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Disruptive silence: deepening experiential learning in the absence of technology

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ABSTRACT

Technology plays an integral role in the lives of the majority of the US population. As technology becomes integrated into young people's lives, questions arise regarding its effects on learning. This exploratory study draws on interviews with students who attend university in the United States to determine how separating students from technology deepens experiential learning. Participants were interviewed following a study abroad course to New Zealand, during which they were disconnected from technologies such as cell phones, the Internet and social media. In the interviews, students discussed their feelings of being disconnected and describe how disconnecting impacted their overall experience. Participants agreed that disconnecting from technology had positive effects on experiential learning and the global experience. Major themes that emerged include students' enhanced immersion and engagement, the value of disconnection in providing opportunities for personal growth and the difficulty of initial separation from technology as a result of conditioning.

KEYWORDS

Experiential; conditioning; technology; study abroad

Introduction

It is estimated that Americans consume more than 15 hours of traditional and digital media daily (Short, 2013). Extensive use of technology in day-to-day life has become the norm, with an abundance of technological platforms, such as tablets, computers and smartphones, allowing ease of access in almost any situation. Millennials (born from the early 1980s to the early 2000s) in particular are increasingly using the Internet and social media (Plank & Shoulak, 2015). In fact, one survey indicated that members of the millennial generation use a variety of social networks for news and information, Facebook being the most popular (American Press Institute, 2015). Eyal (2014) states in *Hooked* that over 75% of smartphone users will check for any updates almost immediately upon waking up, and a study conducted by the University of Maryland in conjunction with the International Center for Media & the Public Agenda (ICMPA) observed that US students found it amazingly difficult to go 24 hours without use of technology ('The world unplugged', 2010). Many people are never more than a few feet away from their smartphone, and constant access to technology is increasingly becoming an expectation in today's culture (Centore, 2015; 'The world unplugged', 2010). Additionally, the rise in the use of mobile devices, such as cell phones, in academic settings has been prolific in recent years (Tindell & Bohlander, 2012). It is important to examine how this trend is affecting the learning process, particularly experiential learning, and whether these behaviors have become habits, compulsions or addictions.

Many educators believe that experiential learning captures the true understanding of the concept or situation being discussed. While the experience alone may not lead to learning, it becomes increasingly effective when combined with a concrete experience (e.g. study abroad) where students are continuously involved in performing activities as a group and given the opportunity to contemplate and share reactions and observations publicly through the debriefing process (Enfield, 2001). Through this, students conceptualize the experience. Furthermore, Mezirow (1997) describes transformative learning as a process of changing a 'frame of reference' (p. 5) and the move towards behavior which is more inclusive, discriminating, self-reflective and integrative of the experience. In addition, Kolb (1984) explains experiential learning as a four-stage model, in which the learner progresses through the concrete experience, reflective observation, abstract conceptualization and active experimentation, at which time the cycle returns to the concrete experience.

In January 2015, a group of students from a medium-size private university in the southern region of the United States was taken to New Zealand for a 23-day ecotourism class during the three-week January term. The class was designed to allow students to explore both the north and south islands and to engage in a number of physical activities including hiking, rafting, kayaking and caving. Importantly, students were also encouraged to interact with the indigenous culture and visit numerous museums and other culturally significant locations. Locations visited included: Auckland, Waitomo, Rotorua, Taupo, Tongariro Crossing and Wellington on the North Island; and Abel Tasman National Park, Fox Glacier, Queenstown, Routeburn Track Doubtful Sound, Dunedin and the Otago Peninsular on the South Island. Prior to departure for the New Zealand course, students were required to enroll in a one-credit-hour study abroad preparation course during the fall academic term. During this time, instructors extensively discussed the effects of technology on learning and challenged students to disconnect from all forms of technology prior to the global experience to prepare for minimal accessibility in New Zealand. Assigned readings and group discussions frequently centered on the challenges of disconnecting, and students were encouraged to prioritize disconnecting from their phones, the Internet, social media and other forms of technology even when it was available so as to deepen their global experience. While students did have access to the Internet in some locations, a majority of the course occurred in very rural settings, helping to further isolate students from accessing various forms of technology. Instructors hoped that this physical isolation coupled with the challenge to disconnect would lead to a deeper global education experience. An impetus for this study occurred the previous year. One of the instructors, while walking at the end of the line of students, watched in dismay as they walked single file through a location of significance, and not a single student saw anything around them as every head was bent down over their smartphone.

