Teaching health science students during COVID-19: Cross-hemisphere reflections

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Practitioner Notes

1. Collective autoethnographies provide a unique opportunity to explore diverse COVID-19 educator perspectives.
2. Health science education globally had some common approaches during the pandemic.
3. Human connection, online course design, and transparent course information were identified as key to supporting students to succeed.
4. There were unique differences between pre- and intra-pandemic teaching environments.
5. Online health science education is more than digitalisation and should focus on effective digital pedagogy.

Keywords

remote teaching, pedagogy, reflections, coronavirus, collective autoethnography

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Introduction

Subject matter mastery, mutual understanding with students, and effective instruction are important elements of high-quality teaching. According to Al-Busaidi et al. (2016), effective instructors are respectful of students as individuals, listen to their questions and concerns, are a support for them and treat them fairly, and are also competent and prepared for class. McKinney (1988) described five components of quality teaching with the use of the acronym FACES, which stands for fairness, application, challenge, entertainment, and service. McKinney further explained each of the components. Fairness refers to how the instructor approaches the course and treats the students. Application focuses on teaching relevant and useful information while challenging students by setting realistic expectations. Entertaining may also be considered the instructor's level of enthusiasm and service is the expectation that the instructor will engage in bettering their discipline and profession. Using McKinney (1988) and Al-Busaidi et al. (2016) as frameworks, it appears that the key components of high quality in-person instruction in health sciences prior to the COVID-19 global pandemic included: Instructors with expert knowledge of the course subject matter, well-designed curricula, facilitation of active student engagement, periodic gauging of students' comprehension of material, and coordination of clinical rotations.

The COVID-19 global pandemic has resulted in the most widespread disruption of education systems ever recorded, impacting nearly 1.6 billion learners and their families across more than 190 countries (United Nations, 2020). Universities have moved rapidly to implement distance-learning solutions to ensure education stability, while maintaining physical distancing to mitigate the spread of the virus. While this has been seen as an opportunity for many academic staff to diversify their use of online platforms for teaching, the rapid move with less than reliable information technology (IT) resources and working from home arrangements has meant that, for many, this has been a stressful transition (e.g., ASHA, 2020; Khan et al., 2020). For students, who were unable to experience in-person, face-to-face teaching, this has been a challenging time. For example, students have dealt with pedagogical and assessment changes, they have had less spontaneous incidental learning interactions with peers and lecturers, and, for some, the available internet, IT, and computer facilities are less than ideal (Aristovnik et al., 2020).

For medical and health science students in particular, cancellation of in-person clinical rotations, and small group assignments has stalled the traditional manner of collaborative learning (Ferrel & Ryan, 2020). Several papers have discussed the various impacts of the pandemic on medical students' learning (Bambakidis & Tomei, 2020; Franchi, 2020; Iyer et al., 2020). However, less is known about the impacts of the pandemic on educators involved in teaching allied health professions and public health students during this time. In addition, educator perspectives are often limited to a single geographic region or higher education institution (e.g., Kidd & Murray, 2020), limiting generalisability of findings for enhancing teaching practices globally. To our knowledge, there are no existing published reflections of cross-hemisphere educator experiences and challenges while teaching during the global pandemic. Thus, the main aim of our manuscript is to identify our shared and unique cross-cultural experiences of teaching health science students online during the COVID-19 global pandemic so that other university instructors may better understand their own teaching practices.

Method

We used collective autoethnography to systematically explore the experiences and perspectives of the three authors in a critically reflective manner (Wilson et al., 2020). Collective autoethnographies provided the opportunity for each author to reflect on and describe both their unique and shared teaching practices throughout 2020, during a global pandemic, which required physical distancing and a rapid shift to remote/online learning to mitigate the spread of the virus. Each author engaged in collaborative

group discussions and wrote an independent reflection answering the following questions: "What are/were my experiences teaching students studying health sciences during the COVID-19 global pandemic?" and "What are some aspects of my teaching that puzzled, concerned, or surprised me during 2020?" The average length of our written reflections was 693 words (range between 493 and 966 words). Our specific quotes are included in this manuscript and are attributed to an educator using a pseudonym (i.e., Author A, Author B, Author C) that does not correspond to the authorship order of this paper.

