A Framework for PLA in Traditional Higher Education: Experiential Learning Assessment for Embedded Outcomes

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Introduction

The value of social, emotional and affective outcomes in addition to cognitive outcomes is that they potentially enhance student success in multiple domains (Kuh, 2007). Boyatzis (2007) asserted that "Emotional, social and cognitive intelligence competencies predict effectiveness in professional, management and leadership roles in many sectors of society" (p. 5). However, significant barriers, such as time and motivation, challenge instructors' abilities to assess for these outcomes. From both prior learning experiences and learning in courses, cognitive outcomes are regularly assessed while social, emotional and affective learning are often left unassessed. As a result, institutions rather than instructors take the lead in identifying emotional, social and affective outcomes through institution-level research and assessment (Kuh, 2005; NSSE, 2005). Institutional-level research is valuable for many reasons and greatly informs the conceptualization of this study, yet the institution-level data lacks the connection to the individual learner and creative outcomes of students (McKillop, 2007).

While high-impact and experiential learning educational practices show great promise for engaging college students in deep, personal learning, there are few strategies that systematically and directly assess potentially deep and broad learning outcomes from such efforts. Aligning instructional design like high-impact educational practices (Kuh, 2008) with experiential pedagogy (Kolb, 1984) can lead to learning outcomes in multiple learning domains. Using various assessment tools such as video, writing and/or portfolios (Lambert, 2013; Tao, Niu, & Jackson, 2013), embedded outcomes emerge, alongside intended outcomes, in tangible and describable ways. Assessing more (not all) learning dimensions in a discrete time frame is then possible.

Traditionally, prior learning assessment (PLA) focuses on learning acquired outside of the institution, but it can be employed in these cases for learning that develops during a student's time at college that is beyond the curriculum. Programs in traditional higher education and PLA both award credit based on evidence of learning. Learners on many college pathways may find utility in reflective artifacts in addition to content artifacts. At any point of a student's progress toward degree (before or during) where they have a high-impact learning experience, learners may benefit from assessments on both reflection and content artifacts. These assessments involve looking for commonalities, differences and interrelations beyond their superficial elements. The goal is to help learners develop higher order thinking skills (Clark, 2011).

PLA asks students to take the time to reflect on, assimilate and integrate what they've learned and to think about how it fits with their future goals, primarily at the entry point for the purpose of meeting course objectives.

> Across the board what we've found is that clearly students who are participating in PLA have greater reflection skills, better problem-solving skills, more tacit knowledge, more self-regulated learning, more self-direction, better study skills, and a better understanding of the role of faculty. (Travers as cited in Kamanetz, 2011)

This multi-perspective approach to assessment can work in both traditional higher educational environments and a PLA college environment. Based on Dewey's (1933) definition, reflections contribute to the assessment of learner thinking for an extended period by linking recent experiences to earlier ones to promote a more complex and interrelated mental schema.

One key difference is in the intended use of the reflective artifacts. PLA asks for alignment to objectives and credit, and traditional higher education uses such assessments for learner edification and program improvement. PLA learners may experience a unique advantage in submitting reflective artifacts as evidence of credit-bearing learning based on a depth of experiences. The learner in a traditional higher education context can also benefit from embedded outcomes discovered through new reflections triggered by previous PLA work or a high-impact experience on the degree pathway, but after the initial PLA reflection.

Traditional institutions often miss opportunities to benefit from a local, direct feedback cycle that includes learning outcomes, course improvements and importantly, student meta-learning, by not assessing for a range of learning outcomes close to the learning experience (Boyatzis, 2007; Fink, 2013). While traditional institutions have put forth efforts to encourage cognitive assessments (Hovland & Schneider, 2011), little capacity has been developed to assess for broad and deep learning across domains. At the same time, institutional learning outcomes attempt a response to employer demands for integrated learning as well as communication about the value of the degree (Spohrer, Gregory, & Ren, 2010).

Research Questions

This study explored two questions that inform high-impact practices: (1) Can we know more about and describe the ways in which a single high-impact learning experience contributes to both intended and embedded learning outcomes? and (2) What are some factors in a high-impact experience, in or out of class, that contribute simultaneously to broad and deep student learning?

