Research article

Belonging, trust and social isolation: the move on-line during the time of COVID – A longitudinal study

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A B S T R A C T

The move to on-line teaching in UK higher education was swift and dramatic as the Covid pandemic drove society into lockdown. Programmes and modules traditionally taught face to face were suddenly converted to be delivered in an on-line format. This research explores the experience of this process over an academic year, at all levels of educational progression, from first year undergraduates, to post-graduates on a one-year programme. Using a qualitative focus group strategy, this research project investigated key themes of motivation and engagement, and the impact the move on-line had on the students sense of belonging, the formation of trust, and the impact on social isolation. The main finding of this research are that programmes of study that move on-line must focus on more than simple issues of delivery, but recognise the significance of the socio-emotional dimensions of study and the need to build networks and relationships, in order to establish, grow, and maintain motivation and engagement.

1. Introduction

As early as 1943 Maslow established the importance of feeling that we belong, ranking it higher than self-actualisation and the fulfilment of individual potential. Individuals need to be "connected to the social" (Thomas, 2012; May, 2011). Feeling that we belong means many things, it involves feelings of being accepted, needed, mattering and valued. It also includes feelings of fitting in, being connected to a group, class, subject or institution or to all of these. These feelings originate in relationships, and belonging will only be established if others truly care about them (Matheson and Sutcliffe, 2017).

It is widely recognised in higher education research that student identity, engagement, motivation and success are strongly associated with a sense of belonging (Ostrove et al., 2011; Meeuwisse et al., 2009), and that the need to establish a strong sense of belonging (SOB) is a vital dimension in any programme of study, whether that programme is conducted on a face to face basis, or over a distance and in a virtual space.

Within the learning space (virtual or otherwise) tutors should aim to encourage engagement, build trust, establish openness, and provide opportunities for collaboration within a "community of practice" (Wenger, 1998). From having such a focus in module or programme design and delivery, a collective sense of belonging (Matheson et al., 2018), with its associated positive impacts, will be established. The on-line or virtual delivery of programmes presents many new and different consideration when trying to establish this "community of practice" (COP).

On-line learning can be a lonely place, especially early in a programme of study, and in particular for those new to study. It is early in the programme/module that success is largely determined, learning behaviours are set, expectations established, retention rates are shaped, and engagement and commitment are put in place. If we add to this mix the disruption of a global pandemic, and an educational establishment desperate to reposition itself and maintain, as far as possible, a workable and credible educational experience for students, the challenges facing student and staff, new and old, have been, and in many cases continue to be, immense and significant. With little time to adapt and change, and it might be added with relatively little experience, UK higher education staff were required to reconfigure face-to-face programmes of study to deliver on-line. Adopting both synchronous and asynchronous strategies and embracing the brave new world of delivering on-line workshops or seminars via Zoom or Teams, staff were presented with both a technological and pedagogical challenge.

For this project we have undertaken a year-long longitudinal study exploring the experience of students, and the shift to on-line and blended approaches to learning in the wake of the Covid pandemic. In this article, we shall explore the student experiences of this change, and ultimately how feelings of social isolation have had a significant impact upon both student engagement and motivation over the past year.

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The goal of this exploratory study is to better understand how, with the shift on-line, the student experience of diminished belonging, and wider notions of trust and trustworthiness, have facilitated and compounded the enhancement of a sense of social isolation (SOI) and its repercussions, amongst which we might consider poorer academic performance.

The following research questions have guided our investigation;

Research Question 1. How did the shift from a programme of study delivered face-to-face, to one delivered on-line, impact upon the students SOB, and the student's identification with a COP?

Research Question 2. To what extent did the shift of a programme of study delivered face-to-face, to one delivered on-line, impact upon trust relations and feelings of trustworthiness within the student group?

Research Question 3. To what extent has a SOI on-line, impacted upon the degree and nature of student engagement and motivation?

Research Question 4. To what extent have a reduced SOB, and lower levels of trust, contributed to the increased feelings SOI that have been experienced?

2. Reviewing the literature

2.1. Belonging on-line

In their 2014 paper Thomas et al. suggest that a SOB is crucial in supporting a positive educational experience, and that it should not be seen as something additional to, but rather central within the effective delivery of a programme of study, and in particular to the delivery of a programme of study that is on-line. They suggest that too often programmes that are teaching focused can often over-look the importance of establishing and building deep social relations (Thomas et al., 2014). The balance of task-driven interactions with the goal of learning, and socio-emotional interactions to facilitate social-wellbeing and friendships (Rovai, 2001) are of equal importance in the development of community. The distinctiveness of outcome between these two choices, establishes that there is a design choice to be made as to how and in what manner a programme of study might be delivered to capture both knowledge, and deep and meaningful social relationships. Design elements, such as embedding collaboration into assessment, the creation of unmonitored student spaces on-line, and the role of the tutor in "personalising and fostering engagement" (Thomas et al., 2014) are among the design choices that might be considered.

