Student belongingness in higher education: Lessons for Professors from the COVID-19 pandemic

Dianne Tice
Brigham Young University, United States of America, dianne_tice@byu.edu

Roy Baumeister
University of Queensland, Australia, r.baumeister@psy.uq.edu.au

Joseph Crawford
University of Tasmania, Australia, joseph.crawford@utas.edu.au

Kelly-Ann Allen
Monash University, Australia, kelly-ann.allen@monash.edu

Alisa Percy
University of Technology Sydney, Australia, alisa.percy@uts.edu.au

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Abstract

'To learn about X, observe what happens to the system when X is removed.' What happens to the higher education student experience when, during a pandemic, so many of the avenues for building a sense of belonging are radically and fundamentally disrupted? How should we respond as individuals, a collective and a sector, to redress this? The national student survey data in Australia has highlighted a significant drop in learner engagement and their sense of belonging as a result of the pandemic. Indeed, the pandemic has been a significant point of anxiety for students, educators, and universities globally. We see the pandemic as a unique opportunity to critically examine belongingness among university students in a climate where their normal avenues to feel they belong need to establish a new kind of normal. In this article, we seek to articulate what can be learned from the pandemic experience about student belongingness and what instructors can do to improve it, even under difficult circumstances. We found opportunities to strengthen a students' sense of belonging in online environments, when necessary, and how responses within the constraints of lockdown and emergency remote teaching can still support student success.

Keywords

Introduction

Neuroscientists, Freudian psychoanalysts, sports team coaches, and many others often rely on a standard methodological principle: To learn about X, observe what happens to the system when X is removed. The governmental and educational responses to the novel coronavirus pandemic (COVID-19) from 2020 onwards – like worldwide lockdown – offered a rare opportunity to learn about belongingness among university students, insofar as many of the normal avenues by which students come to feel they belong were disrupted. In this article, we seek to articulate what can be learned from the pandemic experience about student belongingness and what instructors can do to improve it, even under difficult circumstances. We shall proceed as follows. First, evidence is briefly covered as to the extent to which students felt deprived of belongingness during the pandemic lockdown. Second, we note various ways in which the lockdown contrasted with normal university life. Third, we discuss some of the issues with teaching via the popular online platform Zoom. Fourth, we offer a variety of suggestions for how instructors can improve students' sense of belonging despite the constraints of lockdown and remote (online) teaching.

Evidence of impaired belongingness

The 2020 Australian Government national survey of higher education ($n = 280,301$) identified sharp declines in all high-level indicators of student-rated student experience (access to skill development, learner engagement, teaching quality, student support, and learning resources). The sharpest decline was seen in learner engagement (down 27%), which was already the lowest performing metric from 2014 to present. Key questions in learner engagement include single-item measures on student preparedness, sense of belonging, discussion participation, student interaction (worked with other students, students outside of study requirements, students who are different than the respondent) (Social Research Centre, 2021). While low student belonging in the tertiary sector was evident prior to 2020, a decline in already low scores during the emergence of COVID-19 is also evident in other data. As another example, the National Survey of Student Engagement (NSSE, 2021) ($n = 343,045$ students, 521 U.S. institutions) highlights that well over half of the students sampled do not feel a sense of belonging to university. To clarify, the 2020 NSSE first-year sense of belonging metrics includes student perceptions of how comfortable they are being themselves at their institution (36% strongly agree), feeling valued at the institution (22% strongly agreed), and feeling part of the community (24% strongly agree). These findings indicate that students experienced a considerable drop in belongingness during the pandemic and point to student (learner) engagement as a particular problem area.

Precisely why did belongingness decline?