To analyze the autoethnographies, each of our reflections was openly coded using a thematic analysis approach. This process included brainstorming to consider all possible meanings and ensure careful observations of the written reflections. This data coding and analysis was done without *a priori* hypotheses in order to reduce coder bias (Braun & Clarke, 2006). Initially, our autoethnographies were analyzed individually using in vivo coding. Then, after the in vivo coding was complete, these codes were broadly examined for similar and unique ideas and thoughts expressed by us during multiple synchronous Zoom meetings. During these virtual meetings, we engaged in dynamic discourse to discuss and reflect upon the in vivo codes established and funnel similar codes into categories. Our initial categories, displayed in Table 1, included: types of courses taught; learning objectives; challenges of time zones; values of and opportunities for students to build sense of belonging and community; positive student responses/feedback; continued consideration of human connection needs post-pandemic; surprising aspects of teaching during pandemic were students' needs for community-building, flexibility, and connection to one another; loss of collegiality of cohort; emotional support provided by instructors; check-ins with students; challenges teaching during pandemic; course designs; different instructional needs for full time vs part-time students; online teaching aspects before and after pandemic; pedagogical shifts; and redesign of learning management systems. These categories were then collapsed into four key themes: 1) general course information, 2) human connection, 3) pedagogical approach/course design, and 4) comparisons to pre-pandemic teaching.

Table 1

Established Categories and Emergent Themes

Categories	Themes
Types of courses taught; learning objectives; challenges of time zones	General Course Information
Values of and opportunities for students to build sense of belonging and community; positive student responses/feedback; surprising aspects of teaching during pandemic were students' needs for community-building, flexibility, and connection to one another; loss of collegiality of cohort; emotional support provided by instructors; check-ins with students; continued consideration of human connection needs post-pandemic	Human Connection
redesign of learning management systems; challenges teaching during pandemic; course designs; different instructional needs for full time vs part-time students	Pedagogical Approach/Course Design
pedagogical shifts; online teaching aspects before and after pandemic	Comparisons to Pre-Pandemic Teaching

To minimize bias and maximize the validity and reliability of our research findings, qualitative coding of our written transcripts, dynamic discourse analyses of our group discussions, and critical reflexivity were implemented. These multiple means of qualitative analysis allowed for triangulation of data for each author's reflection. Our critical reflexivity included using introspection, intersubjective reflection, and mutual collaboration as described by Poerwandari (2021) to frame our reflections and attempt to mitigate bias. Our ongoing critical reflexivity enabled us to monitor our own research process and engage in self-awareness and self-reflection to ensure the integrity and the degree of validity and trustworthiness of our findings. The themes that emerged from our written and oral reflections and discussions are defined and described in Table 2 (Appendix A) and discussed in more detail in the Discussion and Findings section of this paper.

Discussion and findings

Although the authors are located in different geographical areas and teach a variety of subjects in health sciences, several common themes were identified across our reflections. The following section will describe the shared themes noted in our autoethnographies within the context of existing literature related to online/remote pedagogy. First, we report on the general course information contained in our autoethnographies, including the types of students and courses we were interested in reflecting on for this paper. Next, we report on the human connection needs of our students, which were highly visible throughout the pandemic. Third, we report on pedagogy and course design aspects of our remote/online courses. Finally, we provide an analysis of the shifts in our teaching when compared to pre-pandemic pedagogy.

General course information

As noted in Table 2 (Appendix A), the authors reported teaching different levels and disciplines of health science students, including postgraduate students enrolled in the Master of Health Program at the Australian National University, postgraduate students enrolled in the Master of Speech-Language Pathology program at Portland State University, and students enrolled in the Associate of Health Information Management program at El Paso Community College. We also reflected on our learning outcomes for students, which were driven by accreditation bodies for our respective disciplines and focused on preparing students for occupations within health sciences. Finally, we each also noted challenges in coordinating time zones with students for synchronous courses and meetings. These aspects of our autoethnographies provided the foundation for our exploration of our unique and collective pedagogical experiences during the COVID-19 global pandemic.