The role of the tutor in moulding and facilitating a SOB, either through the creation of activities and learning, or via adopting a presence in the on-line learning environment, is consider by Peacock et al. (2020). Their study suggested that student engagement pivoted upon the role of the tutor in facilitating the groups sense of belonging, and through encouragement and feedback, acted as a "glue" holding things together. Further to this, the study suggested that in addition the SOB experienced acted as a form of resilience, such that when things were not going well, or in times of stress, students could draw on the SOB as if a reservoir in community support, in order to supplement such stressful situations. This would allow them to more effectively manage and smooth out difficulties when they might arise.

Wenger (1998) argues that the value of education, whether it be face-to- face or online, is in the learners' social interactions and involvement in learning communities (communities of practice). Ardichvili (2008) argues that Virtual Community of Practice (VCOP) are a dynamic and ever-changing thing, as they are drawn and shaped by the individuals and their interactions within them. As such community designers should avoid a "designers-users" duality (Barab et al., 2004), and should treat both the designers/supporters of the community and users as co-creators of this ever-evolving experience. Students, as co-creators of the learning environment, adopt a position Ryan and Tilbury (2013) term "future-facing education" in which they shape the curriculum and challenge the knowledge within it, a process which they argue both enhances engagement and stimulates motivation.

> *"The challenge in enabling VCoPs is not so much that of creating them by administrative decree, but that of removing barriers for individuals' participation, supporting and enriching the development of each individual's uniqueness within the context of the community, and linking that uniqueness with the community purpose."* Ardichvili (2008) p. 549

This quote encapsulates the need to provide not just relevance within the community, but to allow the many voices within the community to both speak and be heard, shaping knowledge development, but at the same time ensuring that the environment works for all, creating a true sense of belonging and purpose.

2.2. Trust on-line

Trust leads to positive workplace and study behaviours; behaviours that inform the "information elaboration process". van Knippenberg et al. (2004) define the elaboration process as "the exchange of information and perspectives", and the associated individual and group processing and evaluation of its implications. Hence trust facilitates this process by shaping the quality of the social relationships within which information elaboration takes place. The greater the degree of trust, the more extensive the elaboration, and hence the stronger and more complete the community of practice will become. Does being on-line in any way undermine this trust formation process?

Trust is a collective phenomenon based upon the "trustworthiness" of others, and is shaped by the trustors "propensity to trust", facilitating the enhanced co-operation and greater effectiveness in group functioning. Trusting behaviours, which are reciprocated, create a trusting climate with *"shared perceptions, expectations, patterns of understanding and norms of behaviour"* (Costa and Anderson, 2011). The degree of trust within any community is influenced by the diversity of the group, i.e. experience, cultural background, education etc, and the trustworthiness of group members, shaped by the behaviour of those members, and how the information gained over time reflects upon their competence, benevolence, and within the integrity of their actions (Jones and George, 1998).

Co-operative behaviours, whether face to face or on-line, refer to the extent upon which team members rely on each other, communicate openly and accept the influence of others over actions and decisions. Such cooperative behaviours resulting from trust, are reflected in team commitment, and the relative identification of the individual to a particular team (the degree of belonging), (Emmen et al., 2015) and its goals and values (Costa and Anderson, 2011).

Jones and George (1998) remark that trust, as a psychological construct, rests upon the interplay between sets of values, attitudes and moods and emotions. The experience of trust is filtered through these dimensions, shaping our propensity to trust and our assessment of the trustworthiness of others. Hence values and attitudes that are inconsistent with others, and where an individual's current affective state is intensely negative, for example in questioning the quality of the trust relationship, this will have a significant impact upon trust and its formation. For Jones and George (1998) trust is a multi-dimensional experience and the interplay of these dimensions is critical. For them the creation of trust is an evolutionary process. Only when an alignment of values, the creation of favourable attitude, and the experience of positive affect is realised, will trust evolve from what is called a *conditional state, "a state of trust in which both parties are willing to transact with each other so long as each behaves appropriately"* (p. 536), to an *unconditional state*. In this state trust *"[it] is now assured, based on confidence in the others values that is backed up by empirical evidence from repeated behavioural interactions."* (p. 536), a sense of "mutual identification" (Lewicki and Bunker, 1996) is now established.

