5 was so concerned about the financial situation of their family in China that they did not ask for any financial help to cover living costs. They had to survive on rice, and the worry and hunger affected their studies. One student lost their job, which caused great distress, and while they did make use of financial assistance, they also felt that the counselling services "*would be more helpful to other students*" (S16). Yet another student, who was working with people in quarantine, felt that they "*had been abandoned by others*" but still insisted that counselling services should be left "*to those who were in need*" (S17).

Clearly, consideration needs to be given as to how these services are presented to the students. The anxiety and stress that some of the students in this cohort suffered were clearly detrimental to their well-being.

5. Discussion

The findings of the present study draw attention to the wider learning environment of the students and what the students actually did about the numerous challenges they faced. They indicated strongly that the ineffective social learning environment was the major cause of most of their problems. There was a breakdown in communication on almost all fronts: communication during the online classes was difficult; online meetings with peers were ineffective; understanding the university communication was problematic; and the counselling and financial services did not appear to take the needs of different student cohorts, including international Chinese students, into account. Guppy et al. (2022) remarked that "*when COVID-19 struck, higher education scrambled.*" At this university, the scrambling did not appear to be particularly effective. Our findings seem to agree with the COVID-19 literature that many teachers and administrators approached the change to online learning "*as a temporary means of communication, without changing their course design, teaching, or relating to learners*". They appeared to be "*desperately*" attempting to emulate face-to-face teaching in the online environment (Shattuck, 2021). Unfortunately, the traditional face-to-face platforms that facilitate learning activities, connections to peers, and social networks across time and place were no longer available.

To overcome the difficulties, Weldon et al. (2021) argued for a change of approach: what was needed was a concerted effort by academics (e.g., lecturers) and support staff (including IT technicians, student counsellors, and administrators) to adopt a "*multi-factorial and tailored*" design approach that took the changed environment into account and effectively facilitated concerted effort and cooperation among teachers and university's administrative support services (ASS).

Evidence provided in this study indicates that inadequate communication was the root cause of most of the problems encountered by students. This finding supports the work of Guppy et al. (2022), who argued that meaningful communication between students and their lecturers, and students and their peers, is essential if we wish to adequately equip students to deal with the challenges of the online environment in higher education. The communication should not be limited to academic matters. As Henry (2021) noted, we need to look at the "*broader experience of being an online student*". When redesigning for online learning, systemic considerations of the complexities and inner workings of online learners' learning environment are essential.

We would like to emphasize the importance of systemic considerations that take the broader experience of the online learner into account. The international Chinese students in our study clearly desired a more personal touch in their online interaction with their lecturers and would have appreciated more one-to-one communication opportunities with the teachers. They missed the cues that teachers' body language provides in face-to-face settings. They were not alone in this regard. Students in Nguyen et al.'s study (2021) of the views of close to 5000 undergraduates found that face-to-face communication with instructors improved their satisfaction with both teaching and learning. The students characterized communication in online classes as being "*weird*" and confronting, and felt speaking up in class had become problematic. Evidently, for this group of Chinese international students, online teaching was not offered in a way that made it an adequate replacement for face-to-face teaching. They felt there was a lack of an opportunity to speak to lecturers after class, and they were critical of pre-recorded lectures, which gave them no opportunity to seek clarity when they were confused. Confronted with these new challenges

in online learning, many students may have resorted to "*blending into the crowd, and remaining low key*" (Heng, 2023), as speaking up in class is often seen as showing off.

To address these concerns, it appears that a broader approach is required, which might involve designing extra communication channels for small groups and/or individuals, using social media apps such as WhatsApp and WeChat, which would enable students to raise issues in a relatively safe environment. This new design would not necessarily increase teachers' workload because small WhatsApp or WeChat groups are subsystems within students' ecology of learning. Such groups might already exist, as indicated by the students who sought help from peers. Teachers, by setting up or joining such groups, could not only help students learn but also foster better teacher/student and student/student relationships. It would also be a useful opportunity for lecturers to gauge students' understanding of issues raised in class and to assess to what extent language difficulties might be interfering with understanding. In addition, these group chats could boost student confidence and encourage them to take a greater part in classroom conversations.

The redesign for online learning could also include a Q&A group email or forum. As indicated earlier, such a forum would allow students to carefully consider the questions they wanted to ask and to plan the language they would employ to phrase the questions. The Chinese students appreciated the written responses from the lecturers as this meant they had a record of the lecturers' answers, and did not have to rely on their own recollections.