Transition to university is often a major change in social networks. Often, young students move out of their parents' home, thus separating themselves from their primary socialization influence; people who have nurtured them since birth. The friendships and other relationships maintained for years are often disrupted, as relatively few schoolfellows accompany one another from the same high school to the same university. Romantic attachments, equally, may come under strain from physical distance and competing priorities for interaction; particularly given the differences between physical and social distance (Antonakis & Atwater, 2002). While opportunities to engage digitally may support social closeness, physical closeness can be difficult (Allen et al., 2014; Ryan et al., 2014). Competing priorities stem from maintaining existing relationships and forming social bonds with university-specific relationships while also striving to maintain existing relationships (Slaten et al., 2020). Sometimes the transition to university can result in an attrition of old friendships while new

friendships are created. We reflected on our first two weeks at university, far from our respective parental homes. We recalled meeting at least a hundred new people, some of which were to become regular companions and friends throughout the coming months. One recalls that five different young men asked her for a date during the first week. Another remembers noticing that the size of their faculty was larger than population of the town they grew up in. The ongoing process of becoming – defining and redefining ones' sense of identity, particularly in non-traditional students (Larsen et al., 2021) – may also see relationship needs change for students as they undergo transition into the culture of higher education (Wilcox et al., 2005).

The typical transition to university, already described as challenging at times (Brinkworth et al, 2009), looked radically different for students who started university during the pandemic lockdown. Many remained living with their parents. The friends from high school were kept at home also, so while those connections were physically close (e.g., the same city), their social and psychological distance may have increased. Most important, the plentiful and diverse new relationships that typically replace the previous attachments were not forthcoming. Even those who attended a residential university often found themselves stranded in their rooms most of the time. They might get to know their suitemates – physically close and convenient – but making new friends beyond those would be very difficult (and often those relationships may be unsatisfying, especially if they were randomly assigned). Thus, for many new students, the main remaining social connection would be to parents. Likewise, not all parent-child relationships are healthy or safe, particularly in periods of greater social and economic stress (Bradbury-Jones & Isham, 2020). While filial attachments are largely beneficial, they may be less appealing during this particular stage of life, when one is seeking to transition from being a son or daughter into becoming an independent person in one's own right (Allen, 2021).

Students transition into their learning in diverse ways. The concept of transition pedagogy within higher education remains in its infancy despite its intuitive appeal (see Kift, 2015; Kift et al., 2010). Students transition into university with competing demands, and they often encounter an offsetting sense of excitement and apprehension. The first year offers an opportunity for reinvention within a new culture, supported by a form of university hand: peer support systems to support peer-to-peer social bonds (Sun et al., 2020), carefully scaffolded early assessments to build academic confidence, and embedded skill development to support transition from a diverse range of skill levels. While a lockdown and off-campus environment may see many traditional co-curricula programs for first-year transition replaced with emergency remote alternatives - like online skill building workshops in platforms like Microsoft Teams, Webex, and Zoom - the curriculum and classroom were undergoing radical revision for delivery without appropriate time for planning and piloting at a time of great anxiety for all involved. This, in effect, caused one of the most serious disruptions to students' sense of belonging - the relationship they are able to form with their teachers. This is problematic because positive student-instructor relationships are important predictors for students' sense of belonging at university (Thomas, 2012; Felten & Lambert, 2020). Indeed then, those pre-university relationships for students may play more critical roles in environments where such transitional approaches will be delivered by immediate revision to the digital context, without that sufficient planning or piloting time available.

Thus, a key final problem worth addressing in more detail is that the lockdown undoubtedly increased the social separation between students and instructors. Many students develop various kinds of emotional attachments and pseudo-relationships with their instructors (Hagenauer & Volet, 2014), and where strong friendship networks have not been established, students do look to their instructors for social support (Wilcox et al., 2005). Being in the same room with the instructor week after week presumably facilitated these attachments, but interacting online would make that more

difficult. To be sure, people do develop attachments to people they never meet in person, such as fictional television characters and the actors who play them (Gabriel et al., 2016). Still, only a pathological few confuse these attachments with real, reciprocal relationships with persons one meets in the flesh. Nevertheless, it may be helpful for instructors to realize that when lockdowns or other barriers create social distance among students, the instructors themselves presumably loom that much larger in the students' social world when the opportunities for forming other adult relationships are restricted.

