NSEE 2020 Conference Proceedings

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EXPERIENTIAL LEARNING & TEACHING IN HIGHER EDUCATION

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Cover Image: Screenshot of participants of the 2020 NSEE conference congregating in Zoom.
A Note from the NSEE President

MARIANNA SAVOCA  Stony Brook University

This past 2020 year could be deemed the year to forget: the COVID-19 crisis, the losses, the suffering, the fear, instability, and uncertainty—all both personal and global. And yet, there are good things to remember: the courage of our emergency responders, health care, and basic service workers; the care shown for folks outside the family unit, such as neighbors and community members; and the commitment that educators at all levels made to go above and beyond for their students.

In times of crisis, basic needs take top priority, as they should. Professional engagement may take a back seat as well. And yet, as I look at the incredible leadership of NSEE and ELTHE, I marvel at the commitment of our Board and leadership team. I am amazed by what they have accomplished this year for our international community of experiential educators.

Today I express my admiration and sincere gratitude to our authors, reviewers, and editors of this edition of the ELTHE Journal, to our leaders and rising leaders, and our members and community partners. This journal is a true gift to all of us.

With high hopes for a bright future,

Marianna Savoca

President, National Society for Experiential Education
A Note from the NSEE Conference Chair

MARTHA “MARTI” SNYDER   Nova Southeastern University

On behalf of the National Society for Experiential Education’s (NSEE) Board and the 2020 Conference Planning Committee, we are delighted to work with ELTHE this year to curate a set of articles representing NSEE’s 49th Annual Conference. There were many firsts in 2020 including the COVID-19 pandemic; Kamala Harris, a woman of color becoming vice president-elect; Space-X, a private company sending humans to space; a fully virtual NSEE conference; and our first special conference issue published in ELTHE.

Our conference presenters did an incredible job pivoting to an online delivery format and sharing their expertise with the experiential education community. I encourage you to read their work, which is centered around our conference theme: “Hindsight is 20/20: Using Reflection for Assessment, Program Excellence and Student Success.” I also suggest that you consider submitting your own practice and research on experiential education to future issues.

We look forward to seeing many of you later this year at our 50th Annual Conference scheduled September 27–29, 2021 at the Renaissance Orlando at SeaWorld (https://www.nsee.org/annual-conference). We will celebrate our Golden Anniversary and share knowledge, ideas, practices, and research on experiential education in an ever-changing world.

Sincerely,

Martha (Martí) Snyder, 2020 NSEE Conference Chair

Paul Gaszak, 2020 NSEE Conference Co-Chair
Where’s My Money? Using Experiential Learning to Increase Financial Capability

EDWIN L. BLANTON III  
Texas A&M University - San Antonio

Introduction

During the fall semester of 2018, Texas A&M University-San Antonio participated in the Trellis Financial Wellness Survey. The undergraduate population at the time was 5,726, of which 460 students responded (8.0% response rate). The results of this survey showed us that 66% of our students worry about having enough money to pay for school. Additionally, the survey revealed that 36% of respondents used credit cards to pay for college expenses. Of the responding students that had taken out loans, 56% were less confident that they would be able to pay off the debt they acquired.

The report also had alarming results regarding housing and food security, inspiring administration to closely examine the educational programming directed at students to support their financial capability. Financial capability is defined as “the capacity, based on knowledge, skills, and access, to manage financial resources effectively” (Williams & Oumlil, 2015). Much of our focus, initially, was on financial literacy, but as conversations and understanding developed we evolved our thinking to focus more on this capacity. As Johnson and Sherraden (2007) express, financial literacy is helpful but not sufficient. Financial capability, however, incorporates skills, behavior, and knowledge in five areas: making ends meet, keeping track, planning ahead, choosing products, and staying informed (Atkinson et al., 2006). In exploring ways to expand financial capability, we decided that there was an opportunity to incorporate it into the university’s strategic plan as well as into our Quality Enhancement Plan (QEP), which focused on quantitative reasoning.

We also decided that in order to reach as many students as possible, the capacity of staff charged with conducting these programs could be increased by creating an experiential learning opportunity. The experiential learning opportunity would involve upperclassmen who are majoring in accounting and finance, and granting them the opportunity to deliver presentations and money coaching to other students, as well as
students in K-12 and their parents. What developed from this opportunity was our Financial Literacy Fellows program.

**Description of the Program**

We launched a Financial Literacy Fellows Program in Fall 2019. In the first semester, a cohort of eight Financial Literacy Fellows (including two graduate interns) were recruited. Graduate interns, which assisted the Coordinator for Programs and Partnerships in our Experiential Learning office, were paid from funds secured through a grant from a nationally known bank. They worked 19 hours each week and completed tasks such as: scheduling Fellows to conduct presentations, preparing handouts, and doing presentations themselves. Financial Literacy Fellows were committed to a few flexible hours each week that included classroom presentations and money coaching sessions.

In-class presentations occurred mostly in first-year seminars. This was a natural fit as our curriculum for the first-year seminars asked for instructors to discuss financial matters. The presentations covered by the Fellow included topics such as inflation, budgeting, interest, and credit. Many of these presentations would also involve in-class discussion, small group work, and exploring wants versus needs. Fellows contributed approximately 20-25 hours each week to the program in this first semester, including training and regular check-ins with the program coordinator and graduate interns. For their contribution, Fellows each received a $500 stipend and engaged in reflection exercises to reinforce their learning which we view as an essential component of experiential learning.

For the spring semester, Fellows continued to present in freshman seminar courses and other on-campus activities, including the launch of individual money coaching sessions to encourage students who were trying to reach financial goals. The Fellows also partnered with Junior Achievement of South Texas to deliver the JA Personal Finance curriculum in area schools. In addition, while working with a local GEAR UP program, financial presentations were given at local schools as part of their family programs. After the recommendations to “stay home, stay safe” due to the COVID-19 pandemic, roles shifted to the creation of educational materials and resources on how to access financial information and services that were then shared with campus and community stakeholders.

**Connection to the Research**

During the 2019-2020 pilot year, 639 students received financial literacy information through events or in-class presentations. A simple six question assessment was utilized to measure outcomes. Results showed an increase in comprehension from an average of 14% correct on the pre-test score to an average of 67% correct on the post-test score. Over 100 community members were engaged by collaborating with GEAR UP while many more students in K-12 participated through in-class presentations and interactive exercises.

**Implications and Next Steps**

The COVID-19 pandemic had an impact on our plans for the 2020-2021 academic year. The pandemic also had an impact on our funding as corporate sponsorships were more difficult to secure. With many K-12 schools also transitioning to virtual and hybrid learn-
ing environments, opportunities for Financial Literacy Fellows to be in local schools was greatly restricted. However, the pandemic also forced us to reimagine some of our programming. We converted to virtual learning in some situations. In many other instances, we were able to deliver presentations while maintaining social distancing measures. We have also been able to create new interactions and engage in ways that we did not think of before. This has led to being able to build a stronger foundation for future years of our financial literacy program.

References


Critical Reflection: A Foundation for Civic Engagement

DANIK M. BROWN
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Introduction

Educators who engage in and advocate for experiential learning have long taken it as a given that reflection is an essential component of any experiential learning cycle. The standard assumptions around this approach to learning is that students come to a context with unexamined beliefs about how the world is or works, engage in an experience and related content which alters (or perhaps confirms) their understanding of the world, and that understanding becomes knowledge when the student reflects on and represents the experience. What becomes key in this set of assumptions, then, is to understand the role that reflection plays and what types of understandings we hope to promote through the practice of reflection. If we prompt students to “reflect” on their experience, we are often asking them to describe what they believe they have learned in order to confirm for them, and demonstrate for us, that there was, in fact, learning occurring. Yet, we would like to understand the activity of reflection itself as a learning process. Here we would like to explicate a framework for critical reflection that engages students in a meaning-making process, synthesizing their experiences in a way that invites feedback and dialogue as it orients them toward future action. Such an approach to reflection, we argue, is rooted in a methodology that works from a critical, ethical foundation of praxis.

Literature Review

Whereas descriptive reflection allows students to consider any given experience, critical reflection pushes students to synthesize their experiences for a better understanding of agency, forward thinking, and engaging with different perspectives. However, the difference between the types of reflection often lack clarity, leading to confusion in implementation. Descriptive reflection allows students to focus on their growth personally, academically, and through skill building (Kiely, 2015). As a result, students’ reflections come through as a product to be done at the end of or during the experience, such as an essay, journal entry, or application, rather than as a process that encapsulates the larger context of the experience and its effects on the student.

Beginning with a critique of assumptions and an understanding of one’s value system allows for the meaning making process of critical reflection (Mezirow,
Such a foundation leads to more active engagement (Schön, 1983) by the student that creates an awareness of their responses and a potential for change in perspective (Rogers, 2001). It is by understanding their worldview that students can analyze the perspectives of those around them (Mezirow, 1990). Through praxis, then, critical reflection fosters a better understanding of positionality, agency, and forward action (Foucault, 1982; Mezirow, 1990; Schön, 1983). Although experiences provide a way of learning, through engagement in critical reflection, students can conceptualize experiences as leading to contextual learning (Ash & Clayton, 2009).