Literature review

Technology usage in college classrooms

In recent years, technology has entered the classroom in many ways. Students and instructors can instantly access information on virtually any topic, teach through interactive video, use complex software to solve problems, deliver enhanced presentations and interact with online assignments and simulations. Instructors can post videos of their lectures for students who miss class or want to review the material.

A report from the National Center for Postsecondary Improvement at Stanford University (Gumport & Chun, 1999) discussed the profound transformations technology has created in the classroom. The report notes: 'As technology alters how knowledge is obtained, classified, utilized and represented, such changes may reshape both the content and delivery of education' (1999, p. 12). Such a fundamental shift, which will increase students' interaction with technology while decreasing their one-on-one interaction with instructors, has the potential to impact the processes

of teaching and learning in profound and perhaps unexpected ways. Technology in the outdoor, adventure-based setting can and does have 'its place', but the use of technology by novices can have devastating consequences. Individuals will put themselves in situations where they do not have the skill level, knowledge, wherewithal or equipment necessary to keep them safe. Yet with the technology on their smartphones or computers, they have the idea that they will be 'safe'. On Wildnerness.net. (n.d.), accessed 25 March 2016, a discussion about SPOT (a personal satellite messaging device) and the use of such equipment by a group of inexperienced hikers was referenced. These hikers contacted emergency rescue helicopters three times (potential cost of \$3000+/hour) due to water 'issues'. The first time they did not have water. The second time they complained about the taste of the water. When they called the third time, the emergency personnel made the hikers evacuate. These hikers were in a location where they did not have the requisite skill, fitness level or knowledge to keep them safe.

Eyal (2014) explains the manufacturing of habits by companies. A need is created, which evolves into a habit, compulsion or even an addiction. In observing students on campuses, many are in constant use of texting, and so forth, even when walking next to a friend. According to Burrell (2016), habits are 'actions performed routinely in certain contexts and situations, often unconsciously' (p. 30). These are actions done with little to no thought. She explains that up to 40% of daily behavior may fall into the realm of habit. Yet in 'The world unplugged' (2010) a conclusion of the study is that the disconnection from others, the absence of information, was one issue which caused anxiety in the students as they struggled to determine the role that media plays in their lives. The authors wrote that 'the impact of what they DO with that stuff [iPhones, Droids, iPods, etc] has profound "moral and social" implications' ('The world unplugged' 2010).

For all the advantages technology brings to the classroom, its incorporation can have negative effects similar to those experienced outside the classroom. The ability to access technology in the classroom opens the door for its non-educational use, such as when students surf the Internet or use social media instead of paying attention in class. The current need for connection is pervasive in the generation currently in university. However, 'resilient learning' is an objective for many university classrooms; students who are socially competent, interested in learning and have a sense of purpose (D'Amato & Krasny, 2011). Baumeister and Leary (1995) discuss the importance of connection between people and the critical need for acceptance in individuals. Unfortunately, it is commonplace to see students on their smartphones, computers or tablets engaging in activities unrelated to the classroom environment. Note-taking or conducting research can easily shift to checking email, reading about sports, conversing with friends or liking pictures on Instagram. Even when using technology for legitimate purposes, students can easily become distracted by the vast amount of information available. The problem of students using technology in ways completely unrelated to the classroom environment has become so prevalent that some professors have enacted strict 'no phone' and 'no computer' policies. While the choice to focus in class and use technology appropriately ultimately falls to the individual student, it is undeniable that its availability presents a significant temptation to use it for other purposes.