Zoom and doom: Drawbacks of remote online instruction

The nascent evidence about online instruction during the pandemic points to two conclusions. First, students seem to learn less online than via in-person instruction when their expectations were to be on-campus and in-class; although not seemingly apparent in pre-pandemic classrooms (Paul & Jefferson, 2019; Pei & Wu, 2019). Expectancy confirmation theory was applied to understanding whether student pre-existing confirmation predicted perceived usefulness, and if confirmation and usefulness predicted satisfaction (and subsequent continuance intention). In that study ($n = 854$), the model was held true during the pandemic (Wang et al., 2021). Second, many students find the learning experience less satisfying, as indicated in their broadly lower ratings of courses and instructors (Social Research Centre, 2021), particularly in developing nations (Adnan & Anwar, 2020) but also occurring in advanced, developed societies. To elaborate on the damage to the educational process caused by the pandemic and the concomitant shift to online instruction, we rely here more on qualitative impressions including student and faculty comments, anecdotes, and personal experience. The pandemic rather abruptly compelled a great many university instructors, including ourselves, to shift to emergency remote teaching as a rapid response for continuity of learning (using the popular Zoom platform: Wilson et al., 2021). This was an unexpected set of burdens and time demands, often requiring individuals to master new technology. The pressure such demands have placed on academic workload and wellbeing are evident (Watermeyer et al., 2021).

Many instructors responded to the transition by making minimal adjustments. The simplest strategy was to give one's same lectures over Zoom, thus no different from the usual teaching except for the technology. It was the same instructional pedagogy, applied via a new medium. We heard many students report, however, that they found it somehow much more difficult to stay focused on an hour-long lecture over Zoom than in person. This may reflect social influences on attention. The impulse to attend to something because others are also attending to it is strong, pervasive, and fundamental, emerging early in life and remaining strong throughout. Shteynberg's (2015) review of joint attention phenomena confirms its power. Even babies watch something more if other people present are watching it. Online teaching lacks the attention-maintaining power of the presence of co-attending peers, and so it must adapt to be effective.

There are substantive differences between online and on-campus delivery. The incremental changes in an online context may have created a foundation of poor social cohesion, shared expectations, and ultimately student outcomes. In many videoconference-based tutorials, students can turn their video off and quietly engage in other activities (e.g., social media 'scrolling' or responding to emails). As a practice on-campus, this happened less frequently. Individuals move between multiple stages to manage impressions others have of them much like an actor on the stage is far more coordinated when performing than when they are backstage (Baumeister & Hutton, 1987; Goffman, 1978). Students likely present a front stage persona in their on-campus setting, but can fade to a more comfortable back stage persona when the opportunity is there to sit behind muted audio and camera. In a social media context, individuals curate their sense of self through a conscious and

subconscious exhibition of their lives (Hogan, 2010). Such an exhibition may be likened to the online classroom, where students retain control of when to present elements of themselves and when to retain status in the out-group. These moments create opportunities for students to withdraw from psychological ownership of their learning, and without enabling a culture of student ownership and agency, students will likely not establish a sense of belonging to their institution and leave when an alternate offer arrives.

How instructors can adjust

In the opening scene to *Newsroom*, Jeff Daniels (as Will McAvoy) confronts a panel of politicians with *the first step in solving any problem is recognising there is one*. The pandemic has underscored the importance of belonging to student achievement and wellbeing. The lack of social contact seems to have affected students in multiple ways. The lockdowns will presumably come to an end – in some jurisdictions they already have, and others they have recommenced – but it may be useful to keep in mind that even in normal times, many individual students suffer a lack of belonging (Social Research Centre, 2021). Moreover, remote learning may not continue to be the main form of university instruction once the lockdown ends, but it will likely continue to be a substantial and important instructional tool in many cases.

The joint attention problem is that students find it easier to concentrate on an hour-long lecture when seated in a room with many others, than when alone. Instead of lecturing for an hour, what alternative plans are available? One is to divide the material into smaller bits and intersperse brief lectures with discussion periods, use alternate models like podcasts to supplement (Clark et al., 2012) or build greater interactivity to new models of lectures (Geri et al., 2017). In her work on humanising online learning, Pacansky-Brock (2020) recommends the use of micro-lectures and 'bumper videos' to carefully guide students through complex concepts.