**Context**

Working from an understanding of the distinction between descriptive and critical reflection, the staff at the Center for Civic Leadership sought to assess our programs, which are scaffolded from introductory level community-based learning to capstone level experiences, where students themselves seek to create change in partnerships with community organizations. To ensure that our scaffolded approach was allowing students to develop sophisticated reflective skills regarding civic development, we engaged in a critical evaluative process about our curriculum. In summarizing our process, we wish to highlight that the process itself led us to an articulation of a methodological framework for reflection that we in turn share with our students as the foundational value of critical reflection in practice and action.

“The CCL’s process began with a robust conversation about our expectations—what we as a center had defined as our mission and what we hoped to see in our students as they moved through our programs. Our next step was to analyze what our students were producing, but more importantly, the curriculum and ways we were structuring and communicating our expectations around what they produced. We had hoped our students’ reflection artifacts would demonstrate a capacity for self-awareness in a critical fashion at the capstone level. Our initial findings, however, revealed that while we knew our capstone students were engaged effectively in critical community-based projects and were taking away valuable civic leadership skills, we were not giving them the opportunity through our formal reflection assignments to allow them to demonstrate the most fundamental skill they needed—critical reflective capacity. When we discovered that we were not capturing the complexity and depth that we were looking for in our practices, we turned to the literature and our colleagues in the field to gain perspective on reflection. We came to a shared understanding and definition of critical reflection as a foundational practice, . . .”

Critical Reflection Cycle

Through the assessment of our programs, which demonstrated critical reflection as a tool for both faculty and students to critique, engage in feedback, understand oneself, and move forward
from that synthesis of understanding, we developed a critical reflection cycle as a process. Figure 1 reflects the steps within the process. In addition to being dialectic, the feedback loop embedded within the cycle allows for critical reflection to be a reiterative process. Using this cycle then, faculty can emphasize critical reflection as a process, and both faculty and students can understand the mechanisms behind the process, thus allowing for students to recognize critical reflection as a translatable skill.

Recognizing assumptions and values is the first step in the process for students to locate their positionality as they consider evaluative claims about an experience or other object of analysis. The object of analysis can be what best represents that moment of time; it could be one’s self in action, an experience, or even the actions of others. Regardless of what the object of analysis is, the priority in moving towards this next phase is that the student begins with a strong understanding of their values to better understand that object. Awareness of positionality then leads to judgement or evaluation as being understood in relation and connected to those values. Having come to an initial evaluation or judgement, the students consider the roles of different perspectives and alternatives to their thinking, which allows opportunity for nuance and alternatives. Navigating perspectives and judgements offers a basis for commitment. Finally, the commitment to action is what fully defines critical reflection as an action-based process oriented toward achieving a new understanding or shifting of perspectives going forward. Feedback throughout the process is central as it allows us to interact with students and encourage a two-way process of learning.

**Conclusion and Contributions**

The CCL has found value in this methodological approach to reflection: the approach provides a curricular tool to help students recognize reflection as a process; to engage in articulating their own values; seek multiple perspectives to challenge their assumptions; and to be open to continuous feedback as they synthesize their experiences. Here, however, we would like to also point out that
this turn to critical reflection processes allows not only for students to be more reflective, but to share deeper syntheses that enable us to understand their positionalities more fully and serve them better in our engagement with and feedback to them. Additionally, the artifacts that come out of these processes give us the opportunity to document, assess, and demonstrate to others what students are gaining from our programming.

References


Quick Tips for Teaching Students How to Reflect

JENNIFER DOBBS-OATES

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The theme of the 49th Annual Conference hosted by the National Society for Experiential Education was “Hindsight is 20/20: Using Reflection for Assessment, Program Excellence, and Student Success.” Inspired by that theme, I contemplated my own use of reflection as part of my college teaching for more than a decade. In the first few years, I noticed a problem. What students turned in often fell short of what I was expecting. These were reflections that were not really reflections. I found myself saying the same things over and over again in feedback to students. “Dig deeper,” I’d say. “Tell me more.” “Why is that?” “How did you know?” “Give me an example.” The reflections students turned in were often shallow rather than deep, vague rather than specific, and descriptive rather than reflective. I finally came to a realization: if I want my students to reflect effectively, I have to teach them how!

Description of the Practice & Connection to the Research

Now, I regularly set aside half of a class period (approximately 25 minutes) at the beginning of the semester to explicitly teach about reflection. During class, we talk about what reflection is, why we do it, and how to do it well. I’ve seen improved reflections from students as a result. This paper will share some tips that you can use to help students understand how to reflect effectively.

Begin with the what of reflection. First, ask yourself “what does reflection mean in the context of my course or program?” I recommend finding out what your students already know as well. I ask my students, “What is reflection? Is it different from recall? Analysis? Critical thinking?” Once you have a sense of where your students are starting from, you will better understand what they still need to know.

Second, present a definition of reflection and get your students to break it down into its key components. There are many definitions of reflection from which you can choose. I use some short excerpts from John Dewey’s writing on reflection in How We Think. Since the language is a little challenging for students because it doesn’t feel contemporary, I find it works well to ask students to start from the original and translate it into something that sounds more modern to their ears. Since they are picking out the key ideas and rephrasing them in their own words, this results in them pro-
cessing the information at a deeper level.

Some of the key characteristics of reflection my students consistently notice are that reflection is active and intentional, that reflection is repeated and extended over time, and that reflection is careful and thoughtful. Often, it falls to me to mention that reflection involves connecting ideas to evidence and to conclusions as well.

Next, I recommend teaching about the purposes of reflection. Let your students know why you use reflection as a part of your course or program. When we are transparent about course design and tell our students why they will be asked to do certain things, students’ motivation tends to improve (Anderson et al., 2013). I share three primary purposes of reflection with my students. The first is that reflection promotes learning. When you have an experience, you may learn from it. Learning from experience happens to us all the time. But, of course, we also have plenty of experiences we don’t learn from. When you have an experience followed by a reflection, it is more likely to lead to lasting learning (Ribeiro et al., 2019). Second, I emphasize why we use weekly reflections in the course. I point out that repeated reflections help to generate momentum and help students to make connections among experiences. Each reflection builds on the one before it, so, by reflecting in-between each experience, we support growth and learning over time. Finally, I share with students that reflection is both a life skill and a career skill. It is not just something to use in a course and then leave behind. Especially since the students I teach are pursuing careers in social services and education, reflection will be a tool they can use throughout their careers to shape their practice and better serve the clients and students they are supporting (Ryding & Wernersson, 2019).

Now that you’ve covered the what and why of reflection, it’s time to teach them the how. There are several ways to do this. Options include getting students to construct their own process for reflecting effectively, teaching your students about an established model of reflection, and developing your own model.

Having students construct a process for themselves is valuable because it can help them tailor a reflection process to fit their individual needs. If you would like to do this, start with the key characteristics of reflection your students identified when you were defining reflection. Ask them what steps they would need to take to reflect in that way. My students come up with many ideas, but they most often emphasize the need to stop other activities so one can focus on the experience being reflected on, and to think slowly and carefully. Beyond these, I may add that it is important to accept temporary discomfort and to consider that change may be needed. I want students to know that genuine reflection can sometimes mean confronting “hard truths,” such as “I didn’t give this my best shot” or “I let someone else down.”

Another strategy for teaching them the how of reflection is to share an established model of reflection. You

“In the past, I just told students to ‘reflect’ and I assumed they would know what to do.”

Over the years, I have developed a simple model of my own—a way for students to understand how reflection differs from mere recall or description. I compare reflecting after an experience to discussing a movie. After viewing a movie, a student could summarize the plot—tell me what happened and who did what. That is a description. Or they could write a review of the movie. They could talk about how it affected them, what meaning they took from it, what its strengths and weaknesses were. That is a reflection. I tell my students to avoid plot summary and reflect instead. Put more focus on the why and the how and less on the what, who, and when.

Implications and Next Steps

In the past, I just told students to “reflect” and I assumed they would know what to do. That often was not the case. I have come to understand that, though reflection is not incredibly complex, reflection has a richness to it and it is a skill. Now, I invest half of a class period in teaching students the what, why, and how of reflection. This is a small investment that really pays off. My students reflect more effectively, and they do so earlier in the semester. They can make better use of my feedback about their reflections because we have laid the groundwork in advance. It is a skill set that they can carry with them into future course experiences.

References


Facilitating Internship Partnerships Through Formal Agreements

VIVIENNE FELIX  
KIMBERLEY COFFEY  
RENA VARGHESE

Internships are a critical part of the educational experiences of college and university students, as they allow students to explore the “world of work,” while developing professional and interpersonal skills. However, for many higher education administrators, the process of navigating internships is complicated by the nuances of internship agreements. This extended abstract summarizes topics discussed during a roundtable discussion at the 49th Annual Virtual Conference of the National Society for Experiential Education. In this abstract, the purpose and utility of internship agreements, memoranda of understanding, affiliation agreements, and other signed agreements helpful in solidifying relationships with external partners are explored. This abstract is intended to facilitate a community of support for the higher education professionals who manage and review these documents and will provide a framework for identifying practices that advance student learning while aligning with the needs, philosophy, and risk tolerance of your institution.