Literature

Assessing high-impact educational practices

High-impact educational practices. High-impact educational practices are a series of developed educational practices that have high impact on students' persistence and degree attainment, as well as on many sets of knowledge, skills and abilities (Kuh, 2008). These experiences can take place in the context of institutional course offerings, but very often include community leadership and projects, service and volunteer work, and/or writing and reflecting on life outside of an institutional course offering. The American Association of Colleges and Universities (AAC&U) identifies high-impact educational practices known to increase rates of student retention and student engagement, including:

- first-year seminars and experiences
- common intellectual experiences
- learning communities
- writing-intensive courses
- collaborative assignments and projects
- undergraduate research
- diversity/global learning
- service learning and community-based learning
- internships
- capstone courses and projects (Kuh, 2008).

Many college students face an increasingly globalized workplace that has placed increased demands on them for applied professional skills and appropriate degrees. Employers seek graduates who demonstrate technical

ability as well as teamwork, interpersonal and professional skills necessary to succeed in a global environment (Gardner, 2014). High-impact experiences involve students in problem-solving, integrated learning, teamwork, and engagement in diversity and are associated with high rates of student success (Kuh, 2008; Pérez-Peña, 2012). High-impact practices effectively engage learners in contextual application of structural knowledge (Harris, 2013). These noncredit yet intentional learning experiences are designed to engage the depth of disciplinary understanding with boundary-crossing skills and behaviors. When coupled with reflections and syntheses, as opposed to just synthesized learning, high-impact practices show potential to foster skills and outcomes not otherwise assessed in for-credit environments.

Experiential learning. High-impact educational practices in higher education and life experiences that prepare learners for PLA both engage action and reflection cycles of experiential learning processes (Kolb, 1984; Kuh, 2008). Experiential education is a mediating factor in skill development that has demonstrated how learners move through a learning cycle beginning with concrete experience, followed by reflective observation activity, followed by abstract conceptualization and development of new knowledge, followed by active experimentation with new knowledge and other scenarios (Kolb, 1984).

The view of experiential learning theory that is adopted in this work is that not every life event is an educational experience, but prior experience of the student and instructor, as well as individual sensemaking, all play important roles in learning from experiences (Kolb & Boyatzis, 2001). Experiential learning often impacts an individual across learning domains by engaging multiple ways of knowing across domains (Kolb & Boyatzis, 2001). In learning or life environments where experiential learning is linked with high-impact educational practices, outcomes can include both deep levels of content knowledge and broad interdisciplinary sensemaking (Gardner, 2014; Goralnik, Millenbah, Nelson, & Thorp, 2012).

Currently-enrolled students engaged in extra-curricular learning such as a noncredit, high-impact experience (service learning, internships, co-op leaders) can utilize reflective practices to develop learning and analysis in ways similar to PLA. While Kolb (1984) situated experiential learning as a somewhat linear pathway, a number of variations on experiential pathways have been proffered to account for the ways in which time, physical space and reflective practice interact in unique and idiosyncratic ways to produce meaningful learning for individuals (Goralnik & Nelson, 2014; Seaman, 2008). These variations allow for reflections and sensemaking to occur apart from the experience, giving adult learners an opportunity to evidence their non-cognitive growth for PLA. Situating experiential learning and holistic assessment as part of an educational pathway chosen by learners, rather than a definition of the learning process imposed by institutions or instructors, is important for noncredit and PLA programs (Heinrich, Habron, Johnson, & Goralnik, 2015).

Assessment needs. A limitation of experiential learning and many high-impact practices in higher education is the lack of assessment of embedded learning outcomes at the individual learner level (Lattuca & Stark, 2009). Often, experiential education is implemented as an instructional tool without complementary assessments to capture, measure and/or describe the depth and breadth of possible student learning gains. The individual instructor/facilitator unfamiliar with experiential learning often misunderstands the potential for embedded learning outcomes to contribute to student, program and institutional gains (Hovland & Schneider, 2011). A combination of formative and summative assessment tools enables users to determine the relationship between programming and student learning outcomes (Scott, 2011).

Instructors are often concerned with only assessing intended outcomes and generally lack the time and resources to assess multiple, transdisciplinary learning. In experiential learning activity (Kolb, 1984), reflection is a process by which multiple learning gains are developed, identified, and with additional media, captured.