Human connection

One of the most pronounced shared experiences of teaching during the COVID-19 pandemic, identified by all three authors, was the significance of human connection to students' learning experiences. All authors noted that this need for human connection was never more apparent than in 2020, and each reported utilizing a variety of activities to help build a sense of belonging and community in our respective student cohorts. These included (See Table 2 for richer context for activities) an optional weekly student and instructor gathering in a virtual coffee lounge, a surprise virtual graduation for students, a "happy playlist" where students were invited to select a song for the day to listen to at the start of online class sessions and a short mindfulness exercise to open each class session.

Overall, this explicit focus on developing activities to enhance a sense of connection for students aligns well with existing knowledge that a sense of belonging and connection can positively impact student engagement and achievement (Hausmann et al., 2009). The role of face-to-face teaching on

opportunities to strengthen collegiality within the cohort and with faculty is critical to developing a sense of human connection and secure learner identity (Read et al., 2018). Building camaraderie organically in a cohort is much harder to develop in an online environment (Fowler-Watt et al., 2020). This was echoed by one author who reflected that the field trip in their course was also the trigger for an exponential growth in cohort camaraderie in addition to exposing them to a real-world example of learned material. They observed that: "The point of the [field trip] is to promote collegiality among the cohort as well as learning was lost [due to the pandemic]" (Author A).

In addition to collegiality, teaching infused with empathy and compassion were also identified by all authors as playing an important role in fostering students' senses of belonging and connection. The authors' reflections on empathy and compassion fit within the existing literature related to teaching experiences during the pandemic. For example, Auerbach and Hall (2020) emphasised the need for "compassion as an underlying principle" and stated that "care at the centre of emerging forms of adjusted and online education must be supported, even post-COVID." For many students, the pandemic adversely affected their mental health due to disruption of their academic routine (e.g., Agnew et al., 2019; ASHA, 2020), loss of additional income to support their studies, an increase in fear/anxiety felt for their family and loved ones (Zhai & Du, 2020), and a substantial reduction in physical activity (Osipov et al., 2021). These factors contributing to students' increased need for human connection are echoed in the following author reflections: "The students were consistently more worried and stressed. This was particularly evident for full-time students who normally would have been on campus." -Author A. Author C also reflected that one of the biggest surprises for them during 2020 teaching was "the extent to which students needed/wanted community-building time, flexibility, and connection to each other (not just connection to the material)."

The positive feedback from students to these "add-ons" (i.e., community building activities, flexible meeting times and assignments, and general recognition of the physical and mental health stressors impacting students) exemplifies the need for such activities to be embedded in our teaching, even without the added stress of a pandemic. As Author C reported, "Students positively responded to opportunities to check-in about their overall learning and health with classmates and in a larger group context."

This sentiment is echoed by another author who reflected that:

> *The students who did log on appreciated the time I had set aside and always had interesting questions and insights into the modules. It also gave them a chance to engage with each other in "real-time", in addition to the forum posting and discussion boards online* (Author A).

As we revisit our separate curricula, and modify it to fit our post-pandemic world, perhaps this is an opportunity to take a well-being and compassionate lens to how we develop and deliver our teaching materials. This reframing of pedagogy to center students' well-being will counter traditionally individualistic and competitive mindsets in teaching and learning that undermine safety (Kinchin, 2019). The need to revisit our teaching practices and curriculum design in this context is highlighted by one of the authors who wrote in their autoethnography:

> *The COVID-19 pandemic has illuminated the need for faculty to focus broadly and holistically on a student's educational experience - not just content mastery, but the overarching need for "health and learning" goals. Graduate programs are rigorous and we know that many graduate students, across disciplines, report having anxiety and depression. Perhaps the goals of health and learning should be continued post-pandemic in recognition of the various challenges and barriers to learning that a student may be experiencing* (Author C).