Institutional Processes

The landscape governing experiential learning is becoming increasingly risk-averse and potentially litigious. For that reason, many institutions of higher education rely upon signed agreements with both domestic and international partners to facilitate internships, student teaching, clinical placements, and other forms of experiential learning. Many times, the professionals who manage the review and negotiation of documents supporting these relationships are doing so in addition to several other professional responsibilities and lack a legal background. Little scholarly knowledge is available about internship agreements and affiliation agreements, particularly outside the context of medical training programs. Similarly, practitioner-oriented content providing high level guidance on how to craft or think about these documents is scarce.

It is important to understand how your institution supports this scope of work. The approach towards these agreements will differ between a small, private institution and the process of a larger, multi-campus public institution. Is the process centralized across your college or university? Does an approved template for an internship agreement or affiliation agreement already exist? Or do
you need to create a template and seek approval through the relevant leaders of your institution? The answers to these questions are best answered by senior leadership. In addition, you could reach out to your career services center or general counsel for guidance and support. Conversations with colleagues in these roles is vital for understanding your institution’s approach to risk and how they will protect students and the institution if experiential learning activity goes awry.

**Types of Agreements**

To formally establish partnerships that will facilitate learning opportunities for students, staff must understand the purpose of the documents that will outline the roles and responsibilities of each party. Whether managed by faculty, staff, or administrators, it is important that student learning is balanced with risk management and academic compliance expectations, where applicable. Many kinds of agreements govern experiential learning. Some examples include community partnership agreements, internship agreements, memoranda of understanding, and affiliation agreements. Community partnership agreements (CPAs) are often used to document the parameters of and stakeholders for community engagement activities such as volunteer work and service learning. Memoranda of understanding (MOUs) may be used similarly to document formal relationships between the institution and external partners. Affiliation agreements (AAs) are likely the most robust agreement and are often vetted by general counsel at the site and the institution; these are typically used in clinical settings and for schools and school districts.

Internship agreements document the intended learning outcomes of the activity; the timeframe of the activity; and the level of compensation, if any. A key difference between an IA and AAs is the IA is primarily negotiated between, and ultimately signed by, the student and the site. In contrast, AAs, MOUs, and CPAs are negotiated and signed between the site and the institution. It is uncommon for a student to sign the document. For all types of agreements, the agreement sets the stage for what the student and site are responsible for and ensures everyone agrees on the intended learning outcomes and assessment of the learning activities. The more aligned the student, site, and college/university are, the greater the chance of successful experience outcomes.

**Common Challenges**

Several challenges in the internship space often present as pain points for sites and institutions. Common topics to address in a formal agreement include, but are not limited to, student supervision, data privacy, onboarding protocols, liability, the implications of immigration status, etc.

**Experiential Learning in Other Locations**

Many institutions encourage students to participate in experiential learning that occurs outside the state of the home institution. For students engaged in student teaching, clinical placements, and internships in the health professions, an affiliation agreement is often required between the site and the institution. A challenge of agreements that govern experiences outside the home state are the implications of local labor laws. The state in which the internship
is located could shape whether the site and the institution view student interns as employees. New Hampshire, for example, has extremely specific rules and regulations around unpaid internships, which must be approved by and reported to the Department of Labor by both the school and the host organization. When it comes to virtual experiences, institutions still need to be aware of the regulations based on the home location of the internship site. For example, if a student is completing a virtual experience with a company based in a foreign country, you still need to be sure your institution has the proper steps in place to allow the experience to occur legally.

COVID-19 Considerations

Several institutions issued specific guidance to their staff during the COVID-19 crisis. For most colleges and universities, students and campuses were encouraged to explore remote internship options. However, not all internships could be effectively converted into remote experiences. In addition, some students expressed a strong preference for in-person internship experiences. As a result of these factors, for some institutions, there was no universal prohibition on in-person internships.

The following recommendations might inform your institutional approach to on-site internship experiences during a crisis like the COVID-19 global pandemic. For programs governed by accreditation standards and/or leading to certification or licensure, consult with the professional association or accrediting body to see what is permissible, especially for remote or other alternative experiences. As a best practice, it might be helpful to maintain the continuity of on-site internships only with those sites who have hosted students within recent years and have a valid IA or AA already in place. COVID-19, however, does create an opportunity to establish new partnerships with sites who have the capacity and willingness to host a meaningful remote internship experience.

It is recommended that campuses conduct a review of each site to make sure it is appropriate and not unreasonably dangerous. At a minimum, this might include contacting the site’s supervisor and discussing the environment and precautions implemented, including that the site complies with local department of health protocols and that students are not sent to an untenably dangerous situation (for example, engaging in a large-scale interaction with the public or at-risk populations or the site failing to provide effective, personal protective equipment). To the extent permitted by the state education department and applicable accreditation bodies, campuses should offer students alternative arrangements to participating in the internship, including remote options if available, even after the in-person experience commences should any students feel at risk.

From a legal perspective, no student should feel unduly pressured to go to an internship site; free will is necessary to make a student acknowledgement waiver, if adopted, valid. The content

“The more aligned the student, site, and college/university are, the greater the chance of successful experience outcomes.”

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of a student acknowledgement waiver might request that students acknowledge, or agree, they have been presented with alternative internship options.

Should they choose to go on-site, students are voluntarily choosing to participate in an on-site internship and are assuming the known risks involved with participation. Existing IAs and AAs may need to be amended to specifically include warranties that sites will continually maintain compliance with all applicable laws and regulations associated with the COVID-19 crisis. Colleges and universities should remain in contact with sites to ensure these warranties are maintained and appropriate protocols are followed. In addition, campuses should inform students of the consequences for violations of local department of health protocols. This might include a removal from the internship site (and program), and the possibility of negative academic implications for failure to abide by the student code of conduct or campus policies not insulated by First Amendment protection.

Other Provisions to Consider

There are many questions to consider when drafting and negotiating the terms of a formal agreement. Below is a non-exhaustive list of questions to consider:

- Who is the approved institutional signatory?
- What is the timeline for document review?
- Does the site require compensation (i.e. an honorarium) of any kind? If so, will my institution agree to this?
- How long is the agreement valid?
- Have your legal/compliance/risk management experts been consulted, including to assess the enforceability of the agreement?
- Are students required to sign agreements? What are the consequences to their participation if they do not agree to sign?

Ideally, internship agreements and affiliation agreements will reflect mutually beneficial terms that are amenable to all stakeholders. In closing, it is advisable to involve a legal counsel, risk management, and other senior administrators in preparing agreements to review their validity and enforceability. This is especially important when these agreements are required to be signed by students for their participation in internships and other experiential learning experiences.
Insights from the College Internship Study: Issues of Program Access, Structure, and Student Outcomes

MATTHEW HORA

University of Wisconsin - Madison

Background

Internships are considered one of several “high-impact practices” (HIPs) that represent one of the most influential ideas shaping research, policymaking, and educational practices among colleges and universities in the early 21st century (Kuh, 2008). However, growing evidence shows that the impacts and access to HIPs and internships are not equitable or universal. For instance, some scholars have found that obstacles to accessing HIPs exist for students, particularly for underserved college students (Finley & McNair, 2013). In the case of internships, assumptions about universal access are especially problematic, given that low-income and/or first-generation students may lack the financial and/or social capital to identify and then complete an internship (Perlin, 2012). Consequently, access to internships may be limited for many college students, resulting in a situation where internships act as a gatekeeping mechanism that inhibits social mobility.

Few empirical studies have examined the nature and extent of the barriers to internships that college students face. To conceptualize how these different types of barriers may affect students, we draw on field theory to explore how internship opportunities are shaped by students’ acquisition of different forms of capital, which are then deployed to seek entry into new fields of the professions and/or individual firms (Martin, 2003).

Methodology

In this mixed-methods study we address the gap in literature by reporting findings from a survey (n = 1,549) and focus group, and interview (n= 100) data from students at three comprehensive universities: one historically black college and university and one technical college in the U.S. states of Maryland, South Carolina, and Wisconsin. These data were analyzed using logistic regression, inductive thematic, and social network analysis techniques to answer the following questions: (1) What types of barriers keep students from participating in internships? (2) How, if at all, do these barriers vary across different student demographics? Research instruments used to answer these questions
featured an online survey that included questions about internship participation, obstacles to participation, demographic information, and focus group protocols that inquired about similar topics. These data were analyzed using logistic regression and hierarchical linear modeling techniques (for survey data), and inductive thematic analysis (for focus group data). Limitations to the study include the self-selected nature of the sample and the limited number of institutions represented in the dataset.

Results

RQ #1: Barriers to internship participation

For the 1,060 students who answered “no” to having participated in an internship in the past 12 months, 64% (n = 676) of them stated that they had hoped to obtain an internship but could not for a variety of reasons. This finding alone indicates that a substantive number of college students want to pursue internships but cannot, thereby underscoring the fact that access to internships themselves is a considerable problem. Among the six barriers to internship included in the survey (Figure 1), the most common reason that prevented students from taking an internship was the need to work at their current paid job (60%), followed by a heavy course load (56%), a lack of internships in their discipline or field (45%), insufficient pay (33%), lack of transportation (19%), and lack of childcare (9%).

Next, given the prospect that some students may experience more than one of these barriers at a given time, we report how individuals reported combinations of these barriers. The most common combination was the need to work at their current paid job and a heavy course load (n=68 students), followed by those who had a heavy course load, needed to work, and had few opportunities (n=42), and those who reported the above three barriers but also the obstacle of finding internships with sufficient pay (n=42). At the same time, some students did report only a single obstacle, such as the need to work (n=60) or a heavy course load (n=44).