Jones and George (1998) suggest that the level and degree of group cooperation, and subsequent performance, will be enhanced with the presence of both conditional and unconditional trust. However, the

experience and level of cooperative behaviour differ. When conditional trust predominates this allows a group to work towards a common outcome shaped by obligation. Unconditional trust by contrast, evaluates the quality of relationship, promoting the desirability of shared acts and self-sacrifice for a greater common good. Within situations where we have only the presence of conditional trust, where personal needs are unlikely to be suppressed, the groups needs are compromised. Within an unconditional trust environment all individuals are perceived to be the same, and as such act accordingly, "*subjugating their own needs and ego for the greater good*" (Jones and George, 1998, p. 542).

The transformational nature of trust over time (Jones and George, 1998; Rousscau et al., 1998; Shapiro et al., 1992; Lewicki and Bunker, 1995, 1996) where trust rests upon the dynamic of change in the trust relationship, and the sophistication of the groups interaction, it is only as group members share more time together that trust grows with the understanding and increasingly predictable nature of this relationship. Hence trust is built around time and experience, and not ultimately place.

Participation over time within on-line communities should be seen as a graduated activity where students learn to participate, and learn to participate effectively. Cacciamani et al. (2012) argues that in order to build knowledge from on-line teaching, students must not only participate in on-line activities but they must participate in the right way. Such participation is shaped by epistemic agency, suggesting that there is a scale ranking effective engagement, within which exploring and evaluating are its most developed expression. This process of participation is influenced by the nature of facilitation, and the more supporting this is the better. The opportunity to reflect upon the nature of knowledge building during a programme of study (a process of metacognitive reflection) is also seen to be positive in facilitating the desire to build knowledge and supply the appropriate skills to do this in an ongoing way.

The building of communities is not instantaneous (Brown, 2019), but as with skill development it is on-going. The idea that communities are built over time rather than just created, means they might be crafted and fashioned in appropriateness. Brown (2019) sets out a process for community building, evolving from the establishment of basic technological connectivity and familiarity, to the creation of camaraderie. Brown's evolution of community building equates with a deepening of trust over time, initially starting on the surface (conditional), and determined by what is known-ability, and then how over time, benevolence and integrity, the foundations of deeper trust are established (unconditional). As community formation starts with simple communication, as interactions and work sharing develop, these deeper connections begin to form and grow.

2.3. Social engagement and isolation on-line

Thomas et al. (2014) reported that in the UK between 6 and 8% of students withdraw in their first year of study, a significant number but not particularly high by international standards. However, what Thomas further discovered was that between 37 and 42% of students seriously considered dropping out at this stage. Why so high? Beyond a general dissatisfaction with the HE experience, Thomas found in her research that feelings of isolation and the lack of a strong sense of belonging were critical in creating this condition.

Hortulanus et al. (2006) defines social isolation as a "lack of meaningful social contacts" Such meaningfulness will depend on context, either between whom the social contact is taking place, or whether such contact is face to face, or as within this research context, social contact is on-line.

Isolation can take many form and dimensions (Croft et al., 2010), and such feelings of isolation are likely to be intensified with the provision of programmes placed on-line, where the opportunity to promote social integration and belonging are less straightforward, more complex, and difficult to mitigate through curriculum design, and direct face to face contact. Brown (2019) investigating the process of community building

and its impact upon isolation, found that such community grow and evolve moving initially from making friends, to community conferment from collaborative actions, to the final stage of camaraderie derived from repeated interaction. She stresses the need to manage the process of community engagement, and in turn mitigate the feelings of isolation that accompany it. Liu et al. (2007) investigating whether a sense of community mattered in the provision of an on-line MBA course, found that not only was a sense of community significant in shaping learning outcomes, engagement and student satisfaction, but that it was also critical in reducing feelings of isolation and the likelihood of course drop-out. As COP develop, whether face to face or on-line, relations grow and deepen over time (Brown, 2019).

Further to forming relations and establishing COP, isolation within on-line learning environments can result from the "institutional habitus" (Reay et al., 2001), the set of expectations and standards that students, and new students in particular, are expected to attain and conform to on entry. A failure to meet such expectations can result in the student feeling that "they do not fit" (Matheson et al., 2018), resulting in isolation and marginalisation as a result. Therefore, attempts to promote inclusivity, belonging and social integration via the academic curriculum are more likely to mitigate the tendency towards social isolation as a consequence, and by degree promote a more positive self-image and accompanying motivation.

