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Using transformative learning theory to understand outdoor adventure education

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ABSTRACT

Transformative learning (TL) theory has rarely been used in outdoor adventure education (OAE) research despite many students describing their courses as transformative. In this study, we applied TL theory to OAE to determine whether the outcomes students reported and the activities and processes used on course produce TL. We surveyed 139 National Outdoor Leadership School (NOLS) students using the Learning Activities Survey and interviewed 20 about whether they were transformed at NOLS and if so, how they were transformed. Our findings showed that OAE can be a catalyst for TL but it depends on the student and whether they have encountered a disorienting dilemma (or challenge to their usual frames of reference). OAE courses that challenge students while offering a supportive environment and time for reflection are more likely to promote TL. Educators seeking to provide TL should focus on reflection, challenge and support in their curriculum.

Many students who complete an outdoor adventure education (OAE) course return home to say that the experience transformed them. Stories like these are so abundant that OAE practitioners commonly accept that they provide transformative learning (TL), and some OAE organizations even market TL as one of their primary outcomes (NOLS, 2019). The organizations that founded modern OAE hoped to transform a student's character (Freeman, 2010; Hill & Brown, 2014) and recent studies have found a change in perspective is an outcome students gain from OAE courses (D'Amato & Krasny, 2011; Jostad, Paisley, & Gookin, 2012). But what does it mean to have a transformative experience in OAE? And, given that the occasions of TL across one's lifetime occur infrequently (Mezirow, 1991), why is it commonly reported in OAE?

Transformative learning and perspective transformation

While multiple definitions of TL exist, we used Mezirow's (1991) definition in this study because it has been widely studied (Taylor & Cranton, 2012) and shares commonalities with experiential education (Glisczinski, 2011). Most OAE programs are based in experiential education, which asks students to go through cycles of action, reflection, revision and application (Kolb, 1984). The use of reflection, and specifically critical reflection, is a key element of Mezirow's TL. Mezirow (1991) defines TL as both a process and an outcome. The process has been clearly articulated in 10 stages[1] that begin when a person has a disorienting dilemma in which new information does not fit within their frames of reference. Mezirow's original study of TL involved women who returned to school after an extended hiatus. He described how one woman was surprised to learn that other women in her class spent time

together afterwards instead of rushing home to cook their husbands' dinners (Mezirow, 1991). This moment was her disorienting dilemma, the moment in which she had conflicting information about the way she had been and the way she could be. The next TL stages involve critical reflection. Mezirow separates reflection from critical reflection, the former being an examination of one's beliefs in relation to problem solving, for example, whereas the latter is an examination of their validity (Mezirow, 1990). After a period of critical reflection, a person engages in stages focused on experimentation. Using their newly discovered beliefs, they may change how they think and behave in different situations. As they do so, they move through the final stages where they build confidence in their new beliefs and behaviors, integrating them into their lives. A person does not need to undergo all ten stages to experience TL, but the more stages they experience, the more likely they are to achieve perspective transformation (PT) (Brock, 2010).

Perspective transformation, the outcome of TL, is harder to quantify than the TL process. First, PT can occur suddenly as in a light-bulb moment or it can occur gradually, unfolding over months or years (Mezirow, 1990), which makes it difficult to determine if it has yet happened. Second, PT refers to changes in a way a person thinks, which can occur at different levels. People have both *meaning schemes*, or rules that govern how the world operates, and *meaning perspectives* or *frames of reference*, which are higher order principles that propose how abstract relationships function (Mezirow, 1990, 2000). An example of a meaning scheme is that one's hunger should be satisfied by eating a sufficient meal whereas an example of a meaning perspective is that a teacher has more knowledge than a student. A frame of reference has two elements: a *habit of mind*, which include assumptions around morals, episteme, psychology, etc., and a *point of view*, which shapes our interpretation of the world around us (Mezirow, 2000). Perspective transformation occurs 'though an accretion of transformed meaning schemes' (Mezirow, 1990, p. 13). Or, put differently, when one's meaning schemes and meaning perspectives have sufficiently transformed, one has experienced PT. Perspective transformation is a permanent shift in one's frames of reference, but may or may not manifest in behavioral changes (Cohen & Piper, 2000; D'Amato & Krasny, 2011; Mezirow, 2000).