Next, the most frequently discussed barrier to internship participation pertained to compensation—specifically, unpaid paid internships. Another obstacle to internship participation involved balancing the demands of their paid employment, coursework, study time,
One of the most unambiguous findings from our study was that the need to work prevented many students from taking an internship. While the impact of work on college students’ experience and performance may not be universally negative, our findings make clear that in addition to potential impacts to students’ academic success, work presents a substantial obstacle to students seeking and completing internships. Future research should also investigate the impacts of work on first-generation students, who were more likely to report the barrier of working at their current jobs (65%).

Finally, we argue that it is the combination of obstacles – reflecting labor markets, students’ social networks, their access to financial resources, and individual situations – that functions as a multifaceted field of constrained opportunity. Future work in this area could focus on how specific marginalized groups experience the obstacles reported in this paper, while also paying closer attention to how historical, organizational, and individual-level forces intersect to shape student experiences. Based on the evidence reported in this paper, we conclude that internships are inaccessible to a significant number of today’s college students. As a result, we argue that internships should be removed from lists of HIPs until and unless equitable access can be guaranteed or at least highly probable for all students attending colleges and universities in the U.S. ■

References


The ‘Soft Power’ of In-Class Reflection: A Transformative Experience

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Introduction

This paper is based on active in-classroom experimentation with the notions of reflection, student empowerment, and team-based learning, and the introduction of the concept of ‘soft power’ in relation to a Continuous Reflection Model in the classroom. Reflection was examined as a cultivated and voluntarily embraced tool for personal and professional growth. As well, the concept of an “empowered classroom” was introduced. By utilizing data collection, observations, and testimonials from four upper-level Modern History courses over the course of two academic years, the practice was designed and repeatedly iterated to assess the ways in which the ‘soft power’ of continuous reflective practices impacts students’ habits of mind, influences their intellectual capacity, and tests their societal attitudes and values. All four courses were equal in their contextual complexity, the reading loads and assessment schemes, as well as their relevance to prominent global issues. The findings described in this paper were enacted to contribute to the methodology of active learning, while expanding the notion of a flipped classroom and introducing the “empowered classroom” model.

Description of the Practice

The teaching practice under examination was based on four principles including intentionality, collaboration, design-thinking, and risk-taking. The Continuous Reflection Model was co-designed by Instructor and students and integrated throughout each semester in a dynamic way, while avoiding repetitions and reflection fatigue. The underlying methodology of the model was centered around reflecting on both the content and the process of learning, both individually and collaboratively. The design of a model in which reflection can organically flourish was based first and foremost on creating a social network of learners built on inter-personal relationships and trust. As well, the instructor generated additional interest in course content by construc-
tively critiquing existing scholarship, incentivising student undergraduate research, facilitating peer-mentor academic presentations by the courses’ alumni and providing self-assessment opportunities to students to examine their personal learning goals and address knowledge gaps in the area under study. These activities resulted in the formation of learning communities based on mindfulness, mutual and self-respect, and peer-to-peer and peer-to-instructor collegiality.

On average, by the middle of all semesters under examination, a functioning “empowered classroom” emerged. Student groups in all four courses actively engaged in curriculum design. A significant portion of the assessment scheme was dedicated to teamwork, which included seminar co-facilitations, and student-proposed reflective practices. The collaboration flowed between in-class and out-of-classroom learning spaces, and utilized individual students’ leadership skills, technical abilities, prior learning, and versatile disciplinary backgrounds. These all became contributing factors to completing assignments and meeting the course and program learning outcomes. The process of continuous reflection accompanied all of these collaborative efforts and manifested itself in a variety of forms. These included written, verbal, and non-verbal reflections, as well as optional take-home reflections that a majority of learners voluntarily completed. Reflection was also built into most of the student-driven gamified portion of the curriculum and gradually became a natural attribute of all weekly seminars.

As a result of this experimental approach, the number of assignments originally designed per course was exceeded by 25% on average. The intentionality and collaboration principles of the teaching practice under examination were strengthened by the application of the principles of design-thinking and risk-taking. The students were prepared and encouraged to think experimentally and experientially, and to take informed risks in student-driven activities, show flexibility and responsiveness, as well as challenge traditional in-classroom power hierarchies. This contributed directly to the creation of an “empowered classroom” in which students and instructor become partners in teaching and learning. The instructor’s role as a sole content provider decreased, whereas their role as a mentor-facilitator increased significantly.

**Outcomes and Impacts**

The outcomes of implementing this new model in the four aforementioned classes exceeded the instructor’s original expectations and can be divided into several categories.

First, on the administrative side, the model assured high levels of student retention and a higher average GPA across all four courses. Relatedly, all four courses became an attractive recruitment feature for the academic program. Second, the model cultivated a number of transferable skills, critical not only for the successful completion of an academic degree but corresponding to the most sought-after employment skills. These include creativity, critical thinking, coordinating with others, emotional intelligence, cognitive flexibility, and others. Third, the new practice cultivated mindfulness and inclusivity and resulted in an increased level of cross-cultural
awareness, competency and dialogue. It extended beyond academic life and into social life contributing to the formation of long-lasting friendships and relationships among peers. The “empowered classroom” also demonstrated a direct correlation between peer mentorship and student success.

In conclusion, students who had previously felt largely disengaged from an active learning process or had not fully experienced belonging or personal agency within the post-secondary environment boosted their confidence and ability to learn and showcase their knowledge through this model. Although these outcomes were achieved, the model was proven among upper-level courses and could be partially dependent on the audience in a given class. In this context, learners underwent a transformative experience and reaffirmed the value of high impact practices in Experiential Learning.

**Implications and Next Steps**

This practice is geared towards student self-empowerment and the cultivation of life-long learning and transferable skills, thus influencing a clarification of career goals. It is intended to be scaled up and implemented in all upper-level courses taught by the Instructor over the next three years and beyond, and well as shared across the institution as an innovative practice in the area of active learning, and high impact practices in Experiential Learning. This will be accomplished by developing a pre-recorded workshop and presentation materials which will then be disseminated broadly. As well, student testimonials will be continuously collected after each class taught according to the Continuous Reflection Model and the concept of the “empowered classroom” in order to improve quality, expand on data collection, and continue innovation within the curriculum design.
Learning Analytics to Support Experiential Learning

NIKKI JAMES
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Introduction

Experiential learning, or learning from doing, stems from Dewey’s proposition that “there is an intimate and necessary relation between the processes of actual experience and education” (Dewey, 1938, p. 19 – 20). The concept was further developed by Kolb (1984) and studied in educational practice and research (Allison & Wurdinger, 2005; Beard & Wilson, 2006; Breunig, 2008; Ewert & Sibthorp, 2009). Experiential learning has also been used for career exploration (Mendel, 2018), transfer of theory and technical skills to a work environment (James et al., 2020), and the development of 21st-century skills (Council, 2018; Dieu et al., 2018; Fischer, 2018; James et al., 2018; Servant-Miklos, 2018).

“... it is possible that learners’ interactions with the technology could be indicative of a learner’s mindset, approach to learning, and learning history.”

Traditional experiential learning interventions like co-op experiences and internships, where students work full-time in a work environment, lead to meaningful learning outcomes (Ambrose & Poklop, 2015). However, they are less accessible to non-traditional students, like working adult learners, international students and some under-represented minority students (URM’s), particularly rural and first-generation university students (Tiessen et al., 2018). The lack of experiential learning access overall is attributed to experiential learning programs being complex, labor-intensive, and difficult to design and deliver (Henderson, 2018). However, the lack of access is magnified for learners whose life commitments outside of their education are not amenable to undertaking a full-time internship in traditional working hours, covering additional costs of travel, relocating to access an internship in their field of study, or leveraging their personal connections to secure an internship opportunity.

The emergence of learning analytics and machine learning paired with their use in innovative instructional technology holds promise when developing alternative experiential learning models like virtual internships and capstone projects, that are more accessible. Moreover, their use could help address the labor intensity of facilitating experiential learning opportunities overall (James et al., 2018). For example, the effective use of real-time learning analytics could augment management and facilitation tasks.
in technology enabled learning environments (Hernandez-Lara et al., 2019; Alblawi & Alhamed, 2017). Specifically, displaying a real-time learning analytics dashboard that identifies potential issues students or industry partners are having could decrease the time facilitators need to invest to find out what is going on, and allow them to instead re-invest that time supporting additional students. This augmentation could responsibly address the equity gap in accessibility to experiential learning by reducing the complexity and labor intensity for teachers and faculty, if underpinned by learning theory (Gašević et al., 2017; Reimann, 2016).

**Research Objective**

This research project aims to examine how the aggregation of learning analytics and learning theory could augment the facilitation of experiential learning to increase accessibility without compromising the quality of the learning experience for individual students. This objective is achieved by addressing these two research questions in the following sequence:

- Which data captured by an experiential learning technology can be used to provide actionable insights for facilitators?

- How can data captured by an experiential learning technology be used by facilitators to support their practice in experiential learning?