While technology enhances students' access to information and ability to gather data, not all professors view cell phones, tablets and other mobile devices as positive additions to the classroom. In fact, Campbell (2006) found that the ringing of a cell phone impaired learning during video presentations. Additionally, Chaklader and Bohlander (2009) asked college students to respond to zero, one, two or three text messages at the same time as they were asked to view an educational video. The results indicated that students who received two or three messages scored lower on test performance following the video than those students who received zero or one text message. The ability to learn and focus on the material was thus determined to be inversely proportional to the number of messages received during instruction. In another study, Braguglia (2008) found that 50% of students surveyed reported that they interact with their cell phone during class time in every class they attend. When asked whether these actions interfered with their learning, the vast majority did not believe the use of their phone was a distraction. Yet

when bored, they will immediately use their technology to connect them to something which will entertain them or give updates and feedback on what others are doing. Students often discuss the use of their technology in the classroom (or driving) when they should be paying attention to something/someone else ('The world unplugged', 2010).

Psychological effects of technology

Given its intrinsic connection to modern life, it is not surprising that technology has significant and varied psychological effects. In relation to communication and learning, addiction and stress are two of the psychological impacts that may influence normal functioning. Technology has been found to pose serious addiction threats. Researchers from around the globe interviewed university students in the United States, Latin America, Africa, the Middle East, Europe and Asia, and found that many students considered technology critical to their lifestyle and are 'addicted' to the use of technology ('The world unplugged', 2010). Eyal (2014) also used the term 'addicted' in a discussion of the prevalence of use of technology in everyday settings. It is now commonplace to see people walking about, completely unaware of their surroundings, entranced by something on their smartphone. The Pew Research Center found that the primary method of communication, more than email, Instant Messaging (IM), voice calling or even face-to-face contact is text messaging (Pew Research Center, 2010). Technology is so intertwined with everyday life that it is hard to imagine going through a single day without access to the Internet, and separation from technology often causes high levels of stress. The term 'technostress' has been coined to refer to this type of stress related to technology (Weil & Rosen, 1998). The immense opportunities and seemingly infinite amount of information accessible through technology can be overwhelming, and the ability—and often the expectation—to be connected 24/7 provides no opportunity to separate and relax. This constant connection can prevent an individual from ever experiencing genuine solitude, leading to anxiety, frustration and stress. Furthermore, constant connection may create a sense of obligation to respond at all times (Centore, 2015). The Pew Report indicates that a 'typical' US student sends/receives 50 texts a day and 1500 a month (Pew Research Center, 2010), with older students sending/receiving more than younger students, and females more than men. Disengaging from this constant connection can be difficult and, given our dependence on technology and its applications, often greatly increases stress in the short term. A study by the ICMPSA found that some students utilized the word 'addiction' when describing their thoughts and feelings about being disconnected from technology for 24 hours ('The world unplugged', 2010). Students also felt the loss of instant information when they were disconnected, whether that is the loss of information about class, current events, television shows or the social lives of friends.

According to Meyers (2015), excessive use of technology—particularly virtual communication—may impair in-person communication skills as well. Increases in virtual communication typically diminish opportunities for face-to-face interaction, leading to a decline in interpersonal communication skills and resulting in increased feelings of loneliness. Moreover, communication through virtual media allows individuals to maintain an emotionally distancing barrier, which can hinder the ability to form the emotional connections that improve face-to-face communication. When an increase in virtual communication leads to significant decreases in in-person interactions, 'real-life' human communication abilities may decline or, in the case of children and younger adults, never fully develop. This leads to such scenarios as two individuals, in the same room, texting each other rather than talking.

Benefits of nature and separation from technology

The increasing engagement with technology not only threatens to diminish the quality of relationships between human beings, but may also erode individuals' connection with the natural world. In Richard Louv's (2006) seminal book *Last Child in the Woods*, he interviews students in the United

States to determine what effects, if any, a lack of exposure to the natural world has on them. Recent research suggests that separation from technology, particularly in connection with a greater engagement with nature, can have positive results. While not a focus of the ICSMA study, some students reported that going outside for a walk and simply enjoying being outside were not experiences they had in university ('The world unplugged', 2010). In addition, a group of five neuroscientists seeking to study their own reactions to isolation from technology in a remote area of southern Utah noted positive changes after a week of being disconnected (Richtel, 2010). Of note was the difficulty they initially experienced when required to separate from forms of communication that connected them to the rest of the world, as well as the resulting anxiety. However, after a few days this anxiety began to subside, replaced by increased feelings of relaxation. Additionally, the scientists became more engaged in their surroundings and their interpersonal interactions were deepened. The scientists suggested that learning centers in the brain may become taxed when asked to process too much information too frequently, and that the information overload created by technology might inhibit cognitive ability (Richtel, 2010).