There is less information on the impact of lost connection on teaching staff, but this intrinsic sense of belonging is not only important for the students, but also for faculty (Mulrooney & Kelly, 2020). For many educators the teaching of core content was not an issue during the COVID-19 pandemic as much as the added stress of family and career responsibilities during lockdowns, the additional administrative duties relating to remote teaching, and the additional support that needed to be developed for students. The United Nations Educational, Scientific, and Cultural Organization (UNESCO; 2020) has already identified the negative consequences of abrupt closures of educational institutions and the limited time to transition to online teaching on the mental health of teachers. This sentiment is echoed in our authors' reflections in which additional stresses including increased online contact hours and caring responsibilities reportedly further hindered the capacity of educators to provide the same level of pastoral care and connection that they may have liked to. One author stated:

> *Teaching staff, working from home, juggling other commitments including caring responsibilities, and the blurring of lines between work and home meant that they felt ill-equipped to provide/cultivate the same level of belonging to students in this new environment* (Author A).

Another author echoed this sentiment while issuing a call to arms for collective support by saying that:

> *Some of them lost work hours while others had jobs that mandated extra hours to keep up with demands, which added stress, exhaustion, and fear. We reminded the students constantly that we are all humans struggling with the global situation, so we understand, and we are here for them if they need anything* (Author B).

To support students effectively during such challenging times, it is important for teachers to develop and nurture their own professional learning networks to support each other and their learners (Brown, 2020). Taken together, our autoethnographies revealed a significant amount of time and energy was spent focusing on building connections, a sense of community, and facilitating belonging for students while teaching during the COVID-19 pandemic. We also highlighted the continued need for infusing courses with compassion and relationship-building opportunities, even in a post-pandemic educational environment.

Pedagogical approach/course design

A third theme identified across our autoethnographies was a reflection on course design and pedagogy. The pandemic has forced educators to refocus our attention to teaching pedagogy (Veletsianos, 2020) and the largely limited innovations in remote teaching (Baggaley, 2020). Over the last 18 months, there has been a surge in publications reporting innovations in online, remote teaching methods and examples of blended learning (e.g., Alqurshi, 2020; Ferri et al., 2020; Lockee, 2021). Our reflections on course design and pedagogy fit within this recent line of educational inquiry and showcase the struggles and successes we experienced.

The burden of emergently transitioning to an online environment included educators rethinking and redesigning course components, handling the challenges that come with the digital divide, and instructor's preparedness. Some of the challenges we reflected on in this area included:

> *All efforts to create a great student learning experience in the middle of a pandemic was not recognised or appreciated* (Author A).

Many students were not equipped to be fully online. The school had to supply hardware for students and teachers that did not have what they needed to attend classes remotely. Some students reside in another country and struggled with access. Others struggled with access due to having school aged children who needed to use devices in the daytime or not having sufficient internet at their residence (Author B).

Transitioning to the virtual platform revealed that students did not have this incidental socialization and learning time which negatively impacted their sense of belonging and community. So, I felt it was imperative to include [check-in times] in my classes. I highly value the students' connection to each other, to me as an instructor, and to the course material (Author C).

The challenges associated with teaching graduate students online during COVID-19 were numerous and included 1) transitioning pedagogy to an online environment, 2) rethinking and redesigning course components (including activities and assignments), and 3) providing more opportunities for students to build a sense of belonging and community (Author C).

With physical distancing regulations related to COVID-19 requiring educators to pivot practically overnight from in person to online pedagogy, many were left to revamp the components of their courses while learning to more optimally implement the tools in their online learning management systems. Marshall et al. (2020) found that "a large majority of teachers indicated that they had never taught online before the emergency transition, and very few had received any meaningful training from their school or school district." Part of the challenge was the digital divide, which has been a well-documented issue that many students have had to navigate for years (Reisdorf et al., 2020). With schools globally compelled into a remote learning environment by COVID-19, the true effects of the digital divide have been brought into the spotlight (e.g., Hall et al., 2020; Lai et al., 2021).

A common thread amongst the authors was managing course designs, such as deadline extensions and creating engaging activities, which resulted in a heavier workload for instructors. Collectively, our reflections and discussions demonstrate that this experience has been a delicate balance of trying to be fair to both students and ourselves, while maintaining academic integrity. While reflecting on managing course design, we noted:

All course deadlines and assessments were available to them in Week 1 with an automatic extension applied to all their due dates (Author A).

Having little experience teaching online previously I'm not sure how much of the student's needs/expectations/priorities have shifted. However, the impact that [switching to remote learning] had on my pedagogy was significant. For example, I designed a hybrid synchronous/asynchronous learning environment. I held "live" classes once a week - and only had two students miss a class throughout the term (out of 42!) and one asynchronous class per week (Author C).