Cole et al. (2019) argue that interaction within the on-line learning environment between students and staff is significant in promoting engagement, helping to modify and reduce isolation and enhance a sense of belonging. Answering student questions (Goldman and Goodboy, 2014), prompt assessment feedback (Ellis, 2000), and listening to the student voice in course management and design, have all been found to shape the student experience. Studies such as those by Liu et al. (2007) and Brown (2019) suggest that without an active desire to create a COP by both students and staff, then it will not happen. Liu et al. (2007) in fact goes further and suggest that staff attitudes and poor social skills, especially on-line, can seriously hinder community development and promote the isolation it seeks to mitigate.

There exists a clear mutually inclusive and circular relationship between the formation of a community of practice, the sense of belonging and identity it creates, and the reduction in social isolation that flows from it. As stated in Matheson and Sutcliffe (2017).

> *The higher the level of trust the more members of a virtual community will participate and contribute, the more they feel they belong and in turn express their emotional attachment. Belonging has a decisive impact upon the effectiveness of the learning environment, and the learning environment has a decisive impact upon belonging.* (p. 18)

The shift on-line in response to Covid presented a massive disruption to this virtuous process, both staff and students being required to revaluate how they taught, how they learnt, and how best to deliver a programme of study without the associated face to face cues and strategies. Was this conversion successful? And going forward, what lessons might be learnt from the experience, either in terms of maintaining some element of on-line provision, or in taking some of the lessons back into the classroom?

3. Methodology

Using an interpretive, qualitative research design, allowing meaning and concepts to emerge from the participants and the research process, this study aimed to explore the students experience of moving to on-line learning over a period of an academic year in the time of the COVID virus. In order to achieve this, a two-stage focus group strategy was adopted, within which groups were interviewed at the both the start and at the end of the academic year. Ethical approval was granted through the university's ethics process, and direct quotes are used throughout the analysis to ensure the transparency and trustworthiness of the findings.

3.1. Data collection

A focus group strategy was adopted in order to allow students to explore the impact and challenges that the move to on-line learning was having on both tutors and tutees, and the experience of teaching and learning via this medium, which for most was new.

Convenience sampling, on the basis of willingness to participate, was used to recruit volunteers to take part in focus groups. Two sets of focus groups were conducted via Microsoft Teams, one a few weeks into the academic year, and one at the end of the year. The first focus group interview captured the immediate reflections on the move to on-line learning, the second providing a more holistic and reflective assessment of the on-line experience upon the completion of the academic year. Five focus groups were created, a staff group (which is not used in this paper), and four year groups ranging from level four to postgraduate level seven. Focus groups ranged in size from four to five participants, and lasted approximately forty to sixty minutes, and ended when information saturation was achieved.

Questions for the focus groups were loosely derived from themes identified in the literature on on-line learning, belonging and trust. In the first focus group sessions, a strong emphasis was placed upon allowing the student voice to come through, as questions focused on asking them to express how they felt about the move to online teaching and learning, and their early experience of it. As Cardiff Metropolitan University provided and maintained an element of face to face teaching throughout the pandemic, as well as the on-line experience, questions to participants also focused upon the wider notion of "blended learning". In the second focus group session, elements derived from the first focus group session, as well as broader conceptual ideas such as sense of belonging, trust, "learning communities" or communities of practice, and student engagement, motivation and isolation, were more directly investigated.

3.2. Data analysis

All focus group interviews were audiotaped and transcribed. Analysis was carried out by two researchers, working initially independently, and then collectively to identify core themes and issues within the data narrative. Data analysis involved adopting a grounded theory approach, where patterns were allowed to emerge from the data (Strauss and Corbin, 1998). An approach to coding, where similar concepts were grouped, was refined and modified by multiple revisits to the data, establishing clear patterns and differences. Via this approach codes were grouped together to form categories. These categories or recurrent events highlighted key issues, which were identified as emergent and overlapping themes. The overarching theme that was to come from this study was the feeling of, and impacts deriving from, social isolation. This paper will explore the sub-themes and drivers behind this phenomena, offering in conclusion recommendations as to how on-line programmes of study might more effectively over-come and deal with this pervasive issue.

4. Findings

4.1. Belonging on-line and COP

Research Question 1. How did the shift from a programme of study delivered face-to-face, to one delivered on-line, impact upon the students sense of belong (SOB), and the student's identification with a COP?