Similarly, Webber (2013) found that after just four days of separation from technology and immersion in nature, subjects demonstrated increased cognitive ability in problem-solving and creativity tests in comparison with their performance prior to the separation and immersion. With technology playing a much larger role in our lives than ever before, it seems that separation, even when temporary, can have positive effects. This recognition, coupled with an understanding of the effects of technology on the learning process, points to the need to explore the relationship between technological separation and a distinct type of learning: outdoor experiential education (Figure 1).

Experiential learning

Experiential learning is the process of learning through experience, and as defined by Kolb (1984) is represented by a four-stage cycle. This cycle includes: a concrete experience, in which the learner has the experience; a reflective stage during which he or she thinks about and reviews the experience; an abstract conceptualization stage, when the participant learns from what happened; and an active experimentation stage when the learner, using what was learned, tries a new



Figure 1. Hiking Tongariro Crossing.

experience. Experiential learning differs from other types of learning by its heavy emphasis on active participation by the individual, both through engagement in the experience itself and, more importantly, through its reflective component. In a global immersive experience like study abroad, experiential learning is especially relevant because it comprises a large component of overall learning retention.

Research methods and procedures

Following the phenomenological tradition, this study sought to understand and interpret the lived experiences of 10 undergraduate students who participated in study abroad experience in New Zealand. Phenomenological methodologies attempt to ‘see reality through another person’s eyes’ and thereby provide the researcher with various perspectives through which to explore problems and identify potential solutions (Bernard, 2000, p. 20). Qualitative studies in the phenomenological tradition are therefore of particular utility, as initial investigations can frame the development of subsequent research using quantitative methods (Stake, 2000).

Sample

Participants in the study were recruited through purposive sampling of students enrolled in one section of a course entitled Adventure-Based Ecotourism in New Zealand. Participants were selected from a class offered during a 23-day term that occurred in January 2015 at a medium-sized private institution in the southeastern United States. An open call for participation was made to the class upon completion of the course. Of the 28 students enrolled in the course, 10 agreed to participate in the study. The participants in the study were representative of the demographic distribution on campus: all participants self-identified as Caucasian; four participants were men and six were women; and all were classified as either juniors or seniors, with ages ranging from 20 to 22 years old. While the student sample was not randomly generated, it was consistent with the tenets of qualitative research (Patton, 2002), which stipulate the inclusion of a variety of viewpoints to allow for a deeper understanding of the experience and more informed suggestions for new research (Table 1).

Data collection

Participants completed one in-person interview after completion of the course. Each participant read and signed a consent form and was paid \$10 per interview for their time. Participants were assigned pseudonyms to ensure confidentiality. The interviews took place in a mutually agreed-upon setting and ranged from 30 to 50 minutes in length. The interviews were semi-structured and designed to gather rich descriptions of participants’ shared experiences. Questions were derived from a social constructivist approach, resting on the assumption that participants make meaning of

Table 1. Demographics of research participants.

Pseudonym	Gender	Age	Class	Major
Karen	Female	20	Junior	Biology
Kathy	Female	22	Senior	Journalism
Ellie	Female	22	Senior	Applied mathematics
Meredith	Female	22	Senior	Pure mathematics
Julie	Female	22	Senior	Applied mathematics
Janet	Female	22	Senior	Public health
Rob	Male	21	Junior	International business
James	Male	20	Junior	Exercise science
Bill	Male	22	Senior	Biochemistry
Jesse	Male	21	Junior	Finance

the events they describe from a subjective perspective (Creswell, 2009). The two main authors, both instructors in the course, were known to the students, allowing them to feel comfortable in responding to the reflective interview questions. The majority of the participants had been particularly reflective about their experiences throughout the course, and were able to provide insight into significant portions of the course structure.

The interviewer asked broad, open-ended questions about participants' experiences of being disconnected from technology (specifically their cell phones) and the impact that disconnection had on the study abroad experience. These questions were based, in part, on information from the pre-departure course discussions pertaining to the separation from technology. Participants were asked to respond to such general questions as: 'For much of the class we have been disconnected from various technologies. How do you feel this disruption deepened your study abroad experience?' Because of time constraints imposed by the end of the term and the impending graduation of the seniors, it was only feasible to conduct one interview with each participant. While a convenience sample, this group of students was viewed as having perspectives which allow deeper understanding of the separation from technology and the impact on possible new directions in adventure-based learning and technology.

