Assurance of Learning Standards and Scaling Strategies to Enable Expansion of Experiential Learning Courses in Management Education

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"Experiential learning theory offers a fundamentally different view of the learning process from that of behavioral theories of learning…. that underlie traditional educational models." (Kolb, 1984, p. 20).

"At a practical operational level, questions persist about the extent to which institutions can deliver the flexibility, accessibility and levels of individualization which are often flagged as positive aspects of [experiential learning]" (Peach & Gamble, 2011, p.183).

"AACSB's assurance of learning mandate…presents some practical challenges for project-based courses in business schools. While [business schools] have gotten quite good at finding ways to assess compliance and completion in experiential courses, assessing learning and mastery is a trickier proposition." (Laufer, McKeen, & Jester, 2018, para 2).

 Experiential learning, project-based learning, action learning, and work integrated learning are all terms used interchangeably to describe university-based courses or programs where students engage in experiences outside the classroom to apply their knowledge and practice skills. This article focuses on the most complex type, where teams of students are matched with an external partner, sometimes referred to as a client, with a specific business challenge that the team is tasked with addressing. The work of the team generally involves scoping the problem, collecting data, synthesizing findings and providing recommendations. This type of experiential learning provides the best opportunity for management students to practice the skills sought by employers but is also the most difficult to scale.
 The theory of action learning began to emerge in the first half of the twentieth century. Reg Revans is credited with the first reference to action learning in an October 1945 report about the future of the British coal mining industry (Revans. 1982). In the report, he recommended establishing a staff college for industry managers to learn with and from each other. Since then, it has been used by and for corporations seeking to train their managers and executives by providing them with the right set of relevant experiences that could support their professional development for a greater role within the organization. It later made its way into management education curricula. A 2016 survey indicated that client-based experiential learning projects are now widely offered across MBA programs specifically, with 92% of respondents reporting use in their institutions' full time MBA programs; 70% in part time programs, and 62% in Executive MBA programs (MBA Roundtable, 2016).

While moving this methodology for learning out of the work place and into institutions of higher education has fostered an expansion of the concepts of leadership and organizational development through team-based learning, confusion remains about what does and does *not* constitute experiential learning in management education. Raelin (2009) notes that what distinguishes action learning from other experiential pedagogies is its application to real-world experiences. Revans (1982) criticized the application of the term action learning to case studies, discussion groups, outdoor adventures, and problem-solving teams because these activities did not have "real" actions in real time with real people and, therefore, learning was not critical (Marquardt & Banks, 2010). While what is meant by "real" is open for interpretation, principle number three of the National Society of Experiential Education's eight principles of good practice for experiential learning talks about *authenticity*. It states:

> The experience must have a real-world context and/or be useful and meaningful in reference to an applied setting or situation. The means that it should be designed in concert with those development.
> who will be affected by or use it, or in response to a real situation. (National Society for Experiential Learning, 1998, para.2).

The Management Education Experiential Learning Framework (Appendix) attempts to clarify some of the confusion by offering a framework for understanding the different types of experiential learning within management education. Of all the activities along the continuum, experiential, project-based learning at the far right is the most authentic, the most complex, and most difficult to scale. It most closely resembles what Revans (1982) advocates for critical learning by matching a team of students with an external partner that has a problem it wants solved. The team explores the problem, collects information, and develops results in the form of findings or recommendations to the external partner. This process provides opportunities for individual development, peer to peer development, and leadership

Importance of Experiential Learning in Management Education

The skills required for the fourth industrial revolution extend beyond technical skills and domain knowledge to collaboration skills, resilience, and critical thinking (Schwab, 2016). Higher education institutions are grappling with market pressure from both industry and potential students to focus on instrumental outcomes (Strohl, 2006) that tend to focus on these "employability skills" that are required for the fourth industrial revolution. Employability skills "are conceptualized as a set of largely practical and behavioral graduate attributes" (Lee, Foster & Snaith, 2016, p. 96). These clusters tend to include competencies and character qualities like collaboration, creativity, and resilience (World Economic Forum, 2016) that educational literature suggests are best acquired experientially (Blackwell, Bowes, Harvey, Hesketh, & Knight, 2001; Proctor, 2011; Wilton, 2011; Nenzhelele, 2014).