4.1.1. Community development and social relations

Community development and social relations is a prominent theme with this research, in particular how it aids understanding and learning, as well the more socio-emotional aspects of student development. The idea that the classroom is an exploratory social space, within which the community of practice is formed, is considered in relation to a more distant, disengaged virtual space, where learning is seen to come from solo endeavour, where without human face to face contact, the "*human element*", belonging seems for some unreal.

> "*…to learn a module in a seminar group with other people who have the same skill level as you* [where] *you could perhaps bounce ideas off people easier than doing it online. Because when you're just at your laptop all day, …..you're really doing it on your own….*" Student 3 Level 6

The importance of collaboration, whether on or off-line was clearly identified within the research as an important and highly valued dimension in supporting understanding.

> "*….whenever I've got like stuff stuck in my head, as it sometimes is, when I'm talking about the problem, most of the time, through just speaking to someone about it, I kind of work it out.*" Student 1 Level 7

The 'social' learning aspects of interaction, often outside of the formal classroom setting, was perceived as a highly valued and significant opportunity.

> "*I love the chat, like coming out of seminars and stuff being like confused about the same thing. I feel like it's not just you that's lost, or whatever. And you've got someone to moan to.*" Student 3 Level 6

Social interaction in this instance has a reaffirming nature. It helps establish a group identity, deepening belonging and the collegiate nature of the learning experience.

4.1.2. The physical space

Whether face to face or on-line, social interaction was consider important. A recurrent theme in the research was reference to the importance of the physical space, and how the virtual alternative was a poor substitute, even when cameras were turned on. As one student remarked;

> "*…. if we were just going to do this* [be on-line]*, I think a lot of people would be really gutted. Because a lot of the time going into university is part of the student experience.*" Student 3 Level 6

The suggestion here is that the social interaction provided by the University, and a recognition of how important this is as a physical space in shaping the student experience. Here the case might be made that belonging is in fact framed by the physical space and the interaction opportunity this creates for peers.

4.1.3. The role of the tutor – glue and design

The role of the tutor in shaping belonging and the formation and maintenance of the COP was apparent in two distinct dimensions, firstly in the role as a glue connecting the community together, and secondly in a design and administrative role.

Being critical figures in the COP, tutors facilitate the movement of information, aiding communication and reinforcing understanding. "*Being noticed by staff*", by offering availability times, and by providing prompt feedback, were all identified as important motivational contributions by staff. The positive affirmation provided by tutors goes beyond simple feedback, contributing to the emotional and affective state of the individual. This positive environment generates a virtuous circle of belonging, trust and engagement, by the student being seen, heard and valued.

> "*So you know, it's something that keeps you motivated. It's nice to be noticed by staff, whilst you're not seeing them physically.*" Student 1 Level 5

In this research very few students undertook any significant group-based project. Where group work was fleeting, or relied upon simple Team Breakout Rooms, group-based tasks were largely seen as ineffective, and of little value. This was contrasted by students on postgraduate awards, where extensive group tasks were created and used. Even when

on-line the research suggested that so long as group working and tasks were effectively administered, and that students were actively engaged and empowered within the group dynamic process, the on-line/off-line distinction did not really matter, so long as the challenge faced by students was appropriately designed and executed.

"……group work and having a little bit of freedom to sort of dictate how we felt we needed to go about tackling that problem, I got a lot more from, not so much finding the solution, but sort of almost like the group work and how we went about finding that solution, I think. And there's sort of this general group dynamic…." Student 1 Level 7

4.1.4. Identification and identity

What was apparent from those researched was that the positive experience of group working, especially at post graduate level, was reflected in the articulation of a strong group and programme identity. *"I feel personally, pretty involved with the school. To be honest, I don't feel too distant"* was a commonly expressed sentiment. Although the course was delivered on-line this did not seem to distract from the identity formation process as might be expected. This would suggest that suitably designed programmes, with suitably engaged students, facilitated by well organized staff might effectively counteract the identity problems that have been found to frequently stem from the delivery of on-line modules and programmes. As one level 4 students was to remark *"To be honest at the moment, it feels a lot like a job. I think like you're in meetings, you do the work…… it's just repetitive isn't it. It feels exactly like I'm in work"*. The lack of the wider social and personal aspects of study are absent and identity is seriously questioned.

4.2. Trust on-line

Research Question 2. To what extent did the shift of a programme of study delivered face-to-face, to one delivered on-line, impact upon trust relations and feelings of trustworthiness within the student group?