Our impression was that many educational developers of online instruction media already know that attention is harder to sustain without the physical presence of co-viewers. The emergence and growth of Netflix Party (now TeleParty) during the pandemic for co-consuming television shows and movies with physical distance provides anecdotal evidence to this effect. At one of our universities, the audiovisual group recorded brief lectures for use within other classes (before the pandemic). Students prefer to choose their method of attendance and when they want to attend (Vlachopoulos & Jan, 2020), but those students motivated to engage online had different motivations than those who wished to be on-campus. The emergency remote teaching likely challenges the pre-existing expectations of students who wanted to be on-campus.

One strategy for dealing with the attention problem is to deploy educational technology to support a digital pedagogy. The videoconferencing capacity typically enables large groups to be split into separate virtual breakout rooms for small-group discussions. Such discussions invoke active learning, at least insofar as people speak up and participate. They also provide an incentive to the student to pay attention during the mini-lecture so as to be able to discuss coherently in the virtual breakout room.

Thus, an allotted hour of lecture time could be divided into four segments comprising two mini-lectures and two small group discussion periods. The lecture can be delivered live or could perhaps be a recording. Then the students split up into virtual chat rooms for a brief discussion. As these are necessarily brief discussions (as opposed to a full hour in a preceptorial or tutorial), it may be helpful to have some format by which every person gets to say something. This would serve the goal of

motivating the student to listen to the lecture so as to have something to contribute. If the class period is 45-50 minutes long, then perhaps two 15-minute short lectures (prerecorded or live, perhaps with a short break in between if live) and then 15 minutes of active discussion is optimal. If the class is 75 minutes long, then three 15-minute lectures with three ten-minute discussions will work best.

Reshuffle discussion groups?

Zoom enables small breakout group discussions in separate virtual chat rooms. The simplest procedure for dividing up a large group into small discussion sections is to use Zoom's random assignment feature. However, before using this feature, it is worth considering the implications for belongingness. Our experience is that random reshuffling is not the best. Return to the random assignment of students to dorm rooms from earlier; these relationships were not always as successful as those where individual choice and value-alignment were at the fore. In a large class of perhaps 200 students, random reshuffling will enable every student to be in a discussion with pretty much every other one by the end of the semester. For enabling everyone to meet everyone, that seems ideal. However, if what students need is not simply to meet each other but to develop some enduring social connections, – social closeness and presence – then keeping groups intact offers a more promising avenue. This allows a key starting element underlying a community of inquiry within the classroom: social presence (Garrison et al., 2010).

In our recent experience, keeping the groups intact enabled students to develop friendships even during the strictest lockdown phases. They began to know each other from these frequent albeit brief meetings. There were multiple anecdotal reports of these groups extending their incipient relationships to outside the virtual classroom, into other (still virtual) domains. Some of them arranged to all watch a movie 'together' in TeleParty or similar. Some had virtual birthday parties. Clearly, none of these extracurricular activities would likely emerge from discussion groups that met only once (such as if discussion sections were constantly reshuffled).

Inevitably, some groups will get along better than others. Some might object that the random assignment without reshuffling ends up being unfair to students who happen to draw a disengaged group member(s). A compromise might be to reshuffle the groups once or twice during the semester, or create parameters whereby assessment is still partially individual. The latter supports fair representation of student performance in environments where their team is not equally contributing temporally or intellectually. Hence each group meets quite a few times, enabling students to get to know each other, but each student has several chances to land in a cohesive group. Overall, however, students seem to prefer the stable groups over the constantly reshuffled ones. Students will likely form acquaintance level bonds with many, and enduring relationships that span beyond the group formation with a small number. Whether they would be happier and better informed with a few reshuffles awaits systematic investigation.

Early arrival

Most instructors have used a system in which they arrive a couple minutes before class starts, to get the technology loaded (or in the olden days, to erase the blackboard). There are always some students who arrive early, but one takes little note of them. There is generally not much discussion during this time, because of the disruption by frequently entering additional students as the start of the lecture gets closer. With the transition to online teaching, instructors often use the same system, simply opening the Zoom connection a moment or two before starting to lecture, missing out on the

opportunity for water cooler level conversation and other important events considered to be important for belonging such as the instructor having an opportunity to learn the students' names (e.g., Bertacco, 2020) or the instructor demonstrating to the students that they are approachable and available to offer help if needed (Hagenauer & Volet, 2014).