Reflections are known to contribute to an integration across experiences, which is a major component of student and career success and degree attainment (Gardner, 2014; Kolb & Boyatzis, 2001; Kuh, 2008). Despite the importance of reflection, it does not enter into everyday teaching practices, and its use is a significant challenge for many instructors (Rivera & Dann, 2009). Additionally, reflections are often captured at the end of a course, usually in writing, preventing integration from the reflection into the next part of the learning cycle.

Using multiple styles of reflective activity such as drawing, video and art throughout a learning experience, in conjunction with writing and discussion, can produce stronger student educational outcomes (Goralnik et al., 2012). For example, the use of video for reflections provides a shareable, multi-dimensional, reviewable artifact of learning domains (Robin, 2008). Video reflections used specifically for assessment allow for the visibility of embedded learning outcomes such as affective, emotional and/or social learning outcomes (Lambert, 2013). Assessment of reflective artifacts, such as video, goes beyond using digital technologies as tools to engage learners in identity development through reflection (Conrad, 2008a). Still lacking is empirical evidence of the use of video reflection for assessing embedded learning outcomes in any educational context (Robin, 2008).

Assessment is a central component of high-impact educational practices and should take into account both student learning gains on intended efforts and outcomes rooted in the experiences, such as conflict management, problem-solving and interpersonal communication skills. The institution can play a role in creating and supporting assessment for both intended and embedded learning outcomes (Ewell, 2009). However, a major limitation of assessing for multiple learning goals is that they are assessed and transformed for different student, program, and institution audiences. Program and institutional assessments speak more to external stakeholders (employers, funders), while student assessments focus on the individual's learning (Kuh, 2008). New perspectives are needed to engage both intended and embedded outcomes known to contribute to student persistence in college and career success (Gardner, 2014; Tinto, 1993) and to do so through a high-impact experience.

Student project summary
What follows is a description and analysis of a student project of high-impact experiential learning that highlights some of the themes and strategies relevant to embedded learning outcomes introduced above. The goal of the experience, from the faculty perspective, was for students to initiate a project through which they could apply knowledge in a real-world setting. In this case, students initiated a noncredit, community-engaged project. The students were asked by their instructor to document their experiences through the use of video reflection. A pilot was conducted in which 10 students identified a short one-day experience working alongside a nonprofit organization developing media and information products labeled a "media makeover" (e.g., http://www.georgiastreetcc.com/). Each student filmed one reflection synthesizing his or her experience. These videos were analyzed by the authors and a research focus group consisting of several other faculty and education researchers. The assessment identified broad embedded learning outcomes, which were reported back to the students and instructor. This pilot data was used to inform the design of a full study. The study subject was a weeklong experience where seven students engaged with four nonprofit organizations to develop media makeovers. Students reflected daily with the use of video.

In March 2014, the Michigan State University Media Sandbox Street Team implemented the SXSW® (South By Southwest®) media makeover road trip. Over 10 days, seven students traveled from mid-Michigan to non-profit organizations in Indianapolis, Indiana, Nashville, Tennessee, Dallas, Texas and ending in Austin, Texas. Students documented both the trip and ongoing reflections on a regular basis during the trip. Reflections were filmed in a private space with no audience – only the student and the camera.

Method

An iterative process of examining student and instructor actions and reflections was the primary means of identifying and evaluating learning outcomes in this assessment process. The process took place in two major efforts between January-March (pilot) and April-December (study) 2014. In January, a team of 12 faculty and education researchers viewed reflections captured on video and identified the presence of embedded learning outcomes in video reflections. In February and March, the same faculty and researchers met with students to reflect upon embedded outcomes. From the discussion, instructors and students created a scaled and refined video reflection process that was implemented by faculty and students in March. From April through December, video reflections were processed and evaluated by a small research team using an open coding scheme looking for embedded outcomes.

Pilot analysis. After watching the first draft of a film produced by students about the Georgia Street Community Collective (2014) pilot and eight of 10 two-minute reflective videos, the research focus group identified as many areas, topics and/or competencies as possible. The team organized and synthesized the many learning outcomes into four broad categories of knowledge, skills and abilities: technical filmmaking competencies, cognitive outcomes, emotional/transformational outcomes and affective/interpersonal outcomes. A list was generated and organized by the group and resulted in a descriptive analysis. The pilot indicated breadth of interest from instructors, students and researchers, and served as a practice session for identifying embedded learning outcomes. This effort resulted in continued research to identify and assess intended and embedded learning outcomes from a scaled-up media makeover experience.