**Learning Context**

This research project uses de-identified and retrospective data from a technology-enabled experiential learning program designed specifically to open access to experiential learning for international students in Australia. Practera, the learning technology used to enable the Experiential Business Project program (EBP), is explicitly designed to support the design and facilitation of learning programs underpinned by Kolb’s experiential learning cycle (Kolb, 1984). While completing the EBP, students use the technology to complete a business project with a team, receive feedback on the project from an industry partner, and receive support from the program coordinators who monitor a real-time learning analytics dashboard to identify when support is required.

Throughout the EBP, learners complete two learning theory-based surveys. The surveys are embedded in the program to help develop their metacognitive ability and reflexivity. These surveys identify each student’s self-perception on their tendency towards a fixed mindset, a growth mindset (Dweck, 2017), a deep approach to learning, and a surface approach to learning (Marton & Saljo, 1976). Additionally, students complete a demographic survey that enables the identification of their learning history (Kwak, 2016).

**Research Design**

The research design stems from a realist, anti-positivist idiographic perspective (Cohen et al., 2007) that perceives agency (Bandura, 2001) as the driver of an individual’s choice between determinism and voluntarism (Burrell & Morgan, 2005) at each point of actuality (Sachs, 2005). This perspective suggests that humans are irrational and unpredictable, implying that students’ interactions with technology enabling the EBP would lack a pattern or logic. However, neurological research finds that although humans are
unique and irrational, our learned behavior can be predicted (Wood & Rünger, 2016). Therefore, it is possible that learners’ interactions with the technology could be indicative of a learner’s mindset, approach to learning, and learning history. Unearthing these patterns could provide experiential learning facilitators with insights that enable them to provide personalized support to learners.

Data Collection

The data collected for use in this study include the course design for the EBP program, de-identified, and retrospective data for over six hundred students participating in the EBP program. The student data includes all the interactions and time spent on learning content, project submissions, skill development reflections, and feedback.

Data Analysis

The data analysis process is completed in three steps:

- The classification of each element of the course design into content categories (Table 1)

Table 1. Categorization of program tasks

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational Tasks</strong></td>
<td>30</td>
</tr>
<tr>
<td>Orientation</td>
<td>25</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
</tr>
<tr>
<td><strong>Project Tasks</strong></td>
<td>39</td>
</tr>
<tr>
<td>Skill_Plan</td>
<td>10</td>
</tr>
<tr>
<td>Assessment_Plan</td>
<td>2</td>
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<tr>
<td>Skills_Research</td>
<td>4</td>
</tr>
<tr>
<td>Skill_Aggregate Findings</td>
<td>5</td>
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<tr>
<td>Project_Draft</td>
<td>5</td>
</tr>
<tr>
<td>Assessment_Draft</td>
<td>2</td>
</tr>
<tr>
<td>Skill_Presentation</td>
<td>4</td>
</tr>
<tr>
<td>Project_Report</td>
<td>5</td>
</tr>
<tr>
<td>Assessment_ProjectReport</td>
<td>2</td>
</tr>
<tr>
<td><strong>Skill Development Tasks</strong></td>
<td>45</td>
</tr>
<tr>
<td>Skill_Collaboration</td>
<td>6</td>
</tr>
<tr>
<td>Self-Assessment</td>
<td>7</td>
</tr>
<tr>
<td>Skill_Teamwork</td>
<td>20</td>
</tr>
<tr>
<td>Self_Peer_Assessment</td>
<td>2</td>
</tr>
<tr>
<td>Skill_Reflection</td>
<td>5</td>
</tr>
<tr>
<td>Skill_Networking</td>
<td>5</td>
</tr>
</tbody>
</table>
- The scoring of the three surveys used to identify students’ mindsets, approaches to learning, and learning history.

- A multiple regression analysis using R package glmulti to identify to what extent a learner’s behavior engaging with the EBP could be predictive of their mindset, approaches to learning, and learning history.

Ethical Considerations

The use of a learner’s data in educational decision making is discussed and critiqued in literature. Considerations include how data is capture, used, and stored (Slade & Prinsloo, 2013). Each of these considerations is looked at through both the lens of privacy (Rubel & Jones, 2016) and efficacy (Sclater, 2016). Taking these concerns into consideration, the following parameters were used:

- The data was de-identified by the technology provider before being passed to the researcher.

- The technology provider obtained consent from participants.

- Program coordinators were unaware of the consent status of participants.

A data privacy impact assessment was conducted to ensure every effort was taken to prevent unauthorized access to the dataset.

Results

The multiple regression analysis results indicate that a learner’s behavior engaging with the EBP could have some predictive power in identifying a learner’s learning history, approach to learning, and mindset. Two crucial factors when evaluating the fit of a multiple regression model is the symmetry of the model, indicated by the residuals (Table 2), and the percentage of the variance in the dependent variable that can be explained by the independent variables, indicated by adjusted r.squared (Table 3). In this analysis, the fit is determined by the percentage of the students’ variance in the learning theory surveys that can be explained by the student’s behavior engaging with particular sub-categories of tasks in the EBP.

The Symmetry of the Models

The residuals (Table 2) show that the learning history, surface approaches to learning, fixed mindset, and growth mindset models appear to be symmetrical, indicated by a median being close to zero and a consistent symmetry throughout the model. The deep approaches to learning model is asymmetrical. Howev-

<table>
<thead>
<tr>
<th>Regression</th>
<th>Min</th>
<th>1Q</th>
<th>Median</th>
<th>3Q</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning History</td>
<td>-12.2785</td>
<td>-2.8880</td>
<td>0.5876</td>
<td>1.2311</td>
<td>14.2311</td>
</tr>
<tr>
<td>Deep Approach</td>
<td>-33.797</td>
<td>-2.039</td>
<td>1.5</td>
<td>1.5</td>
<td>20.101</td>
</tr>
<tr>
<td>Surface Approach</td>
<td>-22.6993</td>
<td>-2.6993</td>
<td>0.8362</td>
<td>0.8362</td>
<td>22.3007</td>
</tr>
<tr>
<td>Fixed Mindset</td>
<td>-7.9919</td>
<td>-0.9919</td>
<td>0.2937</td>
<td>0.2937</td>
<td>9.0081</td>
</tr>
<tr>
<td>Growth Mindset</td>
<td>-15.5038</td>
<td>-0.7297</td>
<td>0.2802</td>
<td>1.3140</td>
<td>6.4962</td>
</tr>
</tbody>
</table>

Table 2. Regression model residuals

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er, the median and 3Q value are 1.5, indicating that over 25% of the students’ actual scores were exactly 1.5 points higher than their predictive score. This model is also unbalanced at the extremities, which could indicate an outlier score that impacts the symmetry of the model.

**Predictive Power of the Models**

Table 3 presents the adjusted r.squared for the five regression models developed. Adjusted r.squared indicates how well the model fits the data, identifying the percentage of variance in a learner’s score of the learning theory survey that can be explained by the time a learner spent on each of the sub-categories of learning tasks in the EBP. The learning history model indicates a predictive power of 49%. The result needs to be considered, understanding that the data set is skewed towards one side of the learning history continuum. A more balanced dataset may impact the result. The surface approaches to learning and deep approaches to learning models have a 40% and 51% predictive power, respectively. The surface approaches to learning model has the lowest predictive power and lowest overall significance value for each sub-category of tasks that have a relationship with a learner score on the survey used to identify approaches to learning. Finally, the fixed mindset and growth mindset models both have a 49.6% predictive power.

**Discussion**

The regression analysis results indicate that capturing the time spent on different types of learning tasks can be used to provide facilitators insights on a learner engaging with the EBP program. Importantly, the analysis provides insight into additional data that could further develop these regression models and, subsequently, the accuracy of the insights provided to experiential learning facilitators.

The analysis found that time spent on learning content consumption, submission of project tasks, reflective tasks, peer feedback, and administrative tasks can provide insights about a learner as they engage in the EBP program. Interestingly, no one type of task had a direct correlation to a particular learning theory category. The context of the task in relation to the project is relevant when it comes to identifying the learning history, mindset, and approaches to the learning of learners in the EBP. For example, research on mindset by Dweck (2017), indicates a fundamental difference in a human’s behavior based on whether they believe their intelligence, skills, and performance can be developed or not. This analysis found that learners who indicated a self-perception of a fixed mindset on the survey spent more time on tasks that others could see. For example, project task submissions or learning tasks helped them present their

### Table 3. Adjusted r.squared for the five regression models

<table>
<thead>
<tr>
<th>Category</th>
<th>Learning History</th>
<th>Deep Approach</th>
<th>Surface Approach</th>
<th>Fixed Mindset</th>
<th>Growth Mindset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted r.squared</td>
<td>0.495</td>
<td>0.513</td>
<td>0.401</td>
<td>0.496</td>
<td>0.496</td>
</tr>
</tbody>
</table>
work to others, whereas learners who indicated a self-perception of a growth mindset on the survey spent more time on learning tasks that indirectly impacted the project, like the 21st century skill self-assessments and development plans.

**Implications for Practice**

The results of the analysis indicate that data captured by instructional technology could provide actionable insights for experiential learning facilitators and instructional designers. Before discussing the implications of this analysis on the design and facilitation of experiential learning in higher education, it is essential to note the analysis’ limitations. The analysis provides a proof of concept for how the effective integration of technology into experiential learning programs could augment the facilitator and provide insights that would help improve the instructional design. The regression models developed in the research project are specific to the EBP program and require further testing on larger data sets before being used in practice.