Workplace/Learning Environment

The environment our students face has characteristics Skule (2004) called learning intensive workplaces, where managers must be able to adapt and navigate environments that have:

1. *High degrees of exposure to changes* characterized by frequent changes in technology (products and processes) and working methods;

2. *High degrees of exposure to demands* from customers, managers, colleagues, or company affiliations with other partners or groups;
3. *Managerial responsibilities* for decision making, project management, and work group management;
4. *Extensive professional contacts* or professional forums outside the company, professional or occupational networks, trade fairs, conferences; more extensive learning contacts with customers and vendors;
5. *Access to feedback* which offer opportunities for learning from formal internal reporting systems and the direct results of the work;
6. *Support and an expectation for learning*, tacit and/or explicit; and
7. *Rewards for proficiency* that can include higher wages, bonuses, and allocation of more interesting tasks or improved career opportunities (Skule, 2004, p. 14).

The role of knowledge-based industries in the global economy is increasing. These industries have characteristics that require employees to bring experience and skills but more importantly be able to adapt and continuously learn. The industries involve:

1. *Demanding environments*, where customers, suppliers, owners, authorities, or professional communities place rigorous demands on the standards and quality of work, which stimulates learning and innovation;
2. *Intense learning requirements* affected by the degree of exposure to external pressures, how work is organized, and how managerial and other responsibilities are delegated;
3. *Post-Taylorist organizational transparency*, where boundaries expose more employees to the external environment; and
4. *Flatter hierarchies*, which produce more widely distributed managerial responsibilities and high involvement of employees in product and process development (Skule, 2004 p. 14).

Learning agility, "a mind-set and corresponding collection of practices that allow leaders to continuously develop, grow, and utilize new strategies that will equip them for the increasing complex problems they face in their organizations" is hard to measure but heavily sought after by knowledge-based industries (Flaum & Winkler, 2015).

In experiential learning courses, students practice the soft skills that employers seek. The 2016 MBA Leaders in Experiential Project-Based Education (LEPE) survey identified teamwork, communication, critical thinking, project management, leadership, and relationship management as the most common primary learning objectives of experiential learning courses at the business schools surveyed. A 2018 Graduate Management Admission Council (GMAC) survey of employers found the most sought-after skills are working with others, self-management, problem solving, flexibility, listening, and organization. However, the most difficult to find skills are critical thinking, organization, leadership, and problem solving.

Experiential learning courses create "stories" and examples for interviews and networking where students can demonstrate how they applied their skills in situations familiar to prospective employers. Because project-based learning mirrors the real-world situations students will encounter after they leave school, it can provide stronger and more relevant preparation for college and work. Students not only acquire important knowledge and skills, they also learn how to research complex issues, solve problems, develop plans, manage time, organize their work, collaborate with others, and persevere and overcome challenges, for example.

Assurance of Learning in Experiential Education

While action learning has soared in popularity among management education institutions, many activities labeled action learning involve only action (Cho & Egan, 2010; Raelin, 2009). Some argue that the focus on real world problems has detracted from the necessary emphasis on developing the systems and structures needed to ensure proper time and attention is focused on student learning (Marquardt & Banks, 2010).

The Association to Advance Collegiate Schools of Business (AACSB) introduced the concept of outcomes assessment in 1991 as a requirement for its accredited institutions, which today include 831 business institutions in 54 countries and territories, as well as 187 institutions with specialized accreditation for their accounting programs. The accreditation standards evolved as the outcomes assessment movement matured (AACSB International 2007). In 2013, AACSB adopted new Eligibility Procedures and Accreditation Standards for Business Accreditation. Standard 8 included a requirement to demonstrate that the learning goals of the degree program were being met. The emphasis on a documented process presented several practical challenges for program administrators and faculty involved in experiential learning courses. Administrators were forced to pivot from assessing compliance and completion in experiential learning courses to assessing learning and mastery.

Experiential learning courses have unique characteristics different from more traditional classroom learning (which may include lecture, cases, and in-class exercises). As shown in Figure 1, most notable is the need for assessment tools that differ from the established tools for classroom instruction. If experiential learning is better conceived of as a process rather than in terms of outcomes as Kolb (1984) suggested, then learning is difficult to assess.

	Classroom Learning	**Experiential Learning**
Learning Design	• Instructor "creates" the learning	• Process creates the learning; instructors are mentors
Complexity	• Fewer variable at play • Controlled environment	• Many variables at play • Real-world environment; less controlled
Outcomes	• More certain, easier to measure • Generally common across student population	• Less certain, difficult to measure • Vary based on individual learning goals, student role and other factors
Assessment	• Established tools accepted and generally suffice (e.g., tests, exams, papers, etc.)	• Established tools borrowed from the classroom may not be enough

Figure 1. Classroom vs. experiential leaning.