Identifying trust relations and the depth of trust relations on-line, was not clearly expressed within this research. In fact, given the somewhat limited use of group-based tasks and assessment, opportunities for developing trust-based relations, and expressing trustworthiness, was severely limited. Where some in-depth group-based activities were undertaken the success of this, and the adoption of clear trust-based actions, seems to have been largely determined by having some pre-familiarity with those in the group.

"… I thought it [the module] was quite engaging, it was quite fun for me, but I have to consider that I was with a group of people that I've known all through university. I imagine if I was with a group of people who I don't know how to collaborate with, then it would be a lot more difficult" Student 2 Level 6

"….when I was in second year, my regular routine would be disciplined to uni, and [I would] meet with people, go to my Welsh classes, and have camaraderie with the people that I've known for two years now. And in the xxxx classes with xxxx, I knew a lot of people there and would chat to them daily. But going into this year, my routine is completely gone. I hardly speak to anyone that I used to speak to all the time. I've made a few new friends. But it's hard to have a relationship with someone when you only know them virtually really. Like the people I know now I've never met because I've only known them through Microsoft Teams." Student 2 Level 6

The length of relationship, and the time and routine in contact, is clearly significant here. The notion of "camaraderie" is important, and in terms of community building demonstrates the level at which trust forms as relations grow and deepen (Brown, 2019). However, the loss of routine and the virtual basis of relations within a virtual space, is suggested to have eroded not just post lockdown relationships but restricted the development of new ones.

4.2.1. Information elaboration and communication

In many respects whether the learning environment is face to face or on-line, the information elaboration process, facilitating the flow and exchange of information and perspectives, uses trust relations to shape the quality of this interaction. Successful group working on-line develop trust through open and persistent communication between group members, enhancing belonging and team identification (Emmen et al., 2015), and concurrently promoting commitment and motivation. The following two quotes reflect the importance of communication and its subsequent implications for a state of unconditional trust:

"We talk an awful lot…… actually. Because obviously, it's quite easy on Teams just type in someone's name, you can just message them if you have a question or whatever. So yeah, I think we've been in contact pretty often, to be honest, I'll say most people in the class I've spoken to relatively regularly." Student 1 Level 7

"I know for a fact why we did really well in the Business Solutions module, because I think you feel a little bit of responsibility for your other group mates grades. Your involvement impacts not just yourself, but impacts other people. So I think that, the engagement, the motivation, was a lot higher in that module because you know you're not just responsible for yourself." Student 1 Level 7

If as proposed by Jones and George (1998) that trust is filtered through the sharing of values, attitudes and moods and emotions, it is these that ultimately shape the quality of the trust relationship. Findings here have failed to demonstrate the presence of such attributes and their impact on the trust relationship. Ultimately such attributes rest upon the quality and design aspects of group-based tasks, or activities within a programme that foster closer and more communicative relationships between students. Much student-based friendship, and the establishment of trust, occurs outside of the classroom in more social and informal settings. As such moving on-line into virtual classrooms will invariable curtail trust formation, unless well designed on-line social spaces are created which might mitigate this difference in physical proximity.

4.3. Social Engagement and isolation on-line

Research Question 3. To what extent has a SOI on-line, impacted upon the degree and nature of student engagement and motivation?
Research Question 4. To what extent have a reduced SOB, and lower levels of trust, contributed to the increased feelings of social isolation that have been experienced?

Feelings of isolation were strongly expressed within this investigation by all year groups, in both pre and post focus groups. From the simple situation of *"feeling lonely"* with limited interaction, to broader expressions of isolation being transmitted into diminishing self-motivation. *"I struggled with motivation for the entire year"* (Student 2 Level 5), was a widely expressed sentiment. The lack of meaningful social contact (Hortulanus et al., 2006), and subsequent reduced integration is reflected in a general dissatisfaction with the on-line environment and its limitations.

" …to say it's been isolating is true, because you don't see anyone when your just sat in the office for six, seven hours a day just to get work done. You might speak to people when you go into the breakout rooms and whatnot, but it just doesn't compare to learning face to face I think." Student 2, Level 6

4.3.1. More than the classroom

For many physical proximity was seen as critical, both in the classroom and outside.

"…..last year I really loved being in a seminar room, seeing other people, bouncing ideas off each other. It's not the same energy online because everyone just mutes to shut up and smile." Student 4 Level 5

"…..what I've missed most is the library because we haven't got access to that. And there are also the coffee shops, sometimes lunchtime, you just mingle with other people…" Student 4 Level 6.