Weekly activities allowed students to remain connected and actively apply the material learned in classes, but also generated significant grading work for me (Author C).

We were to extend deadlines and work with the students' needs (Author B).

Studies have found that the success of online learning is impacted by student engagement (Chen et al., 2010) as well as each student's attitude and motivation (Ferrer et al., 2020). Jamieson (2020) noted an

increase in the amount of time an instructor spent in a course to "develop an online teaching presence, to develop methods to connect with and engage students, to develop online community, and to convert [face-to-face] active learning strategies to analogous online strategies." Walker et al. (2021) also documented students' reports that they were less engaged since the emergency shift to remote instruction; however, the students reportedly felt more engaged when activities were offered synchronously.

Lastly, we identified the different instructional needs for full-time versus part-time students within our collective autoethnographies. Full-time students were reported to need more human connection when working through their courses while part-time students were observed to be more independent.

> *Human connection was clearly quite important to their experience of learning. This was much less apparent for part-time mature students who did the course in their own time and had specifically chosen to do it online to fit in with other aspects of their lives. These part-time professional students also did not log into any of the "check-in" sessions, indicating that they were ok with limited contact and happy to email with specific queries if they had any. (Author A)*

While examining teaching methodologies in an adult online program, Schultz (2012) found that Malcolm Knowles' theory of andragogy (Hartree, 1984) also applies to distance learning when the students are adults. Thus, course designs must reflect the various learning styles of the students (Zapalska, 2006), which can be difficult when teaching a diverse group of students.

Comparisons to pre-pandemic teaching

The fourth theme which emerged from our collective autoethnographies, and which is closely related to the preceding theme of pedagogy/course design, is comparisons to our pre-pandemic teaching experiences. Specifically, we identified a shift in student check-in frequency, a necessity of redesigning our online curriculum/learning management systems and pedagogy, and an increase in professional and administrative needs/support while teaching during the COVID-19 global pandemic. Related to student check-ins, we reflected on the following changes while teaching during the pandemic:

> *I created breakout sessions for students to check-in with each other in a pair or small group environment. During these check-ins, students discussed class materials, applications of theory to practice, and any other personal or professional topics that arose. Then, after those activities, I would begin my synchronous online lecture. I found that the students most positively responded to opportunities to check-in about their overall learning and health with classmates and in a larger group context. This was a different organization to my teaching/classes when compared to pre-pandemic, in-person teaching (Author C).*

> *These check in times were not really needed pre-pandemic as the class offered those times between breaks and before the start of a session and post-session (Author A).*

Our reflections on the increased need for students to converse and check-in with peers during scheduled course times are unsurprising when considering Morris et al. (2020)'s findings of social work students' increased isolation due to decreased social interactions with peers and faculty during the pandemic. The U.S.'s National Institutes of Health (NIH) reports that negative health outcomes may be associated with a person's experience of isolation; thus, it is critical that we recognize the benefit of using peer-to-peer check-ins to reduce isolation for our students (National Institute on Aging, 2019). Additionally, using McKinney's (1988) and Al-Busaidi et al.'s (2016) frameworks for effective teaching, we noted and reflected on the importance of well-designed curricula and the facilitation of active student engagement

in our remote/online courses during the pandemic. In addition to our shared experience of increasing the frequency of student-to-student check-in times during our courses, we also noted a shift in our pedagogy and online curriculum/learning management systems (LMS) while teaching during the pandemic to increase student engagement and learning when compared with in-person, pre-pandemic teaching. Specifically, we stated:

> *The challenge of transitioning to a completely online/remote format was especially evident when converting the field trip to a web-based virtual experience with [minimal notice]* (Author A).

> *Many instructors were not trained or not confident with using the LMS. I was added to some classes mainly to help set-up the LMS* (Author B).

> *I completely redesigned the LMS so that students saw weekly modules with the directions "Read:" "Listen:" "Do:" to direct their asynchronous learning. I incorporated multi-media such as podcasts, blog posts, and videos in addition to the traditional peer-reviewed research articles. This use of multimedia activities and resources was not new to me, but the structure for the weekly activities and the overall organization of the LMS were new* (Author C).