Figure 2 translates an assessment of an outcomes focused course to assessment questions for a process focused course. These questions can be asked in the context of a learning competency model where the learning is intentional and regardless of whether student directed or instructor directed, the steps are: Plan→ Do→ Reflect→ Consolidate & Integrate.

Assessment Process Steps	Experiential Learning Course Design Questions
1. Define learning goals and outcomes	1. What do we want students to learn, practice, and master in our course?
2. Align curriculum with goals	2. How will they learn it?
3. Identify and utilize instruments and assessment measures	3. How will we know they have learned it?
4. Collect, analyze, and disseminate assessment data	4. Who should know about what students have learned?
5. Use assessment data to improve teaching, learning and student experience	5. What will we do if they have not learned it?

Figure 2. Mapping assessment process to experiential learning course design questions.

In the context of management education, LEPE, a professional networking group of experiential learning scholars and practitioners from business schools across the U.S. has summarized the most common learning competencies outlined in experiential learning course syllabi:

- An ability to manage multiple and complex challenges and make reasoned decisions in unfamiliar situations
- An ability to adapt to a new or uncertain environment and exercise leadership
- An ability to think critically and creatively
- An ability to adopt a holistic approach to problem solving
- An ability to work collaboratively and productively on a team
- An ability to identify personal strengths and address weaknesses through reflection

A common observation of experiential learning courses is that the competencies listed in the syllabus are what a student could experience in the course, but since each project is different and six or more is too many for one course, failure to apply the learning competency model on a subset of competencies would be suboptimal.

LEPE has established a set of six learning standards that represent the most prevalent assurance of learning trends among participating business schools. The six standards are as follows:

- Tailor learning outcomes to the individual
- Create opportunities for reflection
- Provide feedback early and often to teams and individuals
- Acknowledge and incorporate the role of emotions
- Evaluate student learning in three domains: cognitive, affective, and behavioral
- Close the loop

These standards are being implemented across the 30 LEPE schools. It is instructive to consider the six standards by phase of experiential learning project, as portrayed in Figure 3. Observing the standards in their "natural state" has helped schools identify and manage where resources and attention are needed.
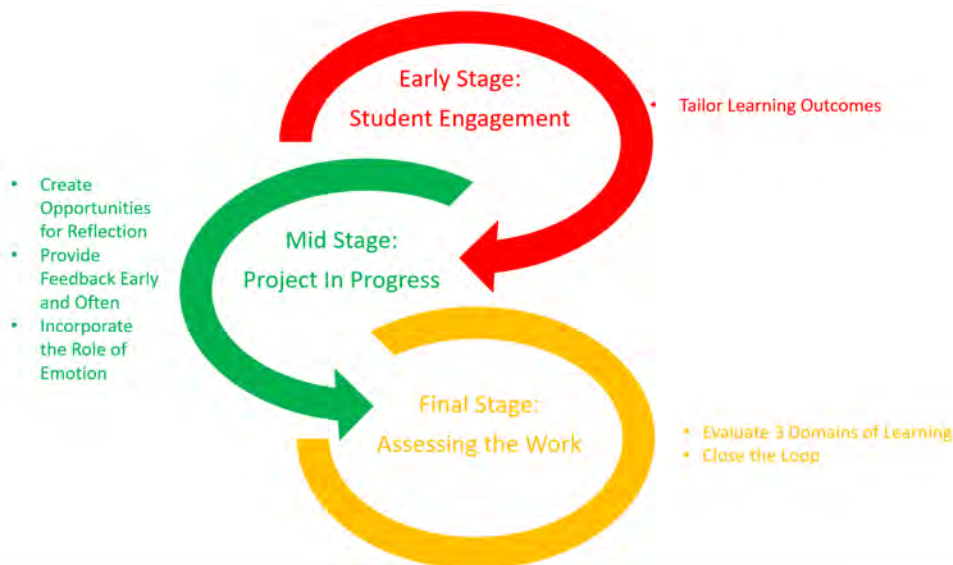

Figure 3. Experiential learning, assurance of learning standards across project stages.