Data analysis

After the interviews were transcribed, the researchers conducted a member check that allowed participants to review their audio file and transcribed interview, and to offer their perceptions of its accuracy (Merriam, 2009). The interviews were then analyzed using open coding to identify the main themes of participants' experiences (Strauss & Corbin, 1998). Three researchers independently identified and named themes by sorting data into broad categories. The researchers subsequently met to discuss their analyses and identify the main themes that emerged from the interviews.

Findings

The three major themes that emerged from the study were students' enhanced immersion and engagement, the value of disconnection in providing opportunities for personal growth and the difficulty of separating as a result of the conditioned use of technology. These themes represented salient features of students' experiences that were repeated throughout the interviews.

Enhanced immersion and engagement

The most prevalent theme that arose from the interviews was recognition of how separation from technology aided individuals' ability to engage with the activities and people around them. Every student in the study believed this allowed them to have a more meaningful learning experience and to create deeper relationships with their classmates. Baumeister and Leary (1995) determined that the need to belong is a fundamental human need—to form and maintain a lasting, positive and significant interpersonal relationship with others.

One common perception among the students was how the constant access to technology creates a significant distraction that hinders their ability to focus on the present. Similar to the understanding hinted at by a student in the ICMPA study, 'everything is so accessible and so instantaneous, that we lose sight of what is behind these snippets of information' ('The world unplugged', 2010). Students believed that if technology had been more available during their study abroad program, they would have been preoccupied with social networking and worried about their lives back home instead of focusing on the class itself. Jesse reflected: 'I know a lot of people would've been distracted and it would've taken away from some of the bonding and some of the personal experiences.' Indeed, many participants commented that at certain points when WiFi was available, many students were on their cell phones instead of engaging with their peers.



Figure 2. Lunch at Routeburn Flats.

However, without access to that technology, many students noted positive effects. Rob commented: 'Because I didn't have my phone on me 24/7, everything about myself was here in the moment and proved to be much more beneficial, and I was a lot healthier, and I wasn't worrying as much.' Students found that they were more aware and more appreciative of their surroundings, and participated more in the class as a result. Because active participation is a key component of experiential learning, this increased engagement is particularly noteworthy (Figure 2).

A prevalent finding in the interviews was that separation from technology enabled the students to foster deeper, more meaningful relationships with their peers. Nine students noted that this experience was unlike any of their previous classroom experiences, and that they had created incredibly strong bonds with their peers. As opposed to their classes back home where, as Jesse noted, it was 'pretty common' for students to go an entire semester without learning most of their classmates' names, the participants in this class knew each and every person. Many of the students reported playing games with their peers such as 'manhunt' or Monopoly, or simply staring at the stars at night engaging in deep conversations. 'No one was distracted with technology', noted Karen: 'They were just interacting with each other, interacting with what's around them. Everyone was connecting on a deeper level and friendships were stronger, and just an overall more rewarding experience.' Many students believed that had technology been available, while these interactions and bonds might still have occurred, they would not have been nearly as strong. Students noticed a significant improvement of their quality time with others in the class—reading, journaling, paying more attention to what was happening around them—and the benefits of uninterrupted attention to life in the immediate moment, without the disruption of technology, as did the students in the 24-hour unplugged experience ('The world unplugged', 2010).

In a study abroad experience such as this, which for many of these students was a unique opportunity because many felt they would never be able to return to New Zealand due to cost, the importance of engaging fully in an unfamiliar culture and in the class activities is even greater than in a normal classroom environment. Many students commented that had they had greater access to technology, they would have missed many important elements of the experience. For example, when students saw wild seals they chose not to take pictures in favor of immersing themselves in the experience. 'I was really staring at them and enjoying it and I think it was a lot better not taking pictures', said James. Immersing oneself fully in such moments is an aspect of the experiential

learning process that can easily be missed when technology is present. Students also discussed how, instead of searching the Internet for information, they were forced to talk to guides or read brochures, which promoted enhanced engagement and may ultimately have provided more accurate, extensive and personalized information. Overall, the lack of access to technology created a higher-quality learning experience by enhancing numerous dimensions of engagement.