In video conferencing software, the 10-15 minutes before a lecture can be an opportunity to enhance social bonding among some students, and with their teacher. We recommend that the instructor open the Zoom room early – rather than maintaining a waiting room – and advertise as such. The instructor does not need to be online (one's own video can be muted, or simply not be in attendance yet), but it allows the students to meet each other. This idea was stimulated by a student's remark that chatting via Zoom with fellow students prior to a lecture was for some of them the main social interaction they had, and a rare opportunity to meet other students.

Enhancing online group discussions

Through our experiences teaching during the pandemic, we identify a series of recommendations for enhancing the student learning experience through a belongingness lens. We extend to highlight opportunities for deeper and more effective group discussion to support quality student and teacher interaction (Allen et al., 2020). The opportunity for quality student discussions (both before class and during the small group breakout periods) are most useful and most likely to increase comprehension and retention of the material. We focus on three areas: questions, motivation, and ownership.

The use of discussion questions should be done with an emphasis on open-ended items. For example, asking for examples of the topics covered in the lectures or readings, or asking for practical applications of the theory. Students should have access to the questions in advance of the discussion so they have time to prepare, particularly when considering introverted students. The use of student choice and agency is an effective tool for supporting engagement (Klemenčič, 2017). Thus, preparing more discussion questions than time permits will allow students to have some agency in which questions to discuss, and the direction of the content. In addition to discussion questions, group projects and activities can be conducted during these sessions.

Students are motivated by grades. Constructive alignment articulates the learning benefit of alignment between what we expect students will learn, their assessments, and their learning activities and instruction (Biggs, 2011). A key motivating factor for students will be when they explicitly understand how their attendance and participation will be linked to forthcoming assessments. This means explicitly sharing – in terms that students understand beyond rhetoric of *understanding theory X will help will assignment Y* – the terms of how the instructional content aligns to the assessment and their achievement. This should be preceded by the reason *why* acquisition and comprehension of the content are important to each student's futures. Concessions should be made to support diverse learners, however. For example, students with extreme shyness or other difficulties contributing to the discussion should be encouraged to post comments using the chat function. To be sure, there has to be some system for monitoring discussion groups, as many occur simultaneously. Carefully designed and aligned assessment can also enable resilience development among students through early formative feedback, with subsequent benefits to future e-classroom activities.

Previously we articulated the importance of student ownership of their learning. In the discussion context, the provision of appointed roles (e.g., leader, devil's advocate, auditor) provides the opportunity to build student capability and confidence through earlier appointed roles: temporary

positional power. These should be appointed in advance so the appointees have time to prepare. These positions should rotate among the students in the group. The group leader for the day may be able to determine the order of the discussion questions, or possibly even add some questions of their own. In addition to the group leader, it is best to have secondary teacher support actively monitor the discussion, to make sure that it stays on track and monitor engagement across students. The instructor can drop in on these discussion groups, taking turns to spend time with each group. The devil's advocate is charged with being skeptical and critical of the course material, such as by raising challenges. Our opinion is that this should not degenerate into ad hominem attacks – which seems an increasingly popular form of (or rather substitute for) intellectual debate these days – but to focus on the content and material in practice and theory.

Some of us have tested and refined these methods across several semesters of teaching large classes online and continuing to adapt these during the pandemic. Only about 10-20 percent of students speak in the large class on any given day. By the end of the semester, only about half have ever spoken up. In the small Zoom groups, however, nearly every student participates every time. Hence students get the benefits of active learning, including improvements in comprehension and retention of lecture material. Informal observation, confirmed by colleagues using similar systems, has also indicated that minority group students speak out much more freely in the small group discussions than in the large class setting.