Tailor Learning Outcomes to the Individual

Determining what a student should learn from an experiential learning course should be a two-part process, with a clear set of learning objectives set by the program for all participants, plus at least two goals set by each individual student and communicated to the program and the rest of the project team at the outset. Drawing from Knowles' four principles of adult learning (1984), the types of goals that students set should be ones that are meaningful and align with their personal and professional goals for the course. Eighty percent of programs surveyed by LEPE specified learning objectives in the course description; however, less than 25% of programs reported requiring students to prioritize and commit to personalized objectives (McKeen, Laufer, & Jester, 2017; McKeen, Laufer, & Jester, 2018). With most programs listing more than 10 learning objectives for their project-based courses, unless a student is intentional about setting personal objectives, the learning will be suboptimal and serendipitous.

Success comes from making the attention to the personalized learning objectives real and not perfunctory. The objectives should be linked to other parts of the degree program. Individual learning objectives can be found in personal development plans utilized by many schools as part of a leadership program or career readiness planning. Students in experiential learning courses are encouraged to map the possible learning objectives outlined in the syllabus to their personal development plans to find the two on which they most want to focus. The objectives chosen should remain front and center for the duration of the program and revisited frequently. Feedback and reflection are most valuable if the individual objectives are included in both.   Sharing objectives with team members and faculty is crucial and technology can be used to tailor feedback forms to the objectives identified by each student. Limited resources was the most common response (33%) to a LEPE question about the challenges of implementing individualized learning outcomes.

Provide Feedback Early and Often to Teams and Individuals

One of the most critical factors for achieving powerful learning outcomes from experiential-learning programs is the inclusion of opportunities for feedback (Eyler, 2009). Feedback goes hand in hand with reflection. Offering students an objective evaluation of their performance from multiple sources (peers, faculty advisors, and clients) provides a richness of information on which to reflect. Feedback should be offered individually and at the team level. It should be specific and relevant and should be offered early enough for the recipients to change course if concerns are surfaced. This allows a team and its members to self-assess and adapt their behaviors and processes to achieve better outcomes for the client and to solidify learning.

A 2017 LEPE school survey indicated that the importance of feedback is widely acknowledged in project-based experiential learning courses across management education programs (McKeen et al., 2017). Four fundamentals appear to be in place on a large scale among schools that report implementing the standard well:

1. Having a clear infrastructure and process in place for providing feedback to students
2. Feedback is timely and relevant, and it is delivered throughout the project experience
3. Feedback is provided not only to teams as a whole, but also to individuals
4. Technology is effectively used to gather and deliver feedback efficiently, and on a large scale

Of all the assurance of learning standards presented in this section, feedback is the standard that LEPE schools report they are able to implement most effectively relative to other standards (McKeen et al., 2018). While this is encouraging and provides a strong foundation on which to innovate and improve, we should not let it mask areas where further improvement is needed. For example, while 84% of courses reported providing mid-course feedback, only 64% provide individual feedback and only 48% tie individual feedback to individual goals. This indicates that there is much more work to be done to provide students participating in project-based experiential learning the kind of feedback necessary to facilitate deep learning.

Create Opportunities for Reflection

Reflection must be a key component to students' experiential, project-based learning work. Education scholars understand that there can be no learning without reflection. Seventy percent of schools surveyed by LEPE reported having an individual reflection assignment of some kind. Common examples include final reflection papers, a 360-degree instrument for peer and/or self-assessment, team and/or individual debrief sessions, or some combination of these. While any exercise where students are asked to reflect on their experience will improve learning outcomes, the nature and quality of the reflection also matters.

The ability to reflect on practices is a prerequisite to learning from experience. Reflective practice focuses on the recording and subsequent review of accounts of episodes from the course. This is not a trivial undertaking. It begins with a consideration of how experiences are to be noticed in the first place. Without first registering an experience as notable, subsequent reflection is going to be fruitless (Mason, 2002). Reflection worthy moments are personalized and can be experienced during client interaction, team interaction, self-regulation, data collection, data analysis, formulating findings, or presenting results. Registering an experience is specifically addressed conceptually in terms of sensitization, awareness, and noticing (Marton & Booth, 1997). The strategies that enable learning how to experience are explicit and can be learned.

Too frequently, reflection in project-based courses tends to focus on team results and client satisfaction at the expense of individual learning. Course learning outcomes can be assessed with a specific 360-degree instrument that focuses on those that are the same for all, and individual learning outcomes can be assessed through a required reflection assignment written by the student and assessed critically by a faculty coach or mentor. All course directors and faculty coaches/mentors must also be better trained to design and facilitate reflection exercises. Students also need specific skills if they are to make the most of their experiential learning course.