Study analysis. A team of two researchers cleaned and uploaded the SXSW reflection videos from seven students into NVivo 10 data analysis software. Each student submitted four to seven videos, each ranging in length from three minutes to 29 minutes, for a total of 4 hours and 42 minutes of analyzed film. Researchers applied an open coding process of identifying behaviors, attitudes, emotions, skills, lessons and other evidence of learning throughout all seven sets of reflection videos. Saturation of codes was identified after the fifth student; however, coding continued to produce useful feedback reports for students as part of the larger project. Codes were aggregated and sorted for overlapping quality, reducing the number from 75 to 63. Further organizing created 21 major code headings with 63 possible sub-codes.[1]

Data description

High instance knowledge, skills and abilities included codes with 25 or more instances. The categories that met this criteria were: adaptation to challenge (44); emotions (28); expressed gratitude (25); interpersonal development (80); planning skills (42); self-awareness (52); and teamwork (42); See Table 1.

Table 1. Frequency and classification of outcomes identified						
Observed Outcomes (number of observations)	Affective	Behavioral	Cognitive	BSP	Univ. ULG	T- Shaped
Adaptation to challenge (44)		✓				✓
Applied technical skills (9)		✓				✓
Emotions (32)	✓	✓		NA	NA	NA
Engaged with community (16)		✓		✓	✓	
Expressed Gratitude (25)	NA	✓		NA	NA	NA
Feels optimistic (17)	✓			NA	NA	NA
Fundraising (2)		✓		NA	NA	NA
Open to new experiences (10)	✓			✓	✓	✓
Planning skills (31)		✓	✓			✓
Questioning (20)		✓	✓	✓		
Resilience (3)	✓					✓
Self-awareness (52)	✓		✓	✓	✓	✓
Teamwork (43)		✓		✓	✓	✓
Use of metaphor (1)			✓			✓
Interpersonal Development (68)		✓		✓	✓	✓
TOTAL	231	330	144	236	214	272

Unit of analysis. The unit of analysis for this study is the whole project, rather than individual student pro-files. Students in this project were all between 20 and 24 years of age, two male, five female; all were from the Media and Information major and had completed between 60 and 100 of 120 required credits at the time of the project. The students were members of a self-selected subgroup of the Media Sandbox, a program for integrated media and communications in the college. Focusing on the group as a whole is germane for the aims of this project, which is to explore the nature of missed opportunities in high-impact educational prac-tices for enhancing the value of undergraduate educational experiences. Further research focused on individ-ual outcomes and responses to feedback from these experiences concurrently.

Adaptation to challenge

Based on our analysis of the videos, the following subcategories, with the number of occurrences indicated, emerged and were used to describe different ways that the students were able to adapt to challenges during their experience:

- actively reframing problems (4)
- dealing with ambiguity (10)
- making the best of a situation (16)
- role shifting (2)
- troubleshooting (9)
- other (3).

The *other* category included three sub-instances that demonstrated students adapting to challenges but were not demonstrated more than once.

Adaptation to challenges was described in depth by all the students who participated. One instance that the students all referred to was the difficulty in travel due to weather. During their planned travels the students ran into unmanageable road conditions that disrupted their arranged sessions with the nonprofit organizations. This remained challenging for the students because they did not know how long the road conditions would set them back. All the students shared how they were frustrated and disappointed by this setback; however, they also shared how they were able to troubleshoot the situation and adapt their schedule to work with all the nonprofits.

> *"And we were trying to find a workspace that we would be able to get stuff done, but that the guys [filmmakers] would be able to film, too. I was frustrated. ... Then we decided to go to the Nashville Public Library and work there instead. So we set up in a little room, in the children's wing, and you know, everyone got started. ... And then that [the nonprofit class] got canceled because of the weather. We were going to do video, and we were going to do photos, and since we didn't have that, I had nothing to do again."* – Person 2

> *"But, under the circumstances, I think it turned out OK. I left the day not feeling bad about it [not being able to work at the nonprofit site], because I knew we made the best out of the situation. And I knew that we kinda did what we could with what we had. And I think we did a really great job today."* – Person 5

Emotions

Based on our analysis of the videos, the following subcategories, with the number of occurrences indicated, emerged and were used to describe the different emotions that the students experienced:

- frustration (5)
- loneliness (3)
- neediness (8)
- relief (4)
- sadness (2)
- interpersonal tension (6).