Finally, this study also identified problematic communication between individual students and the university. Students expressed a belief that the university could and should have been more proactive in informing them about planned actions and providing support when the lockdown first came into effect, which would have alleviated feelings of anxiety and insecurity. They felt that the formal tone adopted by the university, coupled with the overuse of generic emails, resulted in students not being seen as individuals. The transition from being left out of the information loop to being bombarded with emails led students to simply switch off and ignore correspondence. Consequently, the university failed to effectively communicate with this particular student cohort. This underscores the lack of systemic considerations and highlights the need for adopting ecological design approaches.

A more systemic approach to emails, for instance, could have ensured better coordination between the various organizations (subsystems) within the university's ecology of learning, leading to more effective communication with students. The lack of a systemic approach was also evident in the university's administrative support services (ASS). For instance, the handling of fee payments and visa applications was often poorly managed. Students who arrived just before the lockdown were not properly assisted.

The university also needed to consider student wellbeing in regard to the New Zealand society at large. The pandemic led to massive job losses, and as competition for these jobs grew, the government made it clear that they were not particularly supportive of international students' need for employment (Choo, 2023). To exacerbate matters, only 13% of the money allocated to the international student sector in 2020 went to the pastoral care of these students (Choo, 2023). It is not surprising, therefore, that student welfare and counselling services came under criticism in this study.

What emerged quite strongly from the interviews was that most of the students felt that their overall needs were not adequately met by the university during lockdowns. These needs encompassed better teaching, a more organized and logical approach to managing

administrative matters, better ways to communicate online, and, very importantly, the need for a more personal and personalized relationship between students, lecturers and university authorities. Additionally, it appears that these students could, and probably should, have made better use of counselling and financial help, but the way in which these services were offered made it difficult for them to reach out for help. Culturally, seeking help may not always be seen as acceptable among Chinese-speaking students. Lu et al. (2014) argued that seeking help for mental health issues is often perceived as shameful, leading to concerns about losing face. Although it may have been understandable that the university, concerned about financial downturn, was reluctant to employ Chinese-speaking counsellors, there were enough Chinese-speaking lecturers at the university whose expertise could have been leveraged for communicating with the largest group of international students. A simple message sent out in Mandarin to this group could have been a welcome personal touch (Chalungsooth & Schneller, 2011) and might have encouraged students to seek the help they needed. This underscores the need for a new design approach that integrates resources from various subsystems within the university's ecology of learning, perhaps through a centralized webpage or platform specifically targeting and supporting international Chinese students in their learning and well-being.

6. Conclusion

The present study underscores the critical importance of effective communication in facilitating the transition to online learning, especially in unexpected and sudden circumstances. It highlights the need for a systems thinking (Tamim, 2020) and ecological approach to the learning environment to be adopted by all staff to ensure smooth and effective communication (Veletsianos et al., 2022).

It is worth considering that when the pandemic struck, many educators and institutions worldwide had limited experience or background in open, flexible, and distance learning. Consequently, the shift to non-traditional approaches was often accompanied by chaos and confusion (Naidu, 2021). Research, such as the present study, provides valuable insights into the challenges faced by learners, teachers, and institutions during this transition, and can inform the reimagining and reengineering of education systems for the post-COVID-19 era (Naidu, 2022a).

The implications of this study for practice and policy are significant. Firstly, it emphasizes the importance of adopting an ecological approach when designing for online learning. Such an approach entails considering systemic factors, encouraging collective engagement and ensuring coordination among different stakeholders. Secondly, it highlights the necessity of considering international students' sociocultural context and their engagement and interaction patterns when developing communication channels and support systems in online learning environments.

Author Statement

The authors declare that there is no conflict of interest.

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Appendix I

Demographic questions

1. How old are you?
2. In what discipline area are you studying e.g. engineering/business/hospitality etc?
3. How long have you been in New Zealand?
4. Do you have a job?
5. If so, how many hours a week do you work?
6. Did the Covid-19 pandemic affect your employment?

Questions about study

1. What did you find most challenging about your studies this year?
2. Did you reach out to your lecturers for help? If so, please describe the experience.
3. How do you feel about online learning? How do you feel about blended learning?
4. The university provided many services during the pandemic. Did you use any of them? If so, please describe your experiences.
5. Please describe your experiences of the transition from face-to-face to online learning.
6. What strategies did you employ to cope? What were the most useful?
7. Were there outside factors that impacted on your studies e.g. concern about family members financial difficulties, accommodation difficulties etc.? If so, please describe please.
8. What would you have liked the university to do differently?