As stated previously in the literature review, separation from technology, particularly when there is a greater encounter with nature, can result in positive benefits. Some of the students in the ICSMA study discussed how going outside for a walk or shooting baskets were something they had not experienced lately ('The world unplugged', 2010). The group of five neuroscientists noted positive changes. While difficult initially when separated from technology, this anxiety reduced and was replaced by increased feelings of relaxation. They became more engaged in their surroundings and their person-to-person interactions were deepened (Richtel, 2010). Similarly, Webber (2013) found that after four days of separation from technology and immersion in nature, subjects demonstrated increased cognitive ability in problem-solving. Students in this class reported comparable results.

The value of disconnection in providing opportunities for personal growth

Another overarching theme that emerged from the interviews was the restorative qualities and opportunities for personal growth that disconnection from technology provided. Students found that this disconnection was calming—even freeing—and provided many opportunities for self-reflection (Figure 3).

Participants frequently commented on the 'instantaneous nature' of technology and the perceived obligation to always be available and respond immediately. Without access to technology, students were liberated from this compulsion and realized unique, restorative benefits as a result. 'I felt less stressed, like I feel calmer because I'm not trying to look something up every 10 seconds; I'm not watching other people on Facebook', Karen commented: 'We were totally disconnected ... and it was really nice because you can kind of take a step back, get back to the basics and just take in what's around you.' Indeed, many students noted how, after the initial separation anxiety subsided, they were much calmer and stress free. No longer were the students worried about what was going on back home; they were simply concerned with the present moment. This decrease in stress undoubtedly played a role in allowing students to become more deeply engaged



Figure 3. Reflecting along Routeburn Tramp.

with their peers and surroundings. A significant difference between this study and the global ICSMA model ('The world unplugged', 2010) was that this class extended for 23 days, not just for 24 hours. Many of those students also indicated they felt 'relaxed, care-free, peaceful and serene, ... mellow' and that the experience ended up being more productive and restorative in the long run than they expected.

Additionally, the separation from technology provided many opportunities for self-reflection. While the very nature of this class was to foster self-reflection, separation from technology allowed a deeper connection in all facets. Many students commented on the 'moments of silence' during the class as presenting rare, memorable opportunities. When technology is always in the background, it is much harder to fully immerse oneself in complete silence and genuine self-reflection. Because self-reflection is a critical component of experiential learning, it would appear that the disconnection from technology has very positive effects on experiential learning itself. Mezirow (1997) discusses that in transformative learning the reflective piece is critical for self-knowledge. Kolb (1984) also discusses the importance of reflection in the experiential learning cycle.

The opportunities for self-reflection in a calmer, less stressful environment were particularly conducive to personal growth, as reflected in the students' interview comments. In contrast to the 'materialistic' and 'small-minded' pursuits of everyday life that technology reinforces, Ellie reflected: 'being disconnected, you sort of reestablish what should be valued in life versus what you assumed was important.' Even within the context of a course geared toward such a realization, this awareness might not have been possible without uninterrupted opportunities for self-reflection. While Ellie does not specify what in particular should be valued in life, the very utterance of these thoughts is important, because this type of reflection lends itself to personal growth.

Rob discussed how the separation from technology provided opportunities for personal growth:

Once you get out of your comfort zone and really start to experience a whole different ... way [to] go about your daily life ... you definitely learn a lot about yourself, and you have a different viewpoint on life itself when you don't have that phone.

Achieving a different viewpoint on life is a remarkable accomplishment in a relatively limited time period, and this new perspective offers considerable potential for personal growth. Especially in the context of a global learning experience such as this, separation from technology appears to correlate with increased experiential learning and individual growth.