A majority of the emotions that were expressed by the students were related to challenging feelings. By not going according as planned, experiences stretched the students out of their comfort zones. Students expressed a sense of frustration with not being able to do as much with the nonprofits as they had originally planned.

"We can't get to the nonprofit in [Nashville or] Dallas because of an ice storm apocalypse traffic jam craziness ... we've been in traffic for nine hours. ... And we look and there's like gridlock and gridlock on the major highways, so we're all like let's go, let's go to this road called 170. Which it's not a back road but it's called a country interstate, and it's like three or four inches of ice and divots and bumping and we get about a quarter of a mile and we're like 'Nope, can't do this!' Turn around, car gets stuck in a ditch. ... Pull up on the bridge about 200-300 feet away from the on-ramp, a truck breaks down in front of us. No one's moving." – Person 1

Additionally, when things did not go according to plan, the students expressed a need to have an authority figure (i.e., professor or director of the nonprofit) tell them what to do or reassure and validate the changes that they made to adjust to the adapted schedule.

"I think the hardest part of not being with the nonprofit is, I know this sounds selfish, but that feeling that you get at the end of the day, when you have to show your work and they say, wow this is amazing. This is going to help us so much; this is going to make a huge difference for our organization. All that stuff, that makes you feel good ... we just kind of ended the day and ... we're done, let's go home. And so there's not that like validation that you get, like everything that you're doing is awesome. Which is, it sounds kind of selfish but, you kind of need that to make this trip worth it. ..." – Person 5

Gratitude

Two main subcategories emerged from data and were used to describe different ways that the students expressed gratitude during their experience. The first subcategory was an expression of gratitude to Michigan State University. The students were grateful that the university provided them the opportunity to have this co-curricular experience. In addition to the institution providing resources, they were also grateful to the alumni networks/connections that provided them lodging, meals and companionship.

The second expression of gratitude was noted in almost all videos. All students mentioned that they were grateful for the public support surrounding and supporting their experience. Forms of public support were promoting their story, compensating for meals, and the expression of gratitude from the nonprofits for the work the students were able to produce to support the nonprofits.

"I'm so proud ... our college, MSU is following us on Twitter and re-tweeting, telling us they love our story. And it's like, 'Yeah, finally!' Seriously guys, we worked so hard and tried to get so much funding. ... But I mean like, our university is following us, alumni are following us, everyone is trying to get in touch with us. Our followers are going through the roof on Twitter and Facebook we're getting all these likes." – Person 5

Interpersonal development

The following subcategories, with the number of occurrences indicated, emerged and were used to describe the different ways that the students personally worked with others in their group during their experience:

- communication (9)
- developing shared ethos (9)
- identifying feedback from others (3)
- identifying others' conflicts (7)
- interdependence (10)
- recognizing the value of others' strengths (12)
- role clarification (16)
- personal responsibilities (7)
- skills (7).

Interpersonal development was the outcome that was most visible in all students' reflections. With no prompts to drive the student reflections, the students tended to focus on their growth, feelings, attitudes and behaviors. While little time was spent reflecting about others outside of their relationship or perceptions of others and agencies, students did develop interdependence with one another.

> *"So being able to build that relationship with somebody is like, it just means a lot to somebody like me. I'm such an introvert, and I don't make friends very easily and I'm not very good sort of at people skills overall."* – Person 4

> *"And we're passionate about this project, and we think that it can impact a ton of people's lives, and if we do this right, it can grow, and it can become this moving, living thing. Um, I would've been so angry if we would've given up. I couldn't have it; I'm not one to give up. So, I'm so glad that we pushed through Dallas ... everything that's gone wrong just makes the high points even higher. This makes the great things that happened feel even better. Um, another thing, I don't think I could ask for a better group on this trip."* – Person 5

Planning skills

Based on our analysis of the videos, the following subcategories, with the number of occurrences indicated, emerged and were used to describe different ways that the students developed planning skills during their experience:

- goal setting (12)
- matching expectations to reality (12)
- implementation (7)
- recognition (11).