However, as a proof of concept, the results of this analysis suggest that it is possible to use data from instructional technology to gain insight about learners. The analysis could be built into an instructional technology analytics dashboard and visualized for learning facilitators alongside insights from the learning theories themselves. Facilitators can use these insights to tailor their support and feedback to specific students. This implementation of real-time learning analytics into technology supported experiential learning programs could increase the volume of students an experienced facilitator can support. Moreover, it could provide the “training wheels” for faculty interested in implementing experiential learning opportunities into their courses but do not have experience facilitating experiential learning.

**References**


Reflection Practices in Consulting Projects for the Learner and Instructor

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Introduction

As many educators know, there are a variety of models to use to practice reflection. The two models discussed here include: the “What? So What? Now What?” model and the Pre/Post-Motorola model. Both models can be used with individuals or teams alike. A key point of commonality between the two models includes not only thinking about an experience, but also taking action going forward. Taking action or “doing” is a nod to Dewey and Schön; Dewey and Schön encouraged reflective practice or reflection-in-action (Rolfe, 2014).

Description of the Practices


A primary use of “What? So What? Now What?” is to encourage its practice in individuals or teams. Although there are team reflections, as the next model will uncover, this model was used mainly with individuals and their practice in working individually and as a team member. A year-long experience where this is used is a team-based, project-based course. Individuals are placed on a team that is set up to consult and work with a business partner on a project; ideally, this project is highly valued and will have an impact on the company when completed. The following is a breakdown of each step.

What? allows a learner to describe an experience in detail and is what is factual in nature. This is usually the easiest part of reflection, because we are used to “reporting out” about an experience, such as our day, when asked, “How was your day?” It relates to the “take-in” of information.

So What? is a reminder to the learner to not only “report out” what they experienced, but to also to describe what the experience meant to them; why is it significant to them? What have you learned? What about the event made an impact on you? I ask learners, “What was your takeaway?”

Now What? relates to what will the learner “do” with the information gleaned. How could you/will you use the information you learned? What skills or knowledge have you learned that you will apply in the future? While
each part of reflection is important, “Now What?” relates to taking action:

For Dewey, reflection is not simply having an experience and then going home to think about it. On the contrary, thinking is an active process that involves forming hypotheses and trying them out here and now in the real world. Thinking or reflection is therefore a form of experimentation. We cannot reflect in an armchair; reflection can only take place in practice. (Rolfe, 2014, pp. 1179–1180)

The objective of this type of reflection is to allow the learner to start with something comfortable and then move along in the reflective process to dig deeper and uncover their learning. A comprehensive list of additional questions can be used in each step (Schlesselman, 2019). This can be accomplished a number of ways, including journaling, video recording, and discussion.

Pre- and Post-Motorola Reflection Tool

The pre- and post-Motorola reflection tool was developed by the Motorola Telecommunications Company (USA) as a means to prepare and assess projects. Although this tool was developed in industry, it was adapted in education initially by Timiakatemia in Finland (Leinonen et al., 2004). This tool can be used in preparing (pre) and assessing (post) learner activities such as a meeting, project, event, internship, etc. (Rajala et al., 2017) and is commonly used in a team setting with a report out by the members on related insights. The questions used in the pre- and post-Motorola are different and can be facilitated by the instructor, coach, or learner. The insights are collected during a joint session with the entire team or as a written individual reflection. Ideally, the pre- and post-Motorola questions become integral in the learning process and are always completed before and after a learner’s experience.

During the pre-Motorola assessment (before the project implementation) the focus is on the learning goals, roles, theories, skills, and purpose.

- What are our learning goals in this project? Identifying goals for the project, meeting, or event helps the learners involved understand better the work involved also. The overall project goal needs to be clear, succinct, and communicated well for everyone to understand.

- What is the customer’s role in the project? Understanding the customer role, needs, and related benefits will provide insight to the learner(s).

- What theories will we use in this project? This question is extremely important because it is essential for the learner to make the connection between their theoretical knowledge and praxis. Higher education institutions are recognizing the importance of supporting learners in integrating their theoretical knowledge into “practicing theory” (Radović et al., 2020).

- What skills will we use in this project? The entire team is empowered by identifying skill sets and competencies to be used in the project. This question also allows for the individual or the team to reflect on areas for improvement.
- How does this project help us to get to our goal? This question helps the learner understand the “why” of the entire project.

The post-Motorola assessment happens after the project has been implemented and focuses on the opportunities, challenges, learnings, and future steps. During this set of questions, the team or individual learner is able to authentically reflect on the overall experience.

- What went well? Celebrating small wins can prove to be a great motivator for both a team and an individual.

- What went poorly? Identifying areas for improvement will help the learner become a life-long learner.

- What did we learn? Reflecting on key takeaways will provide insights for both the project until it is completed and all other future experiential activities.

- What will we do better next time? What will we put into practice? These last two questions set the tone for the next experience and provide a holistic assessment of the entire experience.

Overall, the continuous use of the pre- and post-Motorola questions helps build community, increases feedback sharing within a team, provides a reflective process for any experiential learning activity, and increases accountability within the team.

Conclusion

After facilitating discussion in the roundtable session about reflection practices, we learned that others used similar practices and gave students choices in their delivery method of reflection. The key is to make it a regular part of practice.

References


Learner Flexibility in Preparation for Experiential Learning

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Learners have preferences for learning that may be implicit. Learners find a comfortable approach to learning that places emphasis on certain parts of the learning process and underutilizes or avoids others (Peterson & Kolb, 2017). Educators can recognize learner preferences and meet learners where they are most comfortable. In addition, educators empower learners to be most successful when they guide learners around the full learning cycle process, acknowledging tension and resistance. Educators can design four approaches to address four learning stages and leverage each stage with technology. By this form of scaffolding, educators encourage learner flexibility and empower learners to adopt this full cycle learning process.

Experiential Learning

Kolb (2015) synthesized the work of nine foundational scholars from education, psychology and philosophy to develop an ideal process of learning and developing from experience (e.g., the learning cycle) and described preferences for using it. Experiential Learning is based on several unique perspectives on learning and development beginning with the awareness that learning is present in every life experience and there exists an invitation to be engaged in each experience. As opposed to a linear information transfer that measures outcomes, experiential learning is viewed as a recursive cyclical process that involves all aspects of a whole person (e.g., affective, perceptual, cognitive, and behavioral) and can be applied to any life situation. This ideal process of learning includes four steps or modes: experiencing, reflecting, thinking, and acting.

In practice, the cycle is more dynamic and less prescribed, yet deep learning requires the use of all four modes regardless of the order. By doing this, people are able to experience an effective, well-balanced learning and living process that keeps their subjective experience at the center of learning, improves retention, and increases effectiveness. To be effective, the process of learning requires the resolution of conflicts between dialectically opposed modes that motivate learning. The north-south axis of experiencing and thinking are two interdependent and opposite ways of grasping information to understand the world. Experiencing (learner focused) is direct and subjective, while thinking (content focused) is an interpretation that is generalized and objective. Reflecting (meaning focused) and acting (action focused) are two inter-
dependent and opposite means of transforming or processing our experiences and thoughts. Learners connect direct experience to general knowledge by reflecting about the meaning and implication of our experience. They transform our abstract thinking and feelings into behavior by acting (Kolb et al., 2014).

**Learner Preference and Full Cycle Learning**

Most learners find that they use certain learning stages and avoid or underutilize others (Kolb, 2015). These preferences lead to basic orientations as learners: diverging, conceptualizing, evaluating, and doing. Educators can identify learner preferences, then lead learners around the entire cycle by adopting four different approaches and employing design and technology techniques that drive learners to move out of their comfort zones (Kolb et al., 2014).

Diverging learners prefer experiencing and reflecting connecting, learner and meaning (Kolb et al., 2014). They prefer warm, affirming interactions and conversations with educators who assume a facilitator role. Educators can guide learners with diverging by helping them to find personal relevance in a topic with facilitated discussions, breakout rooms, and chats. By providing scaffolded reflections, discussion prompts and journal assignments, educators encourage learners to connect to feelings, values, and beliefs. Educators can also leverage technology to support diverging by breaking up reflective question prompts with text boxes that have a character minimum so that students must address each question, imagine different possibilities, and answer all aspects of the reflective questions rather than zoning in immediately on one portion of the reflection. Educators may allow for different forms of communication by including asynchronous team chat or cohort discussions that are based on messages delivered with video.

Conceptualizing learners (reflecting and thinking, connecting meaning with content) prefer authoritative, specialized content delivery with educators who assume an expert role (Kolb et al., 2014). Educators can guide learners here by helping them find and understand expert knowledge and theory from reading assignments, videos, podcasts, and lectures in order to think like an expert in the field. With content now available from a myriad of sources, educators may now become curators of exceptional content that encourages learner analysis instead of developing and delivering their own. Technology can leverage this reflecting-thinking stage of learning in virtual classes through a flipped classroom design, and online talks and podcasts to engage learners (especially for learners who may underutilize this stage).