"….having lunch with like your course mates and just like chatting….- makes a huge difference in like your emotions." Student 1 Level 7

The emotional/psychological wellbeing that flows from the blending of work and social activity, often via support services such as the library and refectory, were seen as critical in facilitating community development. It was not just the academic.

"I think in terms of being online the extra-curricular stuff that goes with being at university has been underrated, just how [important] *its impact actually* [is on] *feelings of isolation." Student 1 Level 7*

Feeling isolated and unable to share space and time, was a significant issue in this group's university experience. This impacted massively upon more general notions of belonging and feeling part of something. For many, university life became a more remote and distant experience. The lack of (physical) participation, and the diminution of community with the move online was clearly noted, as the boundary between university and home life became increasingly blurred.

"I've seen the same four walls for the past year doing my university things, and as soon as my laptop closes, you know, it's just back to normal life. So it doesn't really feel like you're engaging in that kind of thing [university life] *anymore." Student 2 Level 5*

5. Discussion

The impact of COVID 19 on higher education teaching and learning has been profound, shaping both its delivery and its impact. Students new to higher education, having no pre COVID reference point, have had a mixed experience. A recent survey reported that 46% of first year students felt that their academic performance had significantly or majorly been affected since the start of the pandemic. 53% expressed a desire to return to some form of face to face delivery of content (either in face to face only or via some blend of on-line and face to face sessions) Only a mere 5% wished to continue study within an on-line only format (ONS, 2022). A 2021 student survey revealed lower positive responses to a wide range of questions, many it was suggested were attributable to the COVID pandemic. Questions that focused directly upon COVID, for example regarding the universities steps to address student mental well-being during COVID (41.9% agreement rate), and student's contentedness with learning and teaching during the pandemic (47% agreement rate), reflected a general low positive response (NSS, 2022).

In a quantitative study conducted by Filoh et al. (2021) it was found that 70% of their studied sample claimed that lockdown had adversely affected their work and study, and that a significant contribution to this feeling was the reduction in personal interaction (72%) As quoted *"….imposed social isolation led to staff and students experiencing problems of lack of social interactions, motivation, and mental health problems such as boredom, loneliness and anxiety"* (p. 13).

Returning students, those in their second or final year of study have we believe, different yet potentially more complex relationships with university, bringing with them through previous study, some element of experience of higher education framed within its traditional face to face format. From this research, final year and post graduate students were the most clear in articulating and expressing the experience of isolation, and its impact upon their learning and performance.

Rovai (2001) suggested that there are two types of online interactions for the purpose of building online community: task-driven interactions for the goal of learning, and socio-emotional interactions to facilitate social-wellbeing and friendships. The balance of task-driven and socio-emotional interactions are perceived as being of equal importance in the development of community. Our research would suggest that the socio-emotional foundations are in fact potentially more significance in online community building, in which the emotional foundations in stimulating a sense of belonging are both crucial, and central, in supporting a positive educational experience, stimulating engagement, and in encouraging motivation (Thomas et al., 2014). A 2022 study by Liu et al. (2022) investigating the use of problem based learning (PBL) on-line during the time of COVID, supports this general position, finding that with the enhanced interaction generated by PBL delivery, students experienced a stronger sense of belonging and through on-line interaction "closer connection" with each other. Via student interviews, it was further revealed that such interaction was significant in stimulating a deep and more active learning environment and community.

With a focus on delivery (the learning goal), which has largely dominated the teaching and learning discourse during the time of COVID, rather than the well-being/friendship foundation of the learning community (the socio-emotional goal) feelings of isolation have surfaced. This raises issues regarding the effective delivery of on-line programmes and how they are organized, and whether they are suitably designed to capture the learning delivery and socio-emotional attributes required. In Varela et al (2012) the identification of learner attributes and behavioural patterns, and their importance in shaping the individual learner's experiences of the on-line environment, establishes that different delivery styles will suit different individuals. Hence the design of the learning environment, real or virtual, must be suitable, flexible and diverse in order to be open to as many learners as possible. The "multi-dimensional" experience of educational events means that there is a need to ensure that students can effectively embrace; adaptability, flexibility and some element of educational or academic resilience. Being able to absorb the learning environment as presented, and having the appropriate skills, attributes, and behavioural characteristics to do this, is key. If this argument was to be made pre-COVID, then with the advent of the pandemic it would seem an even more pertinent point now. Did students possess suitable skills and abilities, and the capacity to adapt to the new COVID defined academic environment they faced, in both a learning delivery and socio-emotional sense?