The difficulty of separating from technology—conditioning

'I can't imagine going to classes and doing everything I do without my phone', Janet began. This is a common perception among the millennial generation and was strongly evidenced in the unplugged study. The use of technology and the expectation of instantaneous gratification are prevalent among today's university students ('The world unplugged', 2010). Having grown up with technology, it is perceived as an integral part of their everyday lives. 'I think it's the general understanding ... that in today's culture, everyone's got their phone right on their hip, and if you don't respond within an hour or two, they're purposefully ignoring you', remarked Ellie. This socialization makes it very difficult to separate from technology, as many of the students observed. This concept reiterates Centore's (2015) finding concerning the expectation of constant contact with others through technology.

Students repeatedly contrasted the disconnection from technology they experienced in the travel portion of the class with the constant presence of technology in their lives back home. 'We're so used to using our phones all the time', James remarked: 'If you go back to [the university], I would say at least 75% of the people walking, myself included, are listening to music or texting somebody, not looking up, and you miss a lot around you.' With technology filling every void, it is not surprising that moments for self-reflection have become scarce.

Moreover, immoderate technology use fosters technological dependence, especially when individuals have been conditioned to expect its availability. 'We've been growing up in an environment that relies so heavily on a phone and you can pretty much have access to just about anything, and you really rely on that', Rob noted. When asked about their feelings when technology does not work efficiently, the students conceded that it was frustrating. This degree of dependence on technology makes it difficult to separate and can cause a great deal of anxiety when access to technology becomes unavailable (Richtel, 2010). One of the faculty in class does not have a cell phone or the Internet at home. Students expressed amazement that the faculty 'could exist' and 'get along' without the use of the technologies they take for granted.

Many students believed that the nature of the class and its embedded separation from technology helped them overcome their conditioned inclinations. This suggests that the external environment can play a significant role in individuals' ability to disconnect. Several students also noted that while separation was difficult at first, after a few days it became easier. 'At the beginning, obviously because it's a bit of a change ... it was a little bit of a struggle', Rob remarked. However, he continued, 'I think on day three or day four, I was glad that I didn't have that kind of constraint to my phone, like I was kind of free from it.'

Many other students also commented on their initial discomfort, but found that by the end of the class they came to appreciate the separation. 'Because we're so focused on technology in this age ... I think it's important to get away from it and realize its importance. You know, it also makes you appreciate it when you go back to it,' Meredith explained. The students' reports suggest that separation from technology provides a powerful learning experience that fosters personal growth.

However, just as the external environment can catalyze the separation process, it can also hinder it. While many students expressed desire to decrease their technology use when they returned home, they confessed that it would be difficult. 'I do have a sense that being in that environment, I will go back into old habits. Because there's nowhere you can really go like this place ... it will be extremely hard, very challenging', admitted Rob. This temptation for many young people exemplifies how extensively their socialization has incorporated the use of technology.

Because of the potential for outdoor adventure-based experiential learning to enhance transformative learning as described by Mezirow (1997), having a frame of reference is more inclusive, discriminating, self-reflective (which also aligns with Kolb's, 1984, experiential learning cycle) and integrative of the experience.

Implications

The three themes that emerged from this study suggest several important implications of the separation from technology and its impact on experiential learning. Based on these findings, separation from technology has many positive effects on experiential learning. Given the importance of the experience itself as a component of the experiential learning paradigm, enhanced immersion and engagement results in a higher quality experience and greater retention. Disconnecting from technology and ingrained patterns of behavior related to its use led to deeper, more meaningful engagement with peers and with the natural world. Students were able to have many experiences they might otherwise have missed.

As well as uninhibited engagement with the experience itself, a subsequent period of reflection allows the learner to make sense of and draw conclusions from the experience. As defined by Mezirow (1997), transformative learning is defined as the 'process of effecting change in a frame of reference' (p. 5), especially with regard to habits of mind and the individual's point of view. In practice, a high-quality experience itself is not enough to promote true experiential learning; a meaningful reflection upon the experience is also necessary (Kolb, 1984). Disconnection from technology appears to provide increased opportunity for self-reflection, significantly reducing the persistent distraction of notifications and the compulsion to 'check in' using social media. While a greater quantity of opportunities is obviously valuable for the learning process, the quality of these