After class

Although most professors balance significant teaching, research, and institutional commitments, it is worth staying available online for some time after the end of the formal class period. Homebound students do not usually have to rush off to another class, after all. Ideally, the instructor will be the last person to leave the Zoom lecture room. This may be especially important given that during periods of enforced isolation, the professor is an important point of social stability for many students. Indeed, it may be a rare chance to talk to another adult as an adult, if the main other adults in their lives are their parents.

The lecture can close with an offer to answer individual questions. Talking in person, even over Zoom, may be much better than email. An effective answer can also save time and provide an answer to students who were fearful of asking the question directly. Students have much to ask or discuss that they do not wish to put into email and also do not wish to say in front of the whole class. If a handful of students remain after class to ask things, they may be much less bothered by the presence of a few such peers than being in front of the full class. In one setting, we piloted the use of anonymous online asynchronous whiteboards for 'stupid questions' with successful student ratings of such results. Anecdotally, students are quite efficacious about sorting themselves along the wish-for-privacy dimension, so that they encourage each other to go first in asking their question. The last person thus gets full privacy. To be sure, some students may wish to discuss personal or controversial matters and fear that the lecture Zoom connection is insufficiently private. In that case, the instructor can invite the student into the instructor's private Zoom chat room. Another option for managing the after-class group is to put them into a virtual waiting room, so that each gets to speak to the instructor in private. Such strategies for building a sense of belonging may have an important role in mitigating feelings of loneliness reported by students (Allen, 2020; Lim et al., 2021). Table 1 provides a summary of the suggested strategies for instructors to build belonging with their students.

Table 1

Suggested strategies

Strategy	Example
To support attention, engagement and interest consider breaking the lecture into smaller segments.	The use of micro-lectures, frequent breaks, virtual break rooms for group discussion. Instructors may break a one-hour lecture into four quarters.
Allow students time to get to know each other, find similarities and common interests and build friendships	Avoid reshuffling groups to allow students time to build connections. Return students to the same group in group work and these groups could remain stable through the semester.
Build the student-instructor relationship and student-student relationships by opening up time for students to spend connecting.	Instructors can arrive early, know student names, allow students time to get to know other student names. By opening up a Zoom room early – even if the instructor is not present – students have time to have conversations with each other and build relationships in an informal non-structured setting.
Enhance online group discussions and understand that such discussions are important for belonging.	Use open ended questions to facilitate discussions and student agency in directing the conversations. Encourage shy students to use the chat function. Make sure students understand the learning goals associated with online discussions so there is sufficient by-in.
Be available and approachable	Students feel a sense of belonging when they feel that they feel safe and valued by their instructor. When they can approach the instructor with questions. Allow time after class to facilitate questions. Be the last to leave.

Conclusions and practical implications

This article has established that belonging is indeed an important need for students at university, and this need may have been threatened following the emergence of COVID-19 when many university sites experienced lockdowns and students were unable to physically learn and socialise with fellow students and instructors. The article also establishes that there are a variety of mechanisms that instructors can engage in to build belonging in students, and many of these approaches are not that different to what may occur in face-to-face learning situations. Practical implications for instructors include: acknowledging that belonging is important and that the pandemic has created a problem for belonging, breaking up lectures into smaller segments to maintain attention and interest, facilitating discussions among students, and showing up early to allow time to connect and build student-instructor relationships are strategies easily implemented in traditional and practical classes. In fact,

just by merely being present, giving your students your time to build a relationship with you and others does a great deal for building interpersonal connections that are so central to feeling a sense of belonging to university.

References

Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. *Journal of Pedagogical Sociology and Psychology*, 2(1), 45-51.

Allen, K. A. (2020). *The Psychology of Belonging*. Routledge (Taylor and Francis Group).

Allen, K. A., Ryan, T., Gray, D. L., McInerney, D., & Waters, L. (2014). Social media use and social connectedness in adolescents: The positives and the potential pitfalls. *The Australian Educational and Developmental Psychologist*, *31*(1), 18-31. https://doi.org/10.1017/edp.2014.2

Allen, K. A., Kern, M., McInerney, D., Rozec, C., & Slavich, G. (2021). Belonging: A review of conceptual issues, an integrative framework, and directions for future research. *Australian Journal of Psychology*. https://doi.org/10.1080/00049530.2021.1883409

Allen, K. A. (2020). Commentary of Lim, M., Eres, R., Gleeson, J., Long, K., Penn, D., & Rodebaugh, T. (2019). A pilot digital intervention targeting loneliness in youth mental health. *Frontiers in Psychiatry.* https://doi.org/10.3389/fpsyt.2019.00959

Antonakis, J., & Atwater, L. (2002). Leader distance: A review and a proposed theory. *The Leadership Quarterly, 13*(6), 673-704.