Transformative learning and outdoor adventure education

Despite the fact that many OAE practitioners consider OAE transformative, little scholarly work has applied TL theory to OAE. An exception would be a study by D'Amato and Krasny (2011) where they examined the learning outcomes from an OAE course in relation to environmental education. They found that participants experienced personal transformations that they attributed to course activities or processes such as detachment from normal life, the learning community, the course challenges and time in pristine nature. Their findings mirror Cohen and Piper (2000) work on TL in residential adult learning communities. In addition to the activities and processes identified by D'Amato and Krasny, Cohen and Piper discussed the importance of egalitarian relationships between instructors and students, undistracted time for reflection, continuity within the learning community, the holding environment where participants can be vulnerable due to emotional safety, a balance of challenging tasks and support, and the process of reinterpreting and reauthoring stories as participants both share and listen to one another share their life stories. Continuity within the learning community refers to how conversations begun in the morning or about a particular topic bleed into other parts of the day in ways that could not happen if students returned home each evening.

These findings echo existing research on learning activities and processes in OAE (D'Amato & Krasny, 2011), and suggest that the process of TL may be present in OAE because the activities and processes allow the TL stages to unfold. It is less clear whether the outcome of PT occurs in this setting. Cohen and Piper (2000) specifically point to the challenges of determining whether an individual has experienced PT. 'Does that mean that transformation is too strong a word to describe what has taken place? Rather, we think that such knowledge of our student's lives [that they have changed in one domain but not another] reveals the messiness of our concepts,' they write. 'Transformed perspectives do not necessarily change all aspects of such complex lives.' Much of

the empirical literature in TL struggles with how to quantify and define whether a person has experienced PT (c.f, Illeris, 2014; Kegan, 2000).

Transformative learning theory, and its associated definitions, originated in adult education and generally assumes that people adopt their frames of reference through socialization. This process occurs without much thought as one grows up, and it is typically only after meaning schemes and perspectives have been habituated that a person can begin to question their validity. The TL literature does not include much information about learner characteristics that might affect the likelihood that they experience TL or PT, perhaps because of the difficulty of disentangling the disorienting dilemma from the learner. Disorienting dilemmas are often major life events, such as the loss of a job, a divorce or the death of a family member (Mezirow, 1978). With the exception of an external tragedy like death, it would be hard to say which event precipitated the next. Did a person lose their job because they were dissatisfied with their career, or did the loss of their job cause them to realize their dissatisfaction with their career? The learner characteristics introduce another set of variables that might influence the likelihood that a person transforms, such as their desire for transformation or whether they already engage in critical reflection.

Study purpose

The purpose of this study was to understand whether TL applies in an OAE context, and if so, to understand what course activities or processes facilitate TL in OAE. More specifically, we investigated the learner characteristics that might predispose students to have a TL experience and the course activities or processes within the experience that lead to PT.

Methods

We invited 183 NOLS semester students in spring 2018 to participate in the study. Each three-month semester course included three to four technical skills components. Technical components included mountaineering, backpacking, rock climbing, canyoneering, rafting/kayaking, skiing and wilderness medicine. We invited participants to take a pre-course survey prior to their arrival at NOLS. Students had an opportunity after their course to take the post-course survey. Because of the way we administered the surveys, participants could complete one without completing another (see additional comments on survey administration below). The study employed an explanatory sequential design where participants complete a quantitative survey and afterwards complete a semi-structured interview that helps explain their answers to the survey questions (Creswell, 2014).

Measures

The university of rhode island change assessment scale (URICA)
The URICA measures readiness to change, which is a spectrum anchored on the lower end by pre-contemplation followed by contemplation, action and maintenance as the upper anchor. Participants rate their level of agreement with a series of statements (e.g. 'I am hoping this place will help me to better understand myself') using a 5-point scale where a higher score indicates more agreement. Participant scores for each category are summed and divided by two. Their contemplation, action and maintenance scores are summed and then their pre-contemplation score is subtracted from the total to produce their readiness to change score (McConnaughy, Diclemente, Prochaska, & Velicer, 1989).

The learning activities survey (LAS)
The LAS contains four sections and a semi-structured interview (King, 2009). The first asks students to identify which stages of TL they experienced by presenting them with statements and asking them to check boxes for those that they experienced during the previous four months. The second asks them whether they believe they experienced TL and, if so, to describe how they transformed. If the

person answered affirmatively that they experienced TL, they continue to the third section; if they answer negatively, they skip the third section and proceed to the fourth. The third section asks them to identify what activities or processes contributed to their TL experience. The fourth asks a series of demographic questions. Adaptations made to align with the NOLS curriculum are described below.

Participants were categorized as having experienced TL if they experienced one or more of the stages of TL, answered affirmatively that they experienced TL and if their description of how they transformed aligned with previous literature (King, 2009; Mezirow, 2000). The survey acts as a screener for a follow-up semi-structured interview. The LAS triangulates data from multiple questions to improve the validity of the instrument (e.g. a participant who reports PT should also have identified undergoing one or more stages of TL) and uses the follow-up semi-structured interview to improve internal validity. King (2009) explains that test-retest is not an appropriate means to assess reliability with the LAS because participants are likely to recall different experiences that facilitated PT. The reliability of the LAS is instead strengthened through multiple, individual evaluations (King, 2009).