Given that students are increasingly experiencing the environment of universities/colleges in a digitized manner (Wilson et al., 2020), it is important to highlight the role of remote/online learning systems and pedagogical shifts in terms of student success. As a result of the pandemic and public health guidelines for mitigating transmission which included physically distancing, courses which were traditionally offered in-person, on-campus have shifted to a remote/online environment, but, as Kaup et al. (2020) noted, it is critical that instructors carefully consider how their course materials and activities will best translate to enable learning in a virtual manner. In addition to the comparisons of student check-ins and LMS use pre-pandemic, we also noted increased needs for providing emotional and psychosocial support to our students while teaching during the pandemic. Specifically, we reflected on our relative lack of built-in pastoral support for our students in pre-pandemic teaching and noted the importance of carrying this addition to our courses forward in future, post-pandemic teaching:

> *The COVID-19 pandemic has illuminated the need for faculty to focus broadly and holistically on a student's educational experience – not just content mastery, but the overarching need for 'health and learning' goals. Graduate programs in speech-language pathology are rigorous and we know that many graduate students, across disciplines, report having anxiety and depression. Perhaps the goals of health and learning should be continued post-pandemic in recognition of the various challenges and barriers to learning that a student may be experiencing* (Author C).

Practical implications

This research provides an opportunity for instructors in health sciences to reflect on shared and unique experiences of teaching during the COVID-19 pandemic. Although the global pandemic will eventually subside, we believe some of the pedagogical lessons learned from shifting to a remote/online learning environment should persist. For example, the emphasis on compassion, human connections, and peer-to-peer interaction should be continued in a post-pandemic pedagogical model. During the pandemic, while we were experiencing collective trauma, it was clearly identified that students needed an emphasis on their emotional and psychosocial wellbeing during courses. The lessons learned regarding hosting flexible meeting times, increasing student-to-student check-ins, and providing opportunities for students to connect with faculty should be continued as we move into the next phase of teaching adaptations during/post pandemic. Additionally, the use of remote/online learning environments for traditional in-

person courses and assignments increased accessibility to content for a number of students. While the lack of in-person, hands-on training opportunities were difficult to replicate in an online environment in a short time-frame, new and innovative ideas were spurred such as virtual field trips and alternative assignments. Continuing to include online/remote learning opportunities for field trips or professional panels/discussions would enable students who are located in different geographical areas from their institution to participate in a variety of learning activities. Furthermore, virtual field work/trips make the discipline more accessible to students with disabilities or students with caregiving/parenting responsibilities who may be unable to travel. Finally, we believe that instructors should be well informed about the benefits and challenges of remote learning. We found that we experienced a tradeoff between flexibility with deadlines in our remote/online courses and the corresponding workload.

Limitations

The main limitation of our collective autoethnography is the small sample size, preventing large-scale generalisation of results. This drawback is a result of the method itself which enables a rich contextual analysis and reflection (Mendez, 2013). Another potential limitation is the subjectivity in the results as an individual lens is applied, making the work harder to measure (Queirós et al., 2017). However, the emergence of common themes among the authors in relation to their experience of teaching health science students during COVID-19 is a real strength of the current work. The consistency in the challenges and experiences of teaching during this time were surprising as the educators span three very different geographic and cultural spaces. Such congruence emphasises the importance of such methods in research as well as increases the rigour and generalisability of our results. At the same time, this study adds new and much needed evidence to the currently limited voice of educator experience of teaching during the pandemic.

Conclusion

This collective autoethnography was completed to identify the shared and unique cross-cultural experiences of educators across three geographical regions teaching during the COVID-19 global pandemic. We systematically explored the experiences and perspectives of the three authors in a critically reflective manner. This analysis yielded four themes: the general allied health professions and public health course information, the human connection needs of our students, pedagogy and course design aspects of our remote/online courses, and an analysis of pre-pandemic pedagogy compared to the post-emergent shift to remote pedagogy. At the onset of the pandemic, universities moved rapidly to implement distance-learning solutions to ensure education stability while maintaining physical distancing to mitigate the spread of the virus; however, this led to increased contact hours and workload for instructors who needed to develop additional activities to enhance a sense of belonging and human connection for students. On short notice, educators had to rethink and redesign courses based on a pedagogical approach that facilitates successful learning outcomes through remote course work. When comparing our cross-hemisphere and cross-cultural teaching practices pre-pandemic to our pedagogical shift following initial lockdown, we identified that students benefited from the increased psychosocial support, although similar support structures for educators was lacking. We also noted the necessity that future course materials, activities, and programmes be designed with the ability to be taught with compassion for both students and teachers.

