**Imagining SoTL**
**Selections from the Banff Symposium**

# Designing Effective Experiential Curriculum: The Experiential Learning Map

Maya Saggar, John McArdle, Alice de Koning et Anjali Choudhary

Volume 3, numéro 2, 2023

A Decade On

URI : https://id.erudit.org/iderudit/1109358ar
DOI : https://doi.org/10.29173/isotl693

Aller au sommaire du numéro

Éditeur(s)

Mount Royal University Library in partnership with University of Alberta Library

ISSN

2563-8289 (numérique)

Découvrir la revue

Citer cet article

Saggar, M., McArdle, J., de Koning, A. & Choudhary, A. (2023). Designing Effective Experiential Curriculum: The Experiential Learning Map. *Imagining SoTL*, *3*(2), 40–63. https://doi.org/10.29173/isotl693

Résumé de l'article

Designing experiential student exercises or course modules can be a daunting task for faculty members. Often, not knowing where to begin is a barrier that causes instructors to avoid developing meaningful, high-impact student exercises grounded in experience. Yet, we know that these can be incredibly powerful and transformative pedagogies. The Experiential Learning Map (ELM) is a curricular planning tool that instructors, learning consultants, or students can use to storyboard and develop an experiential lesson. Modelled after best practices in business model ideation, and informed by research about experiential learning, the ELM provides instructors with an easy-to-use curriculum planning tool. The ELM is designed to be flexible. Instructors can scale the pedagogy from a single-class interaction to a multi-session pedagogical arc. The ELM's value is that it provides instructors with a simple, iterative planning tool that can be used to scope and scale a learning experience.



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# Designing Effective Experiential Curriculum: The Experiential Learning Map

Maya Saggar, University of Calgary, Canada
John McArdle, Salem State University, USA
Alice de Koning, University of Calgary, Canada
Anjali Choudhary, University of Calgary

## ABSTRACT

Designing experiential student exercises or course modules can be daunting for faculty members. Often, not knowing where to begin is a barrier that causes instructors to avoid developing meaningful, high-impact student exercises grounded in experience. However, these can be incredibly powerful and transformative pedagogies. The Experiential Learning Map (ELM) is a curricular planning tool that instructors, learning consultants, or students can use to storyboard and develop an experiential lesson. Modelled after the business model canvas (Osterwalder & Pigneur, 2010), which supports a cooperative design process for project teams informed by research about experiential learning, the ELM provides instructors