King (2009) designed the LAS to be administered after the conclusion of a course. However, we wanted to understand how learner characteristics might influence the outcomes, and created a modified pre-course survey. We analyzed the surveys separately (matched vs. post-course only) to examine different research questions.

Pre-course survey

The pre-course survey contained the URICA and the first two stages of the LAS. This allowed us to assess a participant's readiness to change and whether they had a recent TL experience, two variables that could affect the likelihood that a participant was transformed at NOLS. Participants who were eligible for the survey received two emails in the two-week period prior to their course asking them to complete the pre-course survey.

Post-course survey

Participants completed the post-course survey while still onsite at NOLS. The post-course survey contained all four sections of the LAS. Because the LAS was designed for classroom learning, we adapted the list of activities or processes to be appropriate for OAE. We removed term papers, internships, personal learning assessments, class activities/exercise, and lab experiences, which are not a part of NOLS, and added technical skills, independent student travel, debriefing, daily activities (such as hiking and navigation), activities around camp (such as cooking and hanging out), peak experiences (such as summiting a mountain), and being leader of the day. Participants indicated at the end of the survey if they would be willing to participate in a semi-structured interview.

Semi-structured interviews

The final question on the LAS invited participants to complete a semi-structured interview via telephone with the first author to help explain their answers on the survey instrument. All students who agreed to the interview were invited to participate, creating a convenience sample. The interview script mirrored the LAS survey questions, but allowed the interviewer to probe the participant's answers. Interviews lasted between 25 minutes and an hour, and were recorded and transcribed.

Consistent with our explanatory sequential study design, the point of the semi-structured interviews was to better understand the quantitative research, and elicit stories that would help define what students meant when they said they had a transformative experience and explain what about different activities led to transformation. The first author began interviews with broad questions from the LAS, and used follow-up probes such as 'tell me more about.' or 'can you provide an example of.' to garner additional detail. Towards the end of each interview, the first author summarized a participant's responses and asked them to correct her interpretation of their responses. This process allowed the researcher and participant to engage in co-created meaning making and served as a form of member checking (Lincoln & Guba, 1985).

In qualitative research, the researcher's bias can easily be introduced into the research because they are both the data gatherer and analyst (Miles & Huberman, 1994). The first author contends that qualitative research cannot be purely objective given the nuanced ways that relationships unfold. If the interviewer only asks open-ended questions, they may fail to develop the rapport necessary to delve beyond surface-level answers with a participant. The first author believes that participants can provide better answers to the research questions when they understand the research project. She shared the broad research aims with participants, and, after they answered, she shared her interpretations of how their responses might fit into the research. To check her interpretations, she asked questions such as, 'Does this match your experience?' or 'Would you add or change anything about what I just said?' The risk of this interview strategy is that the researcher might unduly influence participants (Estroff, 1995). Depending on the power dynamics, a participant might agree with the researcher because they did not feel they had the authority to contradict her interpretation. On the other hand, the first author believes that co-creating meaning with the participants allows them to be a more active part of the research process rather than an object to be studied.

Analysis

TL and TL stages before and after NOLS

To determine whether students at NOLS experience TL more frequently than in the previous four months, we used an exact sign test, which is a non-parametric equivalent of the paired samples t-test (Field, 2018). We also used an exact sign test to identify if certain stages of TL are more prevalent for students before or at NOLS.

Readiness to change and prior PT

We used a bivariate correlation to determine whether readiness to change and prior PT is related to PT at NOLS. PT was dummy coded (0 = no, 1 = yes) to allow correlation with continuous and dichotomous variables.

Semi-structured interviews

We used thematic analysis, which identifies patterns within the data, to better understand the phenomena of TL at NOLS (Braun & Clarke, 2006). Two coders independently analyzed the qualitative data using an Excel spreadsheet to document their codes. They coded the transcribed interviews, and identified responses that answered questions about how participants changed and what triggered the change. The coders developed open codes from the text (Saldaña, 2009), and met to compare their codes for each interview. Each individual interview was considered the unit of analysis. After discussing codes, the coders collapsed the codes into themes. Data were gathered until we achieved saturation (Fusch & Ness, 2015; Merriam & Tisdell, 2015).

Institutional review board

This study was reviewed and approved by the University's Institutional Review Board. All participants received a consent form electronically and those who were interviewed further consented to have their interviews recorded.