The students spent time pre-trip planning the route and trip logistics. They also spent time developing relationships with the nonprofit organizations that they were going to be working with along the way. The students spent time developing a media makeover plan for each of the nonprofits based on the needs of the nonprofits. However, with a change in plans based on travel delays, the students had to reassess their intended goals to be able to accomplish portions of the project that would be self-sustainable by the nonprofits once the students were no longer working with them. Most students indicated that they had expected to do more while working with the nonprofits but, in reality, their time was limited and not all the work could be completed.

One subcategory of data was skill recognition. Recognition was an interpersonal strength where the students recognized the strong planners in their group. They also highlighted the ability of some of their peers to take on a leadership role and adapt the planned schedule to fit the altered timeframe and circumstances.

> *"[A peer], who's been just amazing at organizing, she has done this whole trip and a lot of the behind the scenes stuff she doesn't tell people when she's got stuff done she just has it. Sometimes we'll be worried about something like 'Oh do we have enough money for this' and she's like 'Yep, got it all done' and you're like 'Wow, thanks [same peer], like you really did a lot.' And she doesn't talk about [it] she just has it done, it's really awesome."* – Person 7

Self-awareness

The following subcategories, with the number of occurrences indicated, emerged and were used to describe different ways that the students referred to self-awareness during their experience:

- integrity (1)
- learning styles (11)

- perceptions of others (2)
- personality (13)
- self-aware of presence in experience (13)
- working styles (12).

Throughout the experience, all of the students expressed a heightened sense of self-awareness within themselves and others they were working with. They emphasized that the experience helped them to reflect upon the connections between their learning styles and their working styles by having the ability to put their academic content knowledge into practice on behalf of specific client needs. Working alongside the nonprofits opened their views to the work and mission of the nonprofits. More importantly, the experience of being separated from their clients at the nonprofit organizations made these students more aware of the need to work closely with clients to understand and communicate the value of the nonprofit organizations.

> *"And I think today was definitely a down. ... It just really sucked that we weren't able to actually go and help the nonprofit because that's one of my favorite parts is actually going and working with the people ... and creating that relationship with them. So to be able to go and to help these nonprofit organizations and to meet the people who do such amazing work ... we were all really bummed out that we couldn't actually go and help the nonprofit and meet the people behind the organization."* – Person 4

Teamwork
Based on our analysis of the videos, the following subcategories, with the number of occurrences indicated, emerged about the different ways that the students described teamwork during their experience:
- developing into teams (9)
- group problem-solving (5)
- sharing hardship (14)
- group successes (14).

The students who participated in this experience were from different programs in the major, and not all of them had previously known each other well. Some already displayed a team cohesiveness from having participated in the pilot experience together; however, for some of the students, this was a new experience working with unfamiliar peers. In all the reflections, the students shared the cycle of teamwork. In the earlier videos, more emphasis was placed on developing into a team and how to problem-solve and critically make decisions as a team.

> *"... and, I mean, it's like a mini family. It's not a team, I mean we became a team but more than that it's just the way we operate like the oldest group of friends. I don't know how else to put it – it's awesome."* – Person 1.

Later in the experience when things did not go according to plan, the students focused on hardship but more on working together as a team to solve problems, leaving no one individual's opinion out of the conversation. Toward the latter part of the experience, all the students expressed that the experience was successful and this was due in part to working as a team.

Discussion
This investigation responded to two research questions: (1) Can we know more about and describe the ways in which a single learning experience contributes to both intended and embedded learning outcomes? (2) What are some factors in a high-impact experience that contribute to simultaneously broad and deep student learning? The breadth and depth of results have implications for the ways noncredit, high-impact

experiences can be leveraged for prior learning credit. We discuss deep and broad outcome content as well as learning outcome frames (cognitive, affective, behavioral, rubrics). We discuss the intendedness and embeddedness throughout. In short, the learning outcomes documented with this method are not the ones typically expected in a credit-bearing course. By scanning rubrics and career/employer alignment, we argue that the alignment of deep and broad high-value learning with internal and external outcomes supports student success in academic and career goals. By capturing reflection-oriented artifacts in the context of for-credit higher education, we helped to prepare traditional higher education for including alternative pathways to a degree such as PLA or RPL (recognition of prior learning) (CAEL, 2014; Selingo, 2013).