Reflection should be emphasized throughout the phases of a project in experiential learning courses. Waiting until the end of a three to six month project for reflection misses learning opportunities at the beginning of the project and can be clouded by the emotions experienced when a project is complete. Reflection and feedback need to be intertwined. Without the benefit of feedback blind spots can go unobserved or even reinforced through reflection. Most LEPE schools require reflection on the part of students but few require reflection by teams. Facilitated team reflection intertwines feedback and reflection.

Evaluate in Three Domains: Cognitive, Affective, and Behavioral

Experiential learning programs can better assess student engagement by broadening the scope of how students are evaluated. One definition of experiential learning includes the idea that "experiential learning exists when a personally responsible participant cognitively, affectively and behaviorally processes knowledge, skill and /or attitudes in a learning situation characterized by a high level of active involvement" (Hoover & Whitehead, 1975, p. 25). Experiential learning not only draws from the cognitive learning emphasized by management education but also stresses the learning of behaviors and attitudes. By including an assessment of cognitive, affective, and behavioral domains, faculty and administrators can advance and deepen the learning experience of students, while also providing insights as to skills and capabilities necessary for problem solving in a dynamic global environment.

Faculty and administrators see evaluation in the three domains as providing an opportunity for a more holistic and comprehensive view of their students. In addition, they believe it can help move students across the learning continuum and provide greater programmatic insight by allowing for a longitudinal perspective of their experiential programs and its overall impact (McKeen et al., 2017). However, concerns about evaluating the domains include:

- Constrained or limited resources dedicated to doing this type of evaluation;
- Student resistance to engage in a multilayered process of evaluation;
- The ability to provide adequate instruction to faculty and administrative staff in order them to be effective;
- Developing objective tools to measure effectiveness; and
- Challenges in capturing learning, given the dynamic nature of experiential learning.

A review of the ways in which school faculty and administrators were assessing their students suggests that many may already assess students across the three domains, although they have not necessarily connected them. For example, under the core domain of cognitive (linked to understanding information and the evolution of that learning) assessment types were categorized to include written reports, presentation content, and recommendations. Through the behavioral domain (which links to performance and the practical application of learning), presentations, client engagement and interaction as well as team engagement and interaction were identified as the types of behaviors as-

sessed in this domain. Finally, under the domain of affective (linked to motivation and the willingness to contribute, empathy, and how concern and listening are expressed), class participation, reflection papers, and student self-reporting were included. While these represent examples, they do illustrate the accessibility of the domains and how a more holistic approach to evaluation might work within an experiential learning program.

Examining student performance across the cognitive, affective, and behavioral domains align with the soft skills many employers seek. Domain performance could be linked to learning objectives and captured within the types of deliverables that are already part of most experiential learning programs. The domains are also closely aligned with the other five standards noted in this article, as they provide:

- A framework for broadening student learning outcomes to specifically address the types of knowledge, attitudes and behaviors that companies want;
- A means of assessing and helping to advance students' reflective practice;
- An additional lens through which individualized feedback can be given;
- A method for helping students and the faculty and administrator that support them incorporate the role emotion and pull meaningful lessons and insights; and
- A more robust understanding of the impact of the course or program design, as faculty and administrators seek to "close the loop," highlighting what has worked and areas for individual and team, and thus course level, improvement.

Experiential learning is an iterative process with multiple feedback loops for learning. The multidisciplinary aspect of this type of learning engagement necessitates evaluating team and individual effectiveness across several different areas, which can be done through an evaluation using the three domains.

Acknowledge and Incorporate the Role of Emotions

While management education administrators seem to intuitively understand the ways in which emotion plays a role in student learning, it is not intentionally utilized as a vehicle for insight and learning. For example, while administrators might anticipate a wide range of feelings among students including fear, anger, frustration, euphoria, and excitement, they do not look for ways to intentionally mine and incorporate these emotions into individual, team, and class learnings. Unlike traditional course lectures, experiential learning courses are, by the nature of their design, ambiguous. The pervasiveness of ambiguity can lend itself to tension and frustration, as teams are subject to working with incomplete information; forced to satisfy multiple stakeholders whose interest may not be aligned; working with peers who may have vastly different expectations or agendas; and working with companies and/or teammates whose culture and ways of working may be foreign. Having to function in new and different environments and differing views on how to proceed with the team's work all can lead to conflict. These events can lead to frustration, anger, and resentment, generating what Mezirow (1990) calls a "disorienting dilemma," where an individual's frame of reference or way of thinking is fundamentally challenged. Left unaddressed, negative emotions can become a barrier to and a distortion of individual learning by narrowing the field of further experience, becoming an obstacle to team success.