Educators can scaffold this learning challenge by putting theoretical content in context to make it meaningful, pointing out explicitly how theory transfers from the classroom to real world and ways in which it will support their learning submission. Educators may consider choosing technology that provides locking and hiding features that insist on content completion before ensuing assignments are revealed or submitted. To incentivize learners to analyze theoretical concepts that form conclusions prior to completing assignments, educators can also try using badges and extra credit in the course to reward this approach.
Evaluating learners (thinking and acting connecting subject with action) like objective, result oriented feedback in structured evaluation from educators who assume an evaluator, standard setter role (Kolb et al, 2014). Educators can provide structured feedback through graded assignments or demonstration of learning that allows the learner to evaluate his or her own progress and continue to improve. Graded assignments, moderated feedback and expert evaluation of performance are means of guiding learners through this part of the cycle. Technology leverages the evaluating stage in learning by allowing educators both to insert more frequent feedback and to distribute feedback requests to more parties (such as peers and industry experts, in addition to the educator). This feedback is a catalyst for students to make changes and improvements. Students who prefer this stage will be reinforced and engaged; students who avoid this stage from performance pressure will experience how feedback ignites learning and prepares them for the real world.

Educators can consider choosing technology that can provide 360° review capability to distribute feedback frequently throughout a program rather than simply evaluating once at the end of the program when the learner may not iterate to practice new behaviors. These frequent developmental assessments allow a learner to adjust behavior, improve skills, and learn to give and receive feedback; learners are able to practice making changes: the essence of learning from experience. This evaluation can include not only what students are doing, but how they are doing it; therefore, learners get the added benefit of learning to work productively together as a team. Educators can use the automation of technology platforms to invite industry partners to provide the enhanced perspective of real-world feedback, especially since the virtual environment facilitates ease of their participation.

Doing learners (acting and experiencing, connecting action with learner) like applied, collaborative situations that allow for contextual, hands-on learning from educators who assume a coaching role (Kolb et al., 2014). Educators can provide time and space for trial and error experiments that allow learners to practice applying what they have learned. Educators can design skill labs, team work, and interactive experiences to allow learners to do things. In this stage of learning, often the most neglected due to limitations in time and resources, technology offers a great potential to open access to more experiential learning opportunities for more learners (James et al., 2020).

Through technology-enabled programs, educators can scale experiential learning programs to reach more students in more defined, scaffolded experiences that uncouple complex competencies, such as teamwork, one capability at a time (James et al., 2018). For instance, working with a team involves having awareness of self and others, sharing a mental model of a teamwork process, communicating with others, giving and receiving feedback, managing time and

“With content now available from a myriad of sources, educators may now become curators of exceptional content that encourages learner analysis instead of developing and delivering their own.”
resources, and being accountable to get things done. In the current virtual context, it also involves working remotely and managing collaboration tools. These many complex competencies must come together for a learner to be successful with a complex, holistic one-time experience. With technology, educators can scaffold learning experiences over time in a stepwise, graduated manner to build one competency at a time, allowing students to uncouple various skills to make the practice more focused.

To accomplish this design and execution, educators will benefit from recognizing their own preferences for learning and educating. In doing so, they become aware of the results from using their preferred approach and finding ways to supplement it through design, technology, and learning from experience.

References


Introduction

Today’s workplace requires creative, flexible, and adaptable project leaders and problem solvers who can interact with the diverse world around them in positive ways. At the same time, they must also balance professional demands with lifelong learning and a personal life. College students are trying to prepare for jobs that don’t even exist yet, requiring skills that can transfer across positions and career paths. In response to this need, in 2016 the University of Michigan-Dearborn created the Talent Gateway, an innovative program that promotes a holistic approach to career-readiness through gameful learning.

The creators of this program wanted something that would 1) help students build habits of creativity and reinvention; 2) be student-driven, inclusive, voluntary, scalable, and sustainable; and 3) encourage students to reflect on their personal and professional experiences as well as their curricular and co-curricular activities. Knowing that UM-Dearborn students have busy, demanding lives outside of class, the creators also wanted a program that would leverage what students were already doing, not add extra work that wouldn’t appeal to them.

Created in Canvas, the University’s learning management system, the Talent Gateway is easily accessible to all students, whenever it is convenient for them. Participation is voluntary, so students opt in, and by leveraging tools that already exist on campus, it is scalable and sustainable. This online program is open to all students, with participants who range from first-year to graduate students. When students join the Talent Gateway, they become part of a community that connects them to campus resources and helps them identify and engage with mentors as well as develop habits of self-reflection and critical thinking. Reflection is the cornerstone of the Talent Gateway, and as students earn points for submitting “challenges” that prompt them to explore their academic, personal and professional experiences and goals, they learn to recognize and leverage connections among all of their learning and living experiences. By developing habits of self-reflection, initiative and creativity, those who participate in the Talent Gateway are not only...
Building Skills in the Talent Gateway

As the program was in the final stages of development, one of the creators learned of a new tool developed by University of Michigan-Ann Arbor called Gradecraft. This was a game changer for the program, and today, the foundations of the Talent Gateway are the challenges in Gradecraft and a “gameful learning” approach. Gradecraft was originally created for traditional classes to increase student autonomy, engagement, and intrinsic motivation. At its core are four foundational concepts (Aguilar et al., 2015; GradeCraft, n.d.): 1) Earn up; 2) Autonomy of choice; 3) Freedom to fail; and 4) Tangible progress. The Talent Gateway uses Gradecraft to create “challenges” – small tasks with associated reflection questions. Each challenge prompts students to reflect on how that task impacts their academic, personal, and professional success as well as how the experience or skill can be applied in life after college. Challenges are reviewed and awarded by upperclassmen and graduate student workers called Talent Ambassadors. The Ambassadors themselves gain valuable skills including sharing constructive feedback, communication skills, time management and more.

Many of these challenges are tagged with the National Association of Colleges and Employers (NACE) competencies (as well as the additional competencies of Creativity and Civic Engagement). As students complete challenges, they are also developing and learning to articulate these competencies. Upon completion of 10 challenges in a specific category, students “unlock” the associated Competency Capstone. In the capstone, they express their skills in the competency as they would in a cover letter or résumé, and most importantly, they answer interview questions associated with that skill (some of which are submitted by employer partners). If students are awarded points for the capstone, they also receive a digital badge.

The principles of gameful learning can be found throughout the Talent Gateway – students all start at zero and choose their own path. That includes the ability to choose a competency – for example, leadership – and work on challenges that specifically relate to that skill. They also have the freedom to fail; if they do not answer all of the reflection questions in a challenge, their submission is returned with feedback from the Talent Ambassador that encourages them to think critically, revise, and resubmit. They can choose to resubmit or move on, with no penalty or consequence. Students can see their progress on their dashboard, and in addition to digital badges for competencies, students can earn badges and awards for ascending levels of (M)Talent, culminating in the (M)Talent distinction.

Earning the (M)Talent Distinction

One of the strengths of this program is that students can participate during their entire UM-Dearborn journey, working towards earning the (M) Talent distinction. If their schedules get busy or they lose interest, they can stop submitting challenges and come back at a later time. When a student earns 50,000 points, they are eligible to present at an (M)Talent Showcase. These events
are opportunities for students to connect and network with employers, and for employers to experience firsthand the quality and caliber of these students.

Through a short Ted Talk-style presentation, the candidates share their stories of growth and development, and demonstrate the skills they have gained that make them ready for the workforce. Even then they are not finished; after the event, they must have a debrief with staff to discuss what went well, what they would do differently, and what they have learned from the Talent Gateway experience as a whole. The (M)Talent distinction is then awarded on the students’ official transcript, and these students are recognized at graduation. Currently almost 1000 students (10% of the student population) participate in the Talent Gateway, and 500 participants have graduated. Eighty-one students have earned the (M)Talent distinction, and we anticipate 25-30 more in December 2020.

**Why is This Important?**

As mentioned, the Talent Gateway is a community. Since UM-Dearborn is primarily a commuter campus, this program provides a connection to a community and campus life that is sometimes hard for commuters to develop – and is even more important during the 2020 pandemic. As one student said, “I love Talent Gateway because of the sense of community it gives you. As a non-traditional student, the Gateway is the first thing that made me feel like a student here, and when I started the Gateway, I had this common experience with other students.”

There are certainly some challenges in the Gateway that are lighter in tone, like “Discover Your Inner Superhero” or “Me in 3 Short Words,” which adds an element of fun. But the depth of student reflection is clear: even through challenges that are “easy”, students display a new understanding and comprehension of how their academic, career, and personal goals (and growth) intersect to make them more insightful about who they are and how their skills make them more marketable as employees. Being “challenged” to try new tasks and experiences encourages them to step outside of their comfort zones in ways they would not have before, bringing new confidence to then step out – and up – even more.

Employers seek graduates with not only the academic knowledge and hard skills required of the position, but soft skills as well (Stewart et al., 2016). Graduates with strong interpersonal skills contribute positively to the organization. These employees will be adaptable and ready to pivot to meet the changing needs of today’s workplace. By reflecting on their experiences in the Talent Gateway, students are better able to articulate and demonstrate their soft skills, and this can help them be successful no matter where they go next in life. One recent graduate shared:

At my pharmacy school interview, the Dean gave a presentation to the group of candidates, stating that employers are looking for graduate students who have strong soft skills. When she addressed the applicants asking if anyone knew what soft skills were, I was the only one who nodded and was able to explain what they are. Although this may be a simple thing, answering this question helped me stand out to the Dean on interview day and made me more confident to answer other
questions. I wouldn’t have been able to do this without my involvement in the Talent Gateway.