Results

Matched pre/post-course survey results

We administered our surveys to spring 2018 semester students before and after their courses, and 45 of the 183 possible students provided complete pre and post-course data. Participants who supplied matched surveys ranged in age from 17 to 31 ($M = 23$, $SD = 3.1$). The sample included 26 females, 17 males, and 2 participants who did not provide their gender; and 2 Hispanic/Latino, 42 White and 1 participant who did not provide their race. Twenty-four students were enrolled in high school or college in the four-month period prior to attending NOLS. The remaining students were working ($n = 7$), taking a gap year ($n = 4$), other ($n = 3$) or did not report what they were doing ($n = 7$).

We examined whether students report TL more frequently in the semester before their NOLS course or after their NOLS course. In the semester prior to NOLS, 31 students (68 percent) reported TL whereas 38 students (84 percent) reported TL after their NOLS course. The results of an exact sign test showed a non-significant difference in TL between these two time periods, $p = .055$, indicating that we cannot conclude that TL occurred more frequently at NOLS.

The LAS identifies which of Mezirow's 10 stages of TL a participant has experienced. Table 1 shows the frequency of each stage for students in the semester before and after their NOLS course. It also shows the results of an exact sign test for the stages. Students reported significantly more occurrences of the following stages at NOLS: disorienting dilemmas around actions and social roles; self-examination with feelings of guilt in which they maintained (rather than changed) their beliefs; acquisition of knowledge and skills for implementing one's plans; provisional trying of new roles; and a reintegration into one's life on the basis of conditions dictated by one's new perspective.

We conducted a bivariate correlation to examine the relationship between readiness to change and PT. There was a non-significant, weak, positive relationship between readiness to change at the pre-test and transformation at the post-test, $r = .24$, $p = .058$. We conducted a bivariate correlation to compare recent PT at the pre-test to PT at the post-test, and found a non-significant, weak, positive relationship between a recent PT experience and PT at NOLS, $r = .11$, $p = .238$. The findings suggest that students who were more ready to change or who reported recent TL were more likely to experience transformation.

Table 1. Stages of transformation pre and post course (n = 45).

	Pre course	Post course	Switched to no	Switched to yes	Stayed the same	P value
1. Disorienting dilemma						
A. Actions	**24**	**37**	**1**	**14**	**30**	**<.001**
B. Social Roles	**19**	**31**	**6**	**18**	**21**	**.012**
2. Self-examination with feelings of guilt						
A. Changed beliefs	18	17	11	10	24	1.0
B. Maintained beliefs	**9**	**35**	**3**	**29**	**13**	**<.001**
3. Critical assessment of epistemic, socio-cultural or psychic assumptions	20	27	6	13	26	.084
4. Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change	20	18	11	9	25	.412
5. Exploration of options for new roles, relationships and actions	28	33	7	12	26	.180
6. Planning a course of action	16	21	6	11	28	.166
7. Acquisition of knowledge & skills for implementing one's plans	**17**	**30**	**1**	**14**	**30**	**<.001**
8. Provisional trying of new roles	**11**	**24**	**1**	**14**	**30**	**<.001**
9. Building of competence and self-confidence in new roles and relationships	15	21	7	13	25	.132
10. A reintegration into one's life on the basis of conditions dictated by one's new perspective	**10**	**35**	**3**	**28**	**14**	**<.001**
11. Does not identify with any stages	4	2	4	2	39	.344

Post-course only survey results

In addition to students who took the LAS before and after their course, some students only took the post-course survey. After data cleaning where we removed incomplete responses, this produced a combined sample of 139 participants of the 183 invited. They ranged in age from 17 to 31 ($M = 20.2$, $SD = 4.8$). We had 49 female, 84 male and 6 participants who did not disclose their gender; and 1 American Indian/Alaska native, 3 Asian, 2 Hispanic/Latino, 4 multi-racial, 103 White and 26 participants who did not disclose their race.

Results from the LAS showed that 114 participants (82 percent) reported that they experienced TL at NOLS while 25 (18 percent) did not. Figure 1 shows how frequently students identified each activity or process as being responsible for TL. Participants could make multiple selections. The primary activities and processes related to TL were reflection (personal reflection, deep thought, keeping a journal), challenge (overcoming hardships, instructor challenge) and support (instructor support, student support). Secondary activities included structural (activities around camp, the non-traditional structure of the course), social (debriefing, discussing concerns), and other.

Semi-structured interviews

We proceeded to interview 20 students during the summer after they completed their NOLS semester. True to our explanatory sequential design, these interviews provided further explanation of the quantitative findings. Specifically, the interviews offered more detailed information about why students attended NOLS, the conditions of their lives prior to their attendance, what transformed, what activities and processes supported that transformation, when they realized they had transformed and what caused them to realize they had transformed.