In their neuroscience and education research, Immordino-Yang and Damasio (2007) noted that advances in neuroscience show the connections between emotion, social functioning, and decision-making. The cognition that is most heavily utilized in school—learning, attention, memory, de-

cision making, and social functioning—is linked to emotion. However, during the most recent survey of LEPE participants (2018), fewer than five schools identified an intentional incorporation of emotion into their assessment process, despite recognizing its importance.

However, research (Immordino-Yang, 2018; Immordino-Yang & Damasio, 2007) and the experience of LEPE schools that incorporate emotion suggests that when acknowledged and incorporated into a team's process, emotions can catalyze learning, leading to a shift in mindsets and beliefs. Furthermore, faculty and administrators who utilize emotion as part of student learning, tend to recognize and use situations where students exhibit negative emotions, but neglect to fully mine the learnings that emerge from strong positive emotions. As Brown (2000) notes, the experience gained from action is largely embedded in emotions, both positive and negative. The engagement in action and the resulting emotions are an important catalyst for learning.

Faculty and administrators have identified several challenges in attempting to incorporate emotion into the student learning process. First is the constraint of scale: "how will we actually get this done" when the intensity of experiential learning makes attending to emotion, on top of the other issues that must be addressed, feel burdensome. In addition, administrators note that many students, faculty and administrators lack the expertise or experience to manage emotion; it lies far beyond their traditional roles as well as their own comfort zone. Administrators also recognize the reluctance their students might have in attending to this issue as it may call for them to expose their or their classmates' weaknesses. Students may be reluctant to use tools such as team charters (meant to assist students in developing work agreements) or peer feedback surveys (used as evaluation tools) if there is concern about its impact on the final evaluation of the individual and/or the team.

Nevertheless, while administrators and faculty both recognize the necessity of incorporating emotion and are interested in determining how best to do this, the 2017 and 2018 LEPE surveys suggest that schools may look to couple emotion with other tools already in place. For example, pairing learning from emotion with other assessment measures such as the Global Mindset Inventory (Schmieder-Ramirez, 2015), which links individual reflection and learning or using program alumni to normalize the events of experiential learning projects. Feedback mechanisms and coaching that recognize emotions and encourage teams to verbalize them can help de-escalate conflict, minimize future occurrences, and create entirely new paradigms for understanding team dynamics and one's own role in shaping them.

Buchanan (2007), noting the relationship between emotions and memory retrieval, concluded that events categorized as emotional are more easily and intensely memorable and retrievable than events without an emotional component. Acknowledging and incorporating emotion is believed to be very important part of the learning process. Identifying it as part of an assurance of learning best practice, will help further drive intentionality in incorporating this standard.

Close the Loop

Closing the loop is about acting to improve student learning. It represents one of the greatest opportunities to learn from experiences and translate that learning into course improvements, yet it does not happen nearly enough. However, a lack of understanding of what closing the loop means, coupled with limited expertise within management education institutions on how to do it, are chief barriers to implementing this standard. Rexeison and Garrison (2013) presented three issues dominating future assurance of learning challenges in management education program: 1) faculty ownership of the process, 2) closing the loop, and 3) resource constraints. It is, therefore, not surprising that while eighty-four percent of programs surveyed reported that they regularly collect as-

sessment data on how to improve teaching, learning, and the student experience, only 56% reported using that data to make changes to the program (McKeen et al., 2017).

According to Martell (Davidson, 2015, para. 4), "The most significant problem related to assurance of learning is not measurement; it is how to use the data to improve student learning." This suggests both an overemphasis on data collection versus making sense of the data, as well as on changing assessment tools versus changing the curriculum or the delivery method. Inclusion of closing the loop in these standards is both practical and aspirational. It underscores the responsibility of project-based experiential learning course directors to implement more formal closing the loop processes that contribute to broader program-level assurance of learning activities.

For those looking to create or improve existing closing the loop processes, the following set of questions, adapted from Rexeison and Garrison (2013), can provide a helpful roadmap:

1. How do you identify student learning weaknesses?
2. How do you generate ideas for course interventions/changes? Is it through outside or internal experts? Is it through literature? Is it in committee?
3. How do you evaluate ideas generated and decide on interventions?
4. Where do faculty advisors or coaches (and others) fit into this process? What is their role?
5. Are your closing the loop processes addressing identified weaknesses? How do you know?