Disclosures

The authors had no funding to support this project. The authors have no conflicts of interest to report other than their employment. Megann McGill is an Assistant Professor at Portland State University. Christina Turrietta is an Adjunct Instructor at El Paso Community College. Aparna Lal is an Instructor at Australian National University.

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Appendix A

Table 2

Categories, Themes, and Supporting Author Quotes

General Course Information	
Category	**Author Quotes**
Types of courses taught	• Postgraduate students enrolled in the Master of Health Program • A.A.S. in Health Information Management • Postgraduate students enrolled in the Master of Speech-Language Pathology program
Learning objectives	• Explain, critically analyse the relationship between a changing environment and health • Aligned with the American Health Information Management Association's objectives to have the students study and prepare for their Registered Health Information Technology (RHIT) certification exam. • My student learning objectives for the course were aligned with the American Speech-Language and Hearing Association (ASHA)'s requirements for licensure and certification. I also include two additional student learning objectives that are not included in ASHA's requirements. These two learning objectives are: 1) to reflect on and challenge your own biases related to stuttering/cluttering and 2) to become interested in specializing in stuttering.
Challenge of time zones	• Different time zones due to students stuck overseas which prevented them from engaging with the lecturers in real-time. Students spanned three very different time zones (Australia, China and Europe) making it virtually impossible for them to log on at the same time as a live lecture. This had its challenges, as I had to organise separate catch ups with these students to check in, which were usually post dinner for me and quite early in the morning for some students.
Human Connection	
Values of and opportunities for students to build sense of belonging and	• My program scheduled an optional weekly gathering in our "virtual coffee lounge" where the students could feel free to pop in for informal conversations about life *-Author B* • We provided a surprise virtual graduation for our 2020 graduates *-Author B*

community	• I used a variety of activities to facilitate community building and healthy learning environments. For example, to support students' sense of belonging and community, I created a playlist for the class from songs that students reported "made them happy." Each class, I had the playlist audio shared on Zoom so that when students entered the Zoom room, they heard a song that was selected by them or one of their peers. Some students would dance or sway to the music and others would contribute to the chat box comments like, "I love this song! Who chose it?". After all students joined the call or after waiting for a few minutes past the start time, I led and participated in a mindfulness moment at the beginning of our classes. During this time, I encouraged students to turn off their video camera and/or microphone as they so desired and really take the time to set an intention for the class. After the mindfulness moment, I would review the outline for the day followed by creating breakout sessions for students to check-in with each other in a pair or small group environment. During these check-ins, students discussed class materials, applications of theory to practice, and any other personal or professional topics that arose. -*Author C*
Positive student responses/feedback (re: check-ins about learning and health)	• The students who did log on appreciated the time I had set aside and always had interesting questions and insights into the modules. It also gave them a chance to engage with each other in "real-time", in addition to the forum posting and discussion boards online. -*Author A* • I found that the students positively responded to opportunities to check-in about their overall learning and health with classmates and in a larger group context. -*Author C*
Surprising aspect of teaching during pandemic was students' needs for community-building, flexibility, and connection to one another	• The students were consistently more worried and stressed. This was particularly evident for full-time students who normally would have been on campus. -*Author A* • One of the most surprising aspects of my teaching during 2020 was the extent to which students needed/wanted community-building time, flexibility, and connection to each other (not just connection to the material). -*Author C*
Lost collegiality of cohort	• ...the point of the [field trip] to promote collegiality among the cohort) as well as learning was lost. -*Author A*
Emotional support provided by instructors	• Teaching staff, working from home, juggling other commitments including caring responsibilities and the blurring of lines between work and home meant that they felt ill-equipped to provide/cultivate the same level of belonging to students in this new environment. -*Author A* • Some of them lost work hours while others had jobs that mandated extra hours to keep up with demands, which added stress, exhaustion, and fear. We reminded the students constantly that we are all humans struggling with the global situation, so we understand, and we are here for them if they need anything. -*Author B* • We were asked not to have any mandatory synchronous classes since everyone's life and schedule had been disrupted -*Author B*
Pedagogical Approach/Course Design	
Challenges teaching during pandemic	• All efforts to create a great student learning experience in the middle of a pandemic was not recognised or appreciated. -*Author A* • Many students were not equipped to be fully online. The school had to supply hardware for students and teachers that did not have what they needed to attend classes remotely. Some students that reside in another country and struggled with access. Others struggled with access due to having school aged children who needed to use devices in the day time or not having sufficient internet at their residence. -*Author B*