reflections is of equal if not greater importance. Students noted that they were calmer and less stressed, which in turn can allow for a more meaningful experience of self-reflection. Additionally, disconnecting from technology removed the distractions that could hinder personal growth during the experience. Also noteworthy is the observation that separating from technology appeared to provide its own unique experience from which the students could learn. Burrell (2016), in her discussion on willpower and habit, acknowledges that while the anecdotal reference is that a new behavior becomes habit after three weeks, it might be more likely that there is a range, between 18 and 254 days, with an average according to one study of 66 days. Dr B. J. Fogg (professor at Stanford University in the Persuasive Tech Lab) alludes to three elements which must be present for a behavior to change; motivation, ability and trigger. A person must have the desire or motivation to change the behavior, the ability to carry out this change and the trigger such as a facilitator or some 'signal' to change the behavior. If one of the elements is missing, the behavior is more difficult, if not impossible to change (Fogg, 2016).

The extensive conditioning to constantly use technology is an important aspect to consider. Students reported initial difficulties with disconnecting and noted the role the external environment played in the separation process. The location, rural settings and global nature of the course provided students with both motivation and novel context for disconnecting from technology. Students were excited and fascinated to be abroad, and the new, unfamiliar environment, especially outside of one's home country, seemed to help free students from the extensive socialization that occurs related to the use of technology.

Recommendations

The findings of this study indicate that separation from technology plays a crucial role in deepening a study abroad experience. However, this separation process can be difficult, with many factors influencing the success and quality of the overall experience. Based on the qualitative findings, the following recommendations are suggested.

Guided mental preparation in advance of the experience orients students to the challenge of disconnecting from technology. Faculty spent an extensive amount of time encouraging students to disconnect prior to departure to New Zealand and while abroad. The one-credit-hour pre-departure course helped students understand the positive impacts disconnection could have on their global experience. Participants indicated that understanding the faculty's expectations regarding the use of technology was helpful in their struggle to disconnect. By developing the mindset to disconnect, students may be able to resist the temptations to use technology when it was available. Hosting discussions about the role of technology and setting goals for its attenuation were beneficial in helping students overcome the anxiety of being disconnected.

To mitigate recidivism, faculty should ensure that all necessary materials for the experience are available without using technology, and begin using them as early as possible. When asked to offer recommendations to instructors that will help remove the constant influence of technology, Jesse suggested: 'Get everything you need beforehand through print sources or guides.' Because technology provides instant access to the world's information, making the information available through other means may reduce the temptation to resume reliance on technology.

Faculty should also encourage a conscious effort on the part of participants to reduce technology use in daily life. Given how closely tied to smartphones and the Internet students are in everyday life, however, this may be more challenging than it appears. Nevertheless, cultivating cognizance of one's personal use of technology has unquestionable benefits. There are many ways to monitor usage, but one suggestion is to log technology use over a 24-hour period. Using this time management skill with university students may help them to realize how much time could be better utilized each day. Many people are shocked at how often they use technology to access social media such as Facebook, Instagram and LinkedIn.

During the interviews, it was clear that participants recognized the negative impact of technology on meaningful face-to-face social interactions. All participants noted that they were 'amazed' by how well the entire class got along, frequently commenting that they became friends with classmates outside their normal social circle. As a result of their experience and their recognition of technology's effects, participants made a commitment to reduce their own use of technology upon returning home.

Unfortunately, returning to the same contextual situations (Burrell, 2016) often makes maintaining the behavior difficult. The engrossing ubiquity of technology makes it easy to become distracted and spend hours surfing the Internet, using social media or watching online videos or shows. Because of the extensive integration of technology into daily life, many people fail to realize how much time they invest in using technology. A time-management class with an emphasis on technology usage would help promote this self-awareness.

Taking regular breaks from technology may also prove helpful. These breaks need not be as extensive as a 23-day study abroad experience, and could even be as short as an hour or two. The external environment also plays a role in disconnecting from technology. Taking a break in an environment that promotes separation, such as an adventure-based learning course or other experiences that foster a connection with nature should be considered.

The use of technology in our culture is pervasive. Finding ways to disconnect can be challenging. While meaningful disconnection is possible, technology's integration into our culture is a powerful barrier. Higher education professionals must work to overcome such barriers to allow experiential learning opportunities, and the students who pursue them, to achieve their full potential.

Further research should be undertaken to determine the impact of technologies have on human experience in the outdoors and experiential learning.

Disclosure statement

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