Bertacco, L. (2020). Student engagement: Fostering a sense of belonging. *English Australia Journal, 36*(1), 54-59.

Bradbury-Jones, C., & Isham, L. (2020). The pandemic paradox: The consequences of COVID-19 on domestic violence. *Journal of Clinical Nursing, 29*(1), 2047-2049.

Baumeister, R., & Hutton, D. (1987). Self-presentation theory: Self-construction and audience pleasing. In *Theories of group behavior* (pp. 71-87). Springer, New York, NY.

Biggs, J. (2011). Teaching for quality learning at university: What the student does. United Kingdom: McGraw-hill Education.

Brinkworth, R., McCann, B., Matthews, C. & Norstrom, K. (2009). First year expectations and experiences: student and teacher perspectives, *Higher Education*, 58, 157-173. https://doi.org/10.1007/s10734-008-9188-3

Bu, F., Steptoe, A. & Fancourt, D. (2020). Who is lonely in lockdown? Cross-cohort analyses of predictors of loneliness before and during the COVID-19 pandemic, Public Health, 186, 31-34, https://doi.org/10.1016/j.puhe.2020.06.036

Clark, S., Taylor, L., & Westcott, M. (2012, October). Using short podcasts to reinforce lectures. In *Proceedings of The Australian Conference on Science and Mathematics Education*.

Elmer, T., Mepham, K., Stadtfeld, C., (2020). Switzerland Both lonelier and less connected: Students under lockdown: Comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. https://doi.org/10.1371/journal.pone.0236337

Felten, P. & Lambert, L. (2020). *Relationship-rich Education: How Human Connections Drive Success in College*. John Hopkins University Press, Baltimore.

Gabriel, S., Valenti, J., Young, A. (2016). Social surrogates, social motivations, and everyday activities: The case for a strong, subtle, and sneaky social self. *Advances in Experimental Social Psychology, 53*, 189-243.

Garrison, D., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *The Internet and Higher Education*, *13*(1-2), 5-9.

Geri, N., Winer, A., & Zaks, B. (2017). Challenging the six-minute myth of online video lectures: Can interactivity expand the attention span of learners? *Online Journal of Applied Knowledge Management, 5*(1), 101-111.

Goffman, E. (1978). *The presentation of self in everyday life*. London, United Kingdom: Harmondsworth.

Hagenauer, G., & Volet, S. (2014). Teacher–student relationship at university: an important yet under-researched field. *Oxford Review of Education, 40*(3), 370-388.

Hogan, B. (2010). The presentation of self in the age of social media: Distinguishing performances and exhibitions online. *Bulletin of Science, Technology & Society, 30*(6), 377-386.

Kift, S. (2015). A decade of transition pedagogy: A quantum leap in conceptualizing the first year experience. *HERDSA Review of Higher Education, 2*(1), 51-86.

Kift, S., Nelson, K., & Clarke, J. (2010). Transition pedagogy: A third generation approach to FYE-A case study of policy and practice for the higher education sector. *International Journal of the First Year in Higher Education, 1*(1), 1-20.

Klemenčič, M. (2017). From student engagement to student agency: Conceptual considerations of European policies on student-centered learning in higher education. *Higher Education Policy, 30*(1), 69-85.

Larsen, A., Cox, S., Bridge, C., Horvath, D., Emmerling, M., & Abrahams, C. (2021). Short, multi-modal, pre-commencement transition programs for a diverse STEM cohort. *Journal of University Teaching & Learning Practice, 18*(3), 05.