	• Transitioning to the virtual platform revealed that students did not have this incidental socialization and learning time which negatively impacted their sense of belonging and community. So, I felt it as imperative to include [check-in times] in my classes. I highly value the students' connection to each other, to me as an instructor, and to the course material. *-Author C* • The challenges associated with teaching speech-language pathology graduate students online during COVID-19 were numerous and included 1) transitioning pedagogy to online environment, 2) rethinking and redesigning course components (including activities and assignments), and 3) providing more opportunities for students to build a sense of belonging and community. *-Author C*
Course design	• While all course deadlines and assessments were available to them in Week 1 with an automatic extension applied to all their due dates, *-Author A* • Having little experience teaching online previously I'm not sure how much of the student needs/expectations/priorities have shifted. However, the impact that [switching to remote learning] had on my pedagogy was significant. For example, I designed a hybrid synchronous/asynchronous learning environment. I held "live" classes once a week - and only had 2 students miss a class throughout the term (out of 42!) and one asynchronous class per week. *-Author C* • Weekly activities allowed students to remain connected and actively apply the material learned in classes, but also generated significant grading work for me. *--Author C*
Different instructional needs for full time vs part-time students	• Human connection was clearly quite important to their experience of learning. This was much less apparent for part-time mature students who did the course in their own time and had specifically chosen to do it online to fit in with other aspects of their lives. These part-time professional students also did not log into any of the "check-in" sessions, indicating that they were ok with limited contact and happy to email with specific queries if they had any. *-Author A*
Comparisons to Pre-Pandemic Teaching	
Check-in times with students	• These check in times were not really needed pre-pandemic as the class offered those times between breaks and before the start of a session and post-session. *-Author A* • Prior to the pandemic, I would play the class playlist when students were entering the classroom and start the class with a mindful moment, but did not offer pair or group check-in times. Part of me thinks the check-in times before the pandemic really weren't needed because the students were able to talk with and check-in with each other before/after classes, while studying in the study lounge, and during mealtimes. *-Author C*
Pedagogical shift during pandemic	• The challenge of transitioning to a completely online/remote format was especially evident when converting the field trip to a web-based virtual experience with [minimal notice]. *-Author A*
Redesign of LMS	• Many instructors were not trained or not confident with using the LMS. I was added to some classes mainly to help set-up the LMS. *-Author B*
Professional and administrative needs/support	• I prerecorded my lectures so the students could listen at their most convenient time, and as many times as they needed. I then scheduled an optional weekly class meeting time, to get any questions answered, see other humans, and play study games. *-Author B*

	● The COVID-19 pandemic has illuminated the need for faculty to focus broadly and holistically on a student's educational experience - not just content mastery, but the overarching need for "health and learning" goals. Graduate programs are rigorous and we know that many graduate students, across disciplines, report having anxiety and depression. Perhaps the goals of health and learning should be continued post-pandemic in recognition of the various challenges and barriers to learning that a student may be experiencing. -*Author C*
Continue considering human connection needs post-pandemic	● Human connection was clearly quite important to their experience of learning. -*Author A* ● Perhaps the goals of health and learning should be continued post-pandemic in recognition of the various challenges and barriers to learning that a student may be experiencing. This is one of my most surprising and key takeaways. -*Author C*