As learners in on-line environments, such as those researched here, many suffered from significant feelings of isolation, and a profound lack of contact within the learning community. It is not surprising to find that within existing research, findings suggest that those that are better able to demonstrate greater "self-discipline" and "self-control" achieve more positive outcomes, and derive a more positive educational experience from on-line programme delivery. Their need for socio-emotional input is low. In fact those that were researched, who felt isolated, expressed they were able to overcome the change in pattern and method of delivery, and in fact very few complained about the task driven learning delivery goal. Where stresses were apparent was in the students ability to adapt to the new "socio-emotional" reality of on-line learning, which may have in fact come from, in no small part, academic programmes prioritising the learning delivery issue above and beyond the socio-emotional priorities of the student experience. Work by Butnaru et al. (2021) considering the experiences of Romanina students during lockdown, suggests that enhanced feelings of isolation and anxiety required additional focus from course management teams, although as noted above, they found that those students that were able to demonstrate higher levels of resilience were much less impacted by the anxiety generated by moving on-line.

Does the reconciliation of this problem then solely rest with the programme team and the appropriate design and delivery of modules and their content? Do staff have appropriate or sufficient understanding, beyond the simple delivery of their materials, to recognise where and how they might tap into the socio-emotional elements of delivery? Where does group working extend beyond simple Breakout Rooms, to a point where a collaborative culture is developed and captured? Within this study students stated, with great regularity, what a waste of time Breakout Rooms seemed to be. With little or no participation from other students, poor and limited facilitation by staff, and a failure to debrief once the room had closed, were cited as issues. Cacciamani et al. (2012) suggests such

sessions offer little more than a basic epistemic or knowledge building model. Here the *proposing* and *elaborating* of information are emphasised in delivery. For Cacciamani et al. more advanced epistemic models that focus upon *exploring* and *evaluating* information, require participation, facilitation and metacognition. As Cacciamani et al. (2012) states, epistemic agency or effective knowledge building *"....indicates the commitment by the students to improve ideas, negotiating an adjustment between their ideas and those of others, trying hard to realize a deep insight into the problems that are the core matter of the inquiry and to elaborate new knowledge."* (p. 877). Simple Breakout Rooms poorly facilitated and debriefed are unlikely to attain such knowledge building standards.

Liu et al. (2007) remarks in discussing programme design and delivery, *"instructors seemed to resort to technology as a solution, whereas the students stressed the importance of social activities as a solution to heighten the level of social presence and collegiality in online courses"* (p. 20) In the Liu study it was noted, that many staff were found to exhibit poor on-line social skills, and an equally poor understanding of the COP concept and idea. In such situations it is not be surprising to find that the socio-emotional elements of programme design and delivery are overlooked and neglected, as tutors fail to immerse themselves not just in the design, but in the management and facilitation of the on-line environment (Wilson et al., 2004; Thomas et al., 2014; Ghazal et al., 2019).

6. Conclusions

The main takeaway from this research is that effective on-line delivery requires attention to be given to both learning delivery and the socio-emotional dimensions of any programme of study (Rovai, 2001). If students are to be successful, programme teams must look beyond simply how they do things and consider how students experience those things they do. The design of any on-line programme must recognise that the formulation of learning materials and the supporting framework around this, must promote not just knowledge acquisition, but also consider how students experience the acquisition process, and how motivation and engagement is enhanced by establishing clear principles of belonging, trust and learning community. When programmes are solely teaching focused (delivery and content), social interaction, networking and relationship building can be over-looked.

Flowing from the articulation of the research questions driving this project, this research suggests that the movement of programmes online have had a largely negative impact upon feelings of belonging, trust and engagement, and that these negative feelings have been driven by a growing experience of isolation. What this reveals, is that effectiveon-line delivery requires more then the simple transition of face to face resources into a virtual format. Such resources must compensate for the physical classroom, the café, the library, and all other social spaces so critical in fostering a deep and meaningful sense of being part of the University learning community. Learning resources must be reimagined to capture this deeper socio-emotional complexity, and maintain and enhance *"motivation, interaction and engagement online"* (Thomas et al., 2014).

Moving forward course and module designers must seek to ensure that learning resources recognise the need for interaction and play, whether via group-based activity that are part of the formal curricular or are part of a wider extra-curriculum programme. Student isolation must be minimised in order to avoid its profound and far reaching impacts upon wider learning and its experience.

Declarations

Author contribution statement

Mark Sutcliffe, Kallie Noble: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Data availability statement

Data included in article/supp. material/referenced in article.

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Additional information

No additional information is available for this paper.

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