Lim, M. H., Allen, K. A., Furlong, M. J., Craig, H., & Smith, D. C. (2021). Introducing a dual continuum model of belonging and loneliness. *Australian Journal of Psychology,* 1-6. https://doi.org/10.1080/00049530.2021.1883411

National Survey of Student Experience. (2021). *2020 National Survey of Student Experience 'Sense of Belonging'.* Indiana University.https://nsse.indiana.edu/nsse/reports-data/nsse-overview.html. Accessed 17 June 2021.

Pacansky-Brock, M. (2020). How to humanize your online class, version 2.0 [Infographic]. https://brocansky.com/humanizing/infographic2

Quintiliani, L., Sisto, A., Vicinanza, F., Curcio, G. & Tambone, V. (2021) Resilience and psychological impact on Italian university students during COVID-19 pandemic. Distance learning and health, *Psychology, Health & Medicine*, https://doi.org/10.1080/13548506.2021.1891266

Ryan, T., Allen, K. A., Gray, D. L., & McInerney, D. M. (2017). How social are social media? A review of online social behaviour and connectedness. *Journal of Relationships Research, 8*(e8), 1-8. https://doi.org/10.1017/jrr.2017.13

Sankey, M. (2021). *Returning to lectures in 2021 – An ACODE whitepaper.* Australasian Council on Open, Distance and eLearning. https://www.acode.edu.au/pluginfile.php/9235/mod_resource/content/7/white%20paper.pdf. Accessed 17 June 2021.

Shteynberg, G. (2015). Shared attention. *Perspectives on Psychological Science*, *10*, 579-590.

Social Research Centre. (2021). *2020 Student Experience Survey.* Published report. https://www.qilt.edu.au/docs/default-source/ses/ses-2020/2020-ses-national-report.pdf?sfvrsn=a3ffed3c_2. Accessed 17 June 2021.

Slaten, C.D., Ferguson, J.K., Hughes, H. A., &. Scalise, D.A. (2020) 'Some people treat you like an alien': Understanding the female athlete experience of belonging on campus, The Educational and Developmental Psychologist, 37:1, 11-19, DOI: 10.1017/edp.2020.5

Sun, Yao; Lin, Shiang-Yi; Chung, Kevin K.H. 2020. "University Students' Perceived Peer Support and Experienced Depressive Symptoms during the COVID-19 Pandemic: The Mediating Role of Emotional Well-Being" *Int. J. Environ. Res. Public Health* 17, no. 24: 9308. https://doi.org/10.3390/ijerph17249308

Thomas, L. 2012, *Building student engagement and belonging in Higher Education at a time of change: final report from the What Works? Student Retention and Success Programme*,

July 2012, https://www.heacademy.ac.uk/system/files/what_works_final_report_0.pdf, accessed 30 October 2019.

Thomas, L., Herbert, J. & Teras, M. (2014). A sense of belonging to enhance participation, success and retention in online programs. *The International Journal of the First Year in Higher Education*, 5(2), 69-80. doi: 10.5204/intjfyhe.v5i2.233.

Vlachopoulos, P., & Jan, S. (2020). Exploring modes of lecturing as a teaching method in higher education: Student attendance, preference and motivation. *Journal of University Teaching & Learning Practice, 17*(5), 15.

Wang, T., Lin, C., & Su, Y. (2021). Continuance Intention of University Students and Online Learning during the COVID-19 Pandemic: A Modified Expectation Confirmation Model Perspective. *Sustainability, 13*(8), 4586.

Watermeyer, R., Crick, T., Knight, C., & Goodall, J. (2021). COVID-19 and digital disruption in UK universities: Afflictions and affordances of emergency online migration. *Higher Education, 81*, 623-641.

Wilcox, P., Winn, S., & Fyvie-Gauld, M. (2005). 'It was nothing to do with the university, it was just the people': the role of social support in the first-year experience of higher education. *Studies in Higher Education*, 30(6), 707-722.

Wilson, S., Tan, S., Knox, M., Ong, A., Crawford, J., & Rudolph, J. (2020). Enabling cross-cultural student voice during COVID-19: A collective autoethnography. *Journal of University Teaching & Learning Practice, 17*(5), 3.