References


An Exploration of Experiential Learning Practices Utilized by STEM Educators

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Introduction

Many young people today begin their career after completing an applied STEM related program within career and technical education (CTE). CTE provides an integrated STEM education program, which is structured to help students develop the knowledge, skills, and dispositions which are required of high-tech career professionals. Examples of CTE programs include, but are not limited to, automotive and diesel technology, biotechnology, construction trade technology, cosmetology, electromechanical engineering technology, and health/medical assisting services technology. Over the years, safety and health within these technical programs has been a major concern; these are simulated educational environments that contain the same occupational hazards found in the actual technical field.

While instructors expend a great effort to teach safety and health to students, accidents still occur on occasion and in some cases can be very serious (Gray & Herr, 1997). All individuals can be susceptible to accidents. In 2019, the Bureau of Labor Statistics reported over 300 workers under the age of 24 died from work-related injuries. Similarly, safety related literature has also illustrated that teens are at a higher risk of injuries and fatalities when compared to adults (National Institute for Occupational Safety and Health, 2020). These findings are alarming, given that a multitude of teens and young adults under age 24 are enrolled within CTE programs. As a training ground for STEM related fields, career and technical educators must provide a safe teaching and learning environment while simultaneously preparing students to work safely in the school, in order to transfer these skill sets to real-world application (Threeton & Walter, 2013). To accomplish this, educators utilize certain instructional practices, which may serve to better promote this transfer of learning (Threeton et al., 2019; Threeton & Walter, 2013). However, little research has been conducted on whether these instructors are using experiential learning practices to teach safety and health. Therefore, the study seeks to explore this gap. The results from the study could lead to new discoveries about teaching, learning, and enhanced techniques for
Purpose, Research Questions, and Design

The purpose of the study was to explore how applied STEM educators of CTE define experiential learning and utilize it while teaching safety and health subjects in their educational programs. The study sought to answer the following questions by employing the corresponding research design (see Table 1).

Theoretical Framework

The theoretical framework utilized for this study is Kolb’s Experiential Learning Theory (ELT) (1984). Within the model, individuals engage in real world learning experiences and have opportunities to apply knowledge by watching, thinking, doing, and feeling. Specifically, the model has four modes: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). Given that the model is based on grasping and transforming experience, the learning process can begin at any one of these four modes and should be regarded as a continuous experiential learning cycle (Kolb & Fry, 1975). Educators can utilize the experiential learning cycle within their instruction to promote the transfer of learning. Therefore, Kolb’s Experiential Learning Cycle (1984) will serve as a foundation from which to measure how educators within the study define and utilize this model while teaching safety and health.

Data Collection and Analysis

A focus group methodology was employed to address the research questions in the study, along with a pre-survey that

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Design</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1: How do educators define experiential learning?</td>
<td>Qualitative data collected from 3 focus groups</td>
<td>Coding for descriptors and themes</td>
</tr>
<tr>
<td>RQ2: To what degree are educators using experiential learning to teach safety and health?</td>
<td>Quantitative data collected from a pre-survey and qualitative data from 3 focus groups</td>
<td>Pre-survey results calculated and coding for instructional practices and themes</td>
</tr>
<tr>
<td>RQ3: What elements of the experiential learning cycle are used to teach safety and health?</td>
<td>Quantitative data collected from a pre-survey and qualitative data from three focus groups</td>
<td>Pre-survey results calculated and coding for instructional practices and themes</td>
</tr>
</tbody>
</table>
collected demographic information from participants and explored their frequency of using experiential learning practices while teaching safety and health. The participants in the focus groups included 21 applied secondary STEM educators of CTE in automotive and diesel technology, building trade technology, carpentry, cosmetology, and masonry; the educators were from various schools located within a 30-county region of an eastern U.S. state. Prior to the actual focus group sessions, human subject protocol approval was obtained from the designated higher education institution and informed consent was secured from all participants.

There were three focus groups conducted in total, which averaged five to ten participants per session. Each session was audio recorded. Additionally, the sessions contained a moderator and an assistant moderator to facilitate discussion and take notes. At the end of each focus group session, the assistant moderator verbally reviewed the notes that were taken. The participants from each focus group session were then asked if what was covered in the notes was an accurate representation of the discussion to which all participants replied affirmatively. After the member check process was complete, each focus group discussion was concluded. The audio recordings were professionally transcribed. An analysis of qualitative data employed a thorough process of reading and an in-depth review of the written and audio transcripts to illuminate the concepts and themes from which interpretations were revealed. Finally, the pre-survey results were calculated to assist in answering the research questions.
the results of the pre-survey which indicated that 95% of participants use experiential learning for safety and health instruction (see Tables 2 and 3).

Table 2. Experiential learning practices (N=20)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Yes</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>The use of experiential learning practices when teaching safety and health</td>
<td>Yes</td>
<td>19</td>
<td>95.0</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Table 3. Experiential learning practices

<table>
<thead>
<tr>
<th>Pre-Survey Questions</th>
<th>Always</th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How often do you use experiential learning practices when you teach safety and health in your CTE program? (N=21)</td>
<td>7 (33.3%)</td>
<td>6 (28.6%)</td>
<td>6 (28.6%)</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>2. Experiential learning opportunities in my program include an actual student experience while learning about safety and health (N=19)</td>
<td>7 (36.8%)</td>
<td>8 (42.2%)</td>
<td>4 (21.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>3. Experiential learning opportunities in my program include a student reflection component while learning about safety and health (N=20)</td>
<td>6 (30.0%)</td>
<td>7 (35.0%)</td>
<td>6 (30.0%)</td>
<td>1 (5.0%)</td>
</tr>
<tr>
<td>4. Experiential learning opportunities in my program include students drawing conclusions while learning about safety and health (N=20)</td>
<td>3 (15.0%)</td>
<td>12 (60.0%)</td>
<td>4 (20.0%)</td>
<td>1 (5.0%)</td>
</tr>
<tr>
<td>5. Experiential learning opportunities in my program include students using new skills or knowledge while learning about safety and health (N=20)</td>
<td>7 (35.0%)</td>
<td>8 (40.0%)</td>
<td>3 (15.0%)</td>
<td>2 (10.0%)</td>
</tr>
</tbody>
</table>

Note: Some participants did not respond to all items on the pre-survey.
RQ3: What elements of the experiential learning cycle are used to teach safety and health practices?

While this research is still in the analysis phase, the initial results revealed that certain elements of Kolb’s Experiential Learning Cycle (1984) appear to be utilized more by educators including: CE, AC, and AE. The reflective observation element of Kolb’s Experiential Learning Cycle appeared to be somewhat underutilized and, in some cases, inadvertently consolidated with the AC mode.

Conclusions, Discussion, Limitations, and Recommendations

The study explored how applied STEM educators of career and technical education define experiential learning and utilize it while teaching safety and health subjects. In response to RQ1, educators generally defined experiential learning as allowing students to acquire knowledge and skills about concepts by transferring past experiences of teachers or others to students, and setting up scenarios that mimic real world conditions to provide students training for how to deal with those situations. The results for RQ2 reveal that experiential learning practices took up more than 90% of the safety and health instruction. These initial findings aligned with the results of the pre-survey which revealed that 95% of participants reported that they use experiential learning for safety and health instruction. In response to RQ3, the reflective observation (RO) element of Kolb’s Experiential Learning Cycle (1984) appeared to be somewhat underutilized and, in some cases, inadvertently consolidated with the AC mode.

While this research is still in the analysis phase, the initial results are interesting. 95% of participants reported that they use experiential learning but appear to be utilizing RO and AC modes synonymously in their instruction, despite distinct differences within and between these modes which require deliberate instructional design and delivery interventions to promote the transfer of learning. In hindsight, the initial results from RQ1 appear to reveal that participants may not fully comprehend the RO and AC elements of the model. Being able to think and reflect is imperative when learning about safety and health hazards. Therefore, application of the AC and RO modes of Kolb’s Experiential Learning Cycle (1984) must be facilitated thoroughly to complement the remaining two elements (i.e., CE & AE). This is a serious matter as it could be the one or more items that are not addressed in the safety and health instruction that cause the greatest harm (Threeton et al., 2019).

The results of this investigation are limited because the data analysis is currently in progress and the results reported in this manuscript represent initial findings and are not generalizable. The data collection method furthermore used a self-reporting structure. Due to the sensitive nature of safety and health standards and liability concerns, the participants may not have been as transparent in their responses for fear of self-incrimination. However, given the limitation of studies on experiential learning and safety and health instruction, the study provides critical insight and sets the stage for further research on the subject. Based on the conclusions of this study, the following recommendations are made:
- Professional development opportunities should be provided to educators on the fundamentals of promoting the transfer of learning through authentic experiential learning practices.

- The study should be replicated on a larger scale within diverse STEM related CTE programs across the country.

- Given that a multitude of occupational safety and health training is delivered through a traditional classroom-based structure, future research on the topic should employ an experimental design to determine if student performance is enhanced when receiving safety and health instruction through experiential education versus a lecture-recitation procedure. ■

References