To be successful, closing the loop involves assigning clear and specific accountability for assurance of learning in experiential courses and considering the longitudinal benefits of the learning from these courses.

Scaling Experiential Education Courses

Despite the benefits to learning outcomes of experiential learning courses, there are obstacles to spreading and scaling them. The approach places greater demands on university staff and faculty. Most commonly cited challenges are sourcing new projects each semester, developing tools to evaluate and assure learning outcomes are achieved, and monitoring team and individual team member progress. As the demand and benefits of experiential learning courses grow, administrators do not have enough resources (e.g., time, funds or skills) to successfully execute these popular programs.

Experiential learning courses ready students for the ambiguity and complexity of problems they will face in the work force. However, experiential learning courses—project-based, collaborative, and real-world oriented—differ significantly from classroom based, individualized learning (Sachs et al., 2016). Sourcing projects, forming teams, matching teams to projects and advising, mentoring and evaluating students is more intensive than traditional classroom courses. The effective integration of practice-based experience into the formal study program present major challenges for curriculum design and resourcing (Peach & Gamble, 2011). In experiential learning courses, different students are at different organizations doing different things on different projects at different points of time.

Experiential learning "requires considerable knowledge, effort, persistence, and self-regulation on the part of students; they need to devise plans, gather information, evaluate both the findings and their approach, and generate and revise artifacts" (Blumenfeld et al, 1991, p. 393). The ambiguity and uncertainty imposed on the students by these requirements can be challenging but are also where the most intense learning happens. When circumstances require students to go beyond reciting a theory and apply what they have learned in an uncharted situation, the emotional stakes

are high are but the process of application and real time feedback from clients or teammates reinforces the lessons. Teams and students require more individual attention from faculty through the uncertainty and ambiguity. The added faculty time can be expensive for programs.

Business school staff and faculty purse multiple strategies to offset the additional resources necessary to deliver experiential learning courses. Sixty-one percent of surveyed schools (McKeen et al., 2017) charge external partners a fee for hosting a student team and twenty-one percent solicit donations to offset the cost of delivery. Most schools surveyed have a faculty member of record responsible for the experiential learning course, but they use a mixture of professional staff, adjunct faculty, alumni executives, and tenured faculty to advise and monitor the student teams. Administering alternative funding sources and coordinating faculty advisors is an additional resource intensive task.

One of the biggest challenges reported by experiential learning staff and faculty is sourcing quality projects for the students. Experiential learning requires a constant stream of projects from organizations external to the educational institution with which students can apply the tools they are learning. Collaboration among staff, faculty, alumni relations, and advancement staff can be effective in identifying and retaining corporate partners. Experiential learning courses provide engagement opportunities for corporate partners and alumni. Frequently the engagement opportunity can lead to additional engagement such as graduate hiring, philanthropy, or sponsored research. The potential benefits from deeper external engagement are shared across different school units providing incentive for staff in other school units to collaborate in sourcing projects. This collaboration can be hindered by lack of a customer relationship management (CRM) tool at the school or different CRMs used by different school units.

In the past, researchers and educators studying group-based learning have primarily used qualitative methods that focus on retrospective, historical assessments that do not easily scale (Oh, Labianca & Chung, 2006). Learning analytics, a new area enabled by advances in data science focuses on the measurement, collection, analysis, and reporting of data about learners and their contexts for the purposes of understanding and optimizing learning and the environments in which it occurs. This emerging field provides tools and techniques for quantifying what has historically been a qualitative experience. These advances provide for data collection, tracking of individuals, and team sense making from qualitative observations and reporting. Identification and personalization of feedback delivered during an experiential learning project will improve the learning. Learning analytics that better predict learning outcomes and identify when students need support provide an efficiency gain. Analytics will allow faculty advisors to more efficiently allocate their time. Example data collection tools can be pulse checks delivered via mobile phone apps and reflection tools. Data and sentiment analysis can identify team conflict or client dissatisfaction for example more quickly than traditional methods.

Conclusion

Over the past 25 years, experiential learning has moved from the fringes into the mainstream of management education curricula. Employers want students with experiences in skills that predict career success, and students expect to practice these skills in business school through authentic, team-based projects. As a result, expectations of experiential learning professionals are higher. They are expected to source enough of the right kind of projects to satisfy high student demand for this type of learning experience. The projects must appeal to students *and* deliver value to clients. Students must also learn something from the experience, and a set of objective measures must demon-

strate that learning. Overlaying all of this is the ongoing struggle to do this work efficiently and to find ways to keep the high costs of executing experiential learning courses under control.