Intended and embedded learning outcomes for prior learning

Deep learning outcomes. Learners ventured onto an alternative pathway to make an impact on their communities and to apply and build their skills. The student project was intentionally started with limited structure as a way for faculty to better understand a new opportunity for students. The students articulated numerous plans, outlines, and agendas in preparation for the road trip and reflected on the efficacy of planning efforts during the journey. Among the high instances codes (25 instances or above), three code clusters – planning skills, teamwork and working with others – generally align with professional skill expectations for students and may be considered as intended learning outcomes of the project. Student-initiated projects predictably result in skill development with these characteristics (Renn & Reason, 2013; Schuh & Associates, 2009).

During the trip, students faced challenges as a consequence of the ice storm. Noted were time delays, stressful travel, missed appointments and deadlines, and the students' responses to both the environment and one another. These challenges highlight the common and sometimes mundane reality of experiential learning. Bad weather is a common learning tool during travel for study abroad, fieldwork and getting to an internship. Learners, enrolled or not, can and often do respond to mundane challenges in meaningful ways. Through a cycle of experience, reflection and feedback, the learners demonstrated significant and deep learning regarding adaptation to challenge, emotional intelligence, expressing gratitude and self-awareness. In the capture and assessment of learner responses, learners gain an artifact of prior learning. Feedback given to students and to faculty advisors was useful for the respective audiences making changes.

Broad/Connective learning outcomes. Learners in this experience demonstrated outcomes of community engagement, optimism and critical questioning at various times. These outcomes align with the "T-shaped" metaphor (MSU OP UE, 2015), or career readiness, and AAC&U's college readiness study (Kuh, 2007) in the boundary-crossing competencies such as perspective, critical thinking and understanding many disciplines. Engaging with community groups that provide various services gave learners insight into multiple systems of interventions in the nonprofit sector. The evidence of optimism is a means to conceptualize perspective. Learners maintained an optimistic perspective in the face of real and perceived challenges. Critical questioning took place at the individual level (Why am I here? I am not needed here.) and at the meta-level (Do we really need college to teach us this stuff?). Across the project, learners demonstrated community engagement, optimism and critical questioning balanced with commitments to teamwork.

Learners demonstrated broad outcomes in a connective way, observed throughout the video artifacts. The planned experiences of the road trip helped to connect learners to the purpose of the trip. Learners with different skill sets began to implement project goals. Connectivity also took on an affective quality for students. At different times, students recognized and appreciated one another's skills or abilities, realizing that each contributed various strengths and each needed support in certain ways. The adjustments to a regularly shifting project are constant and exhausting (Beal, Weiss, Barros, & MacDermid, 2005), but students found

their way through by expressing emotions such as humor, sadness, frustration, and gratitude and by supporting one another.

Multiple frameworks to make meaning of experiences

We found that utilizing a single framework was not sufficient as it did not communicate or capture the cohesion and depth of student experiences captured on film and integrated with course and career skills. Frameworks/rubrics are often considered one-dimensional. Therefore, we align outcomes to the following three frameworks because they represent qualifications that employers want in successful graduates: T-Shaped Professionals (MSU OP UE, 2015), Undergraduate Learning Goals (MSU, 2009), The Bailey 5 Questions (Duley, 1999). These models are in use at Michigan State University; employer expectations for college graduates include strong, boundary-crossing communication skills, teamwork and network skills, critical thinking and applying knowledge to real-world situations (Hart Research Associates, 2015).

The T-shaped metaphor for career readiness is a useful heuristic for self-assessment and is increasingly used by industry and human resources as a way to conceptualize needed skill sets for the workplace (Spohrer, Gregory, & Ren, 2010). Through self-recorded reflections, learners demonstrated outcomes labeled adaptation to challenge, emotional intelligence, expressing gratitude and self-awareness. All members of the experience demonstrated each outcome. These outcomes align to T-shaped career outcomes in the "Deep in at least one system: Analytic thinking and problem solving" area (MSU OP UE, 2014).