Learner characteristics and life circumstance preceding TL

Many students described being at a transition point in their lives when they decided to attend NOLS. They had recently graduated from high school or college, or were planning to leave a job or switch careers. Some had money from AmeriCorps or an education stipend from the military that was about to expire ('I was looking at ways I could spend my education award money and NOLS was one of the organizations that accepted it'). Others had a gap in their schedule that created an opportunity for them to attend NOLS such as a gap year between high school and college. Many sought an experience that would challenge them or expand their comfort zone. Some were drawn to the particular course outcomes, such as developing technical skills for outdoor recreation ('[I came because of] a desire to challenge myself physically and build more hard skills that—if you want to progress in certain activities—that you should have'). Some people described being unhappy with
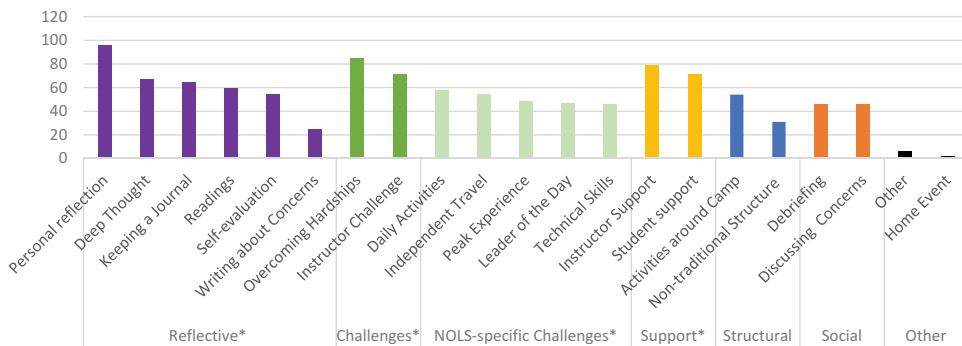

Figure 1. Frequency of activities associated with TL.

* indicates the activity or process was a primary driver of TL

their present circumstances, which led them to seek change ('I was at a period in my life where school was wearing me out. I wanted to get out of the country and out of the classroom.'). Students commonly were referred to NOLS by people in their lives such as a former boss, teacher or family member. Either they admired the person who referred them and attributed the individual's strengths to NOLS, or the person told the student they thought NOLS would be a good fit for them. These quantitative findings regarding both readiness to change and prior PT suggested a weak, positive relationship with TL. The interview data support that while a subset of students sought change or were possibly in the midst of TL, many attended due to arguably random life circumstances (e.g. they needed to spend education stipends).

How students transformed

The first interview question and first survey question asked participants if their values, beliefs or expectations changed at NOLS, which assessed whether they transformed. Many participants who answered affirmatively on the qualitative survey qualified their answer in the interview by saying that rather than having changed, they uncovered the reasons that justified their existing beliefs, values and expectations. While their beliefs may not have switched (e.g. they supported gun control before NOLS and still supported it afterwards), their increased understanding of why they held certain beliefs did and that transformation felt profound. Responses like these matched our survey data for Mezirow's stage two, where our results showed participants were significantly more likely to maintain rather than change their beliefs at NOLS. This finding suggests participants may have engaged in critical reflection, where a person specifically questions the validity of their beliefs, and indicates students engaged in the process of TL (Mezirow, 1990).

Asked to describe what transformed, students named their beliefs, their behaviors or their perspective. These themes suggested that NOLS may have impacted their meaning perspectives, the first step toward initiating PT. Their beliefs were either affirmed ('I don't know that my values and beliefs changed, but I think they became much more solidified') or changed ('My interactions with the girls on the trip began to change almost instantly. Where I grew up, there's a lot of sexism. When you're on NOLS, you have to respect everyone … it was cool because I had never noticed the sexism in my culture even though it was there. Then coming back, I was like, whoa, this is weird and almost appalling'). Their behaviors typically changed in relation to life skills (such as perseverance), relationship skills (such as how to relate to people with different backgrounds) or confidence (such as in their ability to express themselves or accomplish a goal). Students who changed their perspective said they realized how their behavior impacts others or that they understood themselves in relation to the larger world. These outcomes align with previous research on OAE (Sibthorp, 2003; Sibthorp, Paisley, Furman, & Gookin, 2008), and add to previous research by identifying that students appeared most profoundly impacted by the understanding they gained about their beliefs, behaviors and perspectives.

Activities and processes that facilitated transformation

While the quantitative survey captured the types of activities and processes that were most potent on an OAE course in relation to PT, the qualitative interviews demonstrated that whether an activity affected a student depended foremost on the student. Students who tended to spend time alone reflecting on their lives said they were impacted by having to interact with a group all the time whereas the reverse was true for students who were regularly social but rarely had reflective time. It was also obvious that different types of activities or phenomena interacted to create a transformative experience. For example, instructors who were supportive had stronger relationships with their students and were better able to select challenges that would lead to growth. Meanwhile, students were willing to take risks (or engage in challenges) when they felt supported by their instructors. Therefore, while the quantitative survey identified activities and processes, the qualitative interviews provided details that defined what students meant when they checked the terms and also shed light on the complicated ways the variables might interact to facilitate PT.

Reflective. Students said that reflection was critical to their experience at NOLS. This included time spent away from the group, writing in a journal, and giving themselves feedback. The reflection seemed specifically aligned with identity exploration.

> [Reflection] was really important for me to escape the group a bit some times because we lived together, slept together, ate together, everything. So for me, my diary was important because I could write in [my native language] and I could gain a perspective on everything and put my thoughts into order, and reflect on how can I improve my leadership skills, and how I did this well or I could improve on this, it was important for me to sit down and think about the things that I did that day so I could be a better NOLS student the next day.

Students asked themselves what type of person they wanted to be and what they valued. Asking themselves these questions gave them perspective, and many students realized that they had gained in confidence about themselves after reflecting on these questions. The opportunity to reflect was created in part because of the *structure* at NOLS, where students had undistracted time and were detached from normal life. Reflective time was also seen as incredibly valuable after having multiple days or weeks where their time was consumed by being with the group and accomplishing daily tasks, such as when they had solos for 48 hours. Certain types of reflection where students had to articulate their ideas helped them cement their thinking about topics.

> [Writing] forces you to put it into words, and forces you to really dig for the center of what you're trying to say. If you just think about it, it will bring up feelings and emotions. But if you journal about it, you have to put into words the significance of it. Then you have a written record to remember. Just the act of writing about it can help you recognize it as well.

Challenges. A challenge was anything that stretched a student, which varied by student, included both physical and mental challenges, and could have either a positive or negative valence. Challenges often caused students to be vulnerable, and put them in situations where they had to struggle and could benefit from *support* from others. Challenges came from other people, which included people that they did not get along with and people who had different cultural backgrounds (such as being conservative versus liberal). They came from completing physically demanding tasks in a variety of weather conditions. A key agent for change was the inability to ignore difficulties. Difficulties, or *challenges*, led students to *reflect* about their thoughts—about their beliefs, their behavior or their perspectives—and decide how to move forward. Wrestling with difficulties is an example of *challenge*, but the fact that they had to wrestle with them is a function of the *structure*.

> When we're in our comfort zones, we have the ability to ignore the things that we struggle with the most. We don't have to confront them if we're in our comfort zones. When we're in stressful situations, that's when they're forced to be brought out. That's when we have the hardest time ignoring them as well.

Students frequently mentioned feedback, and the *challenge* of both giving authentic feedback and receiving feedback that was *challenging* to hear. Some students found it hard to hear positive feedback because they did not see their own strengths, but having them reflected back to them proved to be both a *challenge* because they had to reconsider their views of themselves and *support* as they felt validated by community members.

> I felt like I had been becoming a lot more comfortable and confident and competent but then during feedback, [one of my closest friends] told me, 'I've really seen you change and blossom as a leader out here.' Hearing that, I *felt* (emphasis added) it.

Support. Support stemmed from instructors and students. Instructors served as role-models to students, and showed them possibilities about how life could be that some students found inspirational. Support from instructors also came in the form of feedback. Instructors who paid attention to their students and understood them were able to have powerful impacts because of

the relationships they developed. Support also came in the form of boundaries, which helped scaffold the experience. One student described her instructors giving her a written set of expectations she needed to meet, and said that being held accountable allowed her to struggle with the *challenges* of their guidelines toward positive change, such as being on time and helping the group with daily chores. The instructors served as role-models who inspired students and made them realize that other possibilities existed for the future, such as living a life as an OAE instructor.

Students said that an egalitarian relationship where they felt on equal footing with their instructors caused them to respond and want to please their instructors. When students had trusting and supportive relationships with their instructors, their instructors could use these supportive relationships to *challenge* students.

> The fact that NOLS gives you space to be listened to is so valuable … It's rare to have a space where you can totally say what you're thinking about in all aspects, and [have] an older person who's experienced give you all the attention in the world. I don't think that's super common in real life. People are experiencing their own problems. An instructor who can set aside their problems and listen to you is really valuable.

Other students also were an important support structure. In general, when students had positive relationships where they gave each other constructive and positive feedback, it created a holding environment that allowed for growth. When they faced *challenges*, they cheered one another on and created a culture where they tried to succeed. They also reflected one another's experiences back to them, and shared how they saw each other in a way that reinforced changes they experienced.

Structural. OAE creates a microcosm that allows for continuing within the learning community because the small group becomes the students' world for the duration of the course. Because they spent each day together, students could apply the conclusions they reached during *reflective* moments to the next day, and evaluate the accuracy of their conclusions. The microcosm and lengthy duration of the course also meant that over time, they had to reveal themselves to the group. The microcosm also created something of a theater where students could watch incidents play out. Sometimes they were part of the action, and sometimes they were observers. In each case, incidents provided fodder for them to *reflect* on later, to discuss or to give one another feedback about. Some students recognized themselves in other students, which made them realize how their behavior impacted others, and changed their perspective.

> I just remembered there was this one particular other student on the course who was constantly problematic. I remember looking at his behavior and attitudes, and I recognized a little bit of myself in that. I used to feel some of those things, and think them. It created this mirror where I was able to see how far I've come and this is how my perspective has changed … Having that contrasted allowed me to see that.

Being disconnected from home meant that no one knew anyone. Students had to depend on themselves for their sense of identity because no one else knew their past ('I don't know who I am when I'm not reflected in the people that I love and want to be like').

Students spoke about having to reconcile disparate views (a *challenge*), which was a function of the *structure* where they had to work as a group to achieve goals. They might have had a *meaning perspective* that they were convinced was correct. Then, they had a peer who was equally convinced that their *meaning perspective* was correct. They could not agree to disagree, and ignore one another because of the course *structure* where they shared living conditions for three months. They had time to *reflect* about why the other person was so certain about their views, which led them to question their own and potentially reach new conclusions.

Social. The social aspects of NOLS provided the space for students to work through *challenges*. The debriefing process where students evaluated events that had happened and considered what role they played in them and how they might want them to unfold in the future was a useful exercise and a form of *reflection*. The time they had to hang out was related to the course *structure* and was when

they dealt with interpersonal *challenges*. Because all the students chose to be at NOLS, they shared similarities around wanting to be outdoors, for example.

No transformation

One student clearly said she did not have a transformative experience and a second student said he did not think he had a TL experience but also had not had enough time since the course ended to process what had happened. The second student had spent extensive time abroad that shared similarities to NOLS, and appeared to make aspects of NOLS less challenging to him. The first student said that she had not come to NOLS to change, but saw it as something of a vacation between college and graduate school. Both students described their experience in positive language and said that they learned a lot but that their learning was not transformative in nature.

Summary

The quantitative and qualitative results showed that most students underwent the process of TL and that many engaged in critical reflection where they evaluated their existing beliefs and generally identified the reasons that they held these beliefs. Students may be in the early stages of PT. Their learning was driven by the primary activities of reflection, challenge and support.

Discussion

We conducted this study principally to understand what students mean when they say their OAE course transformed their lives. More specifically, we wanted to know if students who say OAE changed their lives experienced TL as defined by Mezirow. If so, we wanted to know what activities and processes are present in OAE that facilitate TL. Transformative learning is both a process and an outcome. The process is clearly occurring at OAE, but we are less confident about whether the outcome is also occurring. The data suggest that students are beginning to experience PT, although the complete outcome is not being realized at OAE. Part of the difficulty in assessing PT comes from the challenge of operationalizing PT, an issue many researchers have struggled with (Adams & Marshall, 1996; Baumgartner, 2001; Kegan, 2000), and the fact that PT can occur gradually. The primary activities that facilitate TL in OAE included reflection, challenge and support, all of which seemed to work in conjunction with one another to facilitate the TL process.Our student narratives in the interviews shared similarities with previous research on learning outcomes in OAE. This study helped understand why those outcomes might be transformative. Gaining confidence is not inherently transformative, but the process by which a person gains confidence may be. Mezirow said that the use of critical reflection in which a person questions the premise of their assumptions may lead to transformation. So, a student who completes an activity and feels good about it may gain confidence, but may not be transformed. Alternatively a student who completes an activity and wonders what made them capable of succeeding may feel transformed, particularly if they realize that their unexamined assumptions prevented them from being successful in the past (e.g. they thought that women could not be competent at technical skills).

Transformative learning shares certain similarities with experiential learning. Mezirow cautioned that they are not the same, emphasizing the difference between reflection and critical reflection, whereas Glisczinski (2011) has argued that the two types of learning map cleanly on to one another. The issue likely lies in what type of reflection students engage in, and suggests that educators seeking TL should encourage students to look at the assumptions they hold and where they originate from if they want students to transform. Our conclusion would be that students are not so much transforming as clarifying their understanding of themselves, which is a significant outcome in and of itself. Understanding themselves is the experience of intuitively knowing that something is right versus consciously understanding why it is—or the move from unconscious to conscious knowledge (Adams, 2011). Students in OAE are then presented with opportunities to test the validity

of their newly gained awareness as they are offered countless similar scenarios to examine their experience. While the content of each expedition day differs, the repetitive daily structure provides a baseline for students to measure change. Through this process, students are able to gain knowledge, and experiment with new ways of being. As they cement those ways of being, they more permanently integrate them into their lives.

The LAS looks at two key types of activities that facilitate transformation: those that are relational versus those that are curricular. Mezirow identified critical reflection as being important to transformation, and additional research has pointed toward the importance of support (or relationships) and challenge (typically in the form of activities). The same elements are present at NOLS and the themes emerging from qualitative interviews overlapped with Cohen and Piper (2000) work looking at TL in residential education. A few important distinctions exist. One focuses on technology. Cohen and Piper identified technology as something people disconnected from, but the importance of doing so today appears even more important. As internet access becomes available in more places, people find it ever harder to disconnect. When they can truly disconnect, the experience is starker. Cohen and Piper looked at a 10-day program whereas our study participants were in the field for two to three months.

Another important point focuses on understanding the relationship between challenge and disorienting dilemmas. Our study suggests that challenge is essential to transformation, and that students who did not feel challenged were less likely to feel transformed. Mezirow might say that TL cannot occur without a disorienting dilemma. We wondered, then, whether challenge and disorienting dilemmas are the same or at least a related activity. Similarly, one question we had focused on whether the student or the experience drives transformation. An implicit assumption has commonly been that a person seeking change is more likely to change. There is a sense in the literature that disorienting dilemmas are major events, such as a death, a divorce, or the loss of a job (Baumgartner, 2001; King, 2009; Mezirow, 1991). But a divorce likely punctuates a long period of unhappiness. When considered in relation to readiness to change, a divorce would occur as a person moves into the action stage. A person in pre-contemplation or even contemplation might be unhappy without having identified the cause.

Thus, our research question considering TL before and after NOLS is more complex than we originally thought. Students reported relatively high rates of TL before NOLS. Although students at NOLS experienced higher rates of TL, the qualitative interviews pointed to the difficulty of knowing whether a student was continuing an existing TL experience or having a new TL experience. One student described being dissatisfied with his job, which led him to attend NOLS. At NOLS, he had experiences that felt transformative and convinced him to continue on a new career path. This student clearly was continuing one transformative experience. Another student at a transition point after graduating found he realized he had misogynistic tendencies while at NOLS and made an effort to treat women equally. Although he, too, was in a transition period, his TL was clearly related to a disorienting dilemma that occurred at on his course.

Transformative learning is something that cannot be guaranteed because it depends on multiple factors, many of which an educator cannot control. What educators can do is create an environment with the right elements so that a student may be more likely to experience TL. Perhaps it is good that educators cannot promise TL given that it comes with costs, and that it may be inappropriate for educators to decide TL is suitable without first obtaining student buy-in. We also cannot avoid that TL is a value-laden educational experience. Mezirow said that TL is a superior type of education where students become more open and inclusive and experience emancipation (Mezirow, 1990). Educators who want to provide TL should probably be mindful about how much they want to direct student learning outcomes on this path. Organizations that do want to promote transformation should be intentional about providing enough challenge for students on their courses. Challenge alone is not sufficient to lead to transformation, but without challenge, the support and reflection available in OAE cannot function in a way that supports transformation. It should also be noted that the students without TL experiences felt that they had a profound learning opportunity and a positive experience. So, transformation is not essential to achieve student satisfaction and learning.

Limitations and future studies

While the stages of TL are clearly defined and operationalized, the outcome of PT is not. The LAS is not an especially sensitive instrument for determining whether a student experienced PT because it attempts to dichotomize PT when PT occurs on a continuum over time. The NOLS environment is unique because it is a separate time and space for students. Previous research has identified the difficulty students have transferring learning to other environments. Future studies should consider what happens for students who experience TL at NOLS and how that affects their lives when they return home. Participants were predominantly white; a sample with more racially diverse participants might yield different results. In addition, the LAS is a mixed-methods instrument with an explanatory sequential design. It focuses first on gathering data that is quantitative in nature and uses qualitative data to better understand them. The findings from the qualitative data are limited to the sample in this study, and readers should be cautious about generalizing the findings to other populations.

Conclusion

The process of TL appears to be occurring in OAE and is facilitated by a combination of challenging activities, supportive relationships and time to reflect. Organizations that hope to foster transformation should key in on these elements in their program design and delivery. For many students, the transformation they experience is focused on understanding themselves rather than changing themselves, which is a profound experience, especially for students who are young adults and making important choices about their careers and life paths.

Note

1. While Mezirow's writing refers to these stages as phages, King (2009), who created the Learning Activities Survey used in this study, references stages within her instrument. While we acknowledge Mezirow's terminology, we believe stages is a more accurate term for the purpose of our study because the LAS instrument is central to our design.

Disclosure statement

No potential conflict of interest was reported by the authors.

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