   This article discussed two obstacles to the ongoing growth of experiential learning in management education curricula and offered some solutions. The first is assurance of learning, or the ability to demonstrate that students are learning what program faculty and staff intend. The second pertains to the question of how to scale experiential learning given its highly-customized nature. Six assurance of learning standards for project-based experiential learning courses were identified that are both grounded in research and validated by a community of experienced practitioners. These standards offer some useful guidelines for institutions to help build, evaluate, and/or improve upon their assurance of learning processes. The challenge of scaling experiential learning courses to serve larger student populations while not diluting the quality of the experience was also discussed. The issue of scale can be addressed, at least in part, through greater integration of school functions and increased collaboration. A higher level of engagement among corporate partners, alumni, and students also provides benefits beyond learning, such as improved alumni and corporate relations functions. And, the resource-intensive nature of experiential learning courses can be further managed by leveraging technology more effectively, including through CRMs and learning analytics platforms.

   Moving forward, experiential learning professionals in management education must find creative ways to solve both the assurance of learning and scalability challenges to demonstrate that this pedagogy delivers on its learning objectives and deserves a central place in the management education curriculum of the future.

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Appendix

Management Education Experiential Learning Framework

Program/ Learning Design	Role play, single iteration simulation, single class or whole day session hands-on activity	Multi-session hands-on class activity or simulation; study tours	Project-based action learning
	Highly facilitated; contained within course boundaries. Inputs clear; outcomes known/expected/anticipated	Highly facilitated; usually contained within course boundaries; inputs clear/known/expected; outcomes known/expected/anticipated	Limited facilitation, heavy reliance on self-directed learning. Intentional activity design for inside and outside course boundaries but contained within academic calendar. Use external real-world business challenge to synthesize and advance learning; inputs and outputs vary; broad higher-level learning anticipated; specific outcomes for students individualized and uncertain, exceeding identified learning objectives; uncertainty creates some risk for students and program
Learning Objectives: **1. Overarching across all related MBA activities/ programs** **2. Learning objectives by framework type**	Overarching learning objectives for all experiential learning programs are: • An ability to manage multiple and complex challenges and make reasoned decisions using a holistic approach to problem solving • An ability to understand and analyze organizations, their context and their management to apply relevant knowledge • An ability to articulate business risk and assess the impact of decisions, behaviors and other relevant factors • An ability to effectively communicate ideas and arguments • An ability to effectively and productively collaborate as a team member and/or team leader		
	Learning objectives by framework type:		
	• Enhance technical and functional skills through double	• Enhance technical and functional skills through double loop learning processes • Experience and draw insights	• Adapt to a new or uncertain environment • Identify leadership strengths and address personal challenges through reflection • Assess and interpret important relationships across business

	loop learning processes	from a new or uncertain environment • Develop personal learning goals through self-directed learning events/activities	disciplines • Conduct research into business and management issues, synthesize data and information and make recommendations • Identify, interpret and evaluate ethical and legal considerations in decision making • Recognize opportunities and challenges presented by business, regional and global context
Size/scope of activity	Small (can be individual)	Medium to large	Varies; medium to large but must be done in teams (team size approximately 4-6)
Specificity of learning	Targeted learning; specific domain or functional skill development	Topical or broad learning; specific domain or functional skill development; some knowledge integration	Broader learning agenda; development varies; high knowledge integration
Duration of experiential learning cycle	1-2 classes	Several days to a few weeks	Between one-half semester to one whole academic year
Frequency- # of student opportunities for this type of engagement/ activity (due of time/attention demand)	High	Moderate	Low; infrequent
Types of learning involved	Formal, informal, incidental; peer learning varies (experience may be individual or group); some guid-	Formal, informal, incidental, small group; some self-directed; peer learning varies (may be individual or group; relatively short teammate engagement); some guided reflective learning	Formal, informal, incidental, self-directed, transformational; small group, peer group; coaching or facilitated instruction as scaffolding for learning; self-reflection; guided reflection/multiple iterations as a key learning method

	ed reflective learn-ing		
Pedagogy	Experiential; prob-lem-based learning	Experiential; problem-based learning	Experiential; action learning; project-based learning; problem-based learning