The Undergraduate Learning Goals rubric includes analytical thinking, cultural understanding, effective citizenship, effective communication and integrated reasoning (MSU, 2009). Of these five goals, learners demonstrated beginning and milestone evidence of analytical thinking, effective communication and effective citizenship. Using this institutional rubric can help a low-structure or noncredit project gain credibility in the institution. From a program development standpoint, using this institutional rubric to map learning outcomes helps both instructors and students improve experiences in the future.

The project analysis also looked at a well-known integrated thinking framework in the Liberty Hyde Bailey Scholars Program (Duley, 1999). The Bailey 5 Questions serve as a program framework asking students to respond to the questions: Who am I? What do I value? How do I learn? What is my worldview? How do these connect? In this project, issues of learning, value and identity were respectively apparent in *critical questioning, community engagement, and self-awareness.* This framework was helpful to evaluators in identifying and codifying learning gains made outside of a traditional classroom context.

Implications

Assessing reflections for PLA

The objective of this assessment method was to identify emergent outcomes throughout the experiential learning cycle. Use of this assessment model in PLA or high-impact educational practices should focus on reflections in addition to synthesized conceptual artifacts or stories. By capturing a progression of multiple reflections about a noncredit community-based experience, learners demonstrated outcomes important to the institution. PLA might ask for reflective artifacts from learners to capture some of their unprocessed observations, emotions, thoughts, attitudes and actions. Synthesized learning is what garners credit and at the same time, unsynthesized reflective artifacts are valued by employers and add value to the learning experience. These processes are parallel to Conrad's (2008b) empirical findings of how learners demonstrated self-knowledge, identity and career development that could easily be reflected in PLA/RPL artifacts.

The environment in which reflection is generated is critical. For example, in an institutional setting, the

opportunity for reflection to be embedded in experience is present, and so reflections can happen in real time. In PLA, learners will likely reflect on their prior experiences at a much later date, creating a challenge to recalling the details of the experience or the individual's emotions, feelings, thoughts and actions about the experience. Retrospective reflections are useful and can add value to synthetic artifacts, as long as reflective artifacts are grounded in an educative experience and are both individuated from and connected to synthesized artifacts.

In conjunction with existing evaluations of structural knowledge (Harris, 2013), documented (video) reflections allow learners to demonstrate their knowledge of processes, emotions, teamwork and decision-making. Prompts can be used to encourage reflective thinking about knowledge and experiences gained before the experience and to ask learners to think about where/how they might apply their synthesized knowledge, skills and abilities. Students responded in a series of two-minute "video selfies," short, written reflections, blogs and other types of narrative. When used in conjunction with credit-bearing PLA, evaluators might consider a wider range of outcomes such as psychosocial development and global learning goals that are relevant to the institution. A logical outgrowth of further assessment efforts would include a framework for experiential learning outcomes to inform the future design of PLA assessment and/or designed learning experiences.

Moving forward

Research efforts informed three important outputs. First, a scaled-up intervention is being tested across curricular and co-curricular learning environments. Investigations of the capacity of different students, learning experiences and topics can lead to a more widespread use of a widely available media tool (i.e., hand-held video recorders) to document learning.

Second, learning documented on video can be readily assessed by learners, instructors, and field experts for intended and embedded learning outcomes. Digital storytelling may have applications for documenting learning acquired through open educational resources (OER) and prior learning. OER and prior learning represent valuable opportunities for experiential and competency learning when paired with more traditional pathways to college degrees.

Finally, as higher education embraces integrated learning and career competencies, intended and embedded learning outcomes become increasingly important. Students will have evidence of their learning outcomes for applied use in internships, graduate schools and careers. Once assessed, embedded learning outcomes can be credentialed, badged, aggregated and, perhaps, awarded course credit, potentially reducing time to degree by capitalizing on existing opportunities or past experiences. A learner's application of reflective artifacts serves to connect high-impact educational practices with powerful assessment to reveal embedded 21st-century outcomes promptly. Future research will focus on student and instructor responses to learning reports as well as the most reliable or effective language for prompting rich reflections.

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Note

[1] **Researcher positionality:** Author 1 was trained in qualitative education research methods and studies assessment policy and practice. He comes from a higher education administration work experience and works part time in various outdoor and experiential leadership roles. Author 2 was trained in mixed methods education research methods and studies program development and assessment. She comes from higher education and trains secondary and community educators and directs an undergraduate program in leadership in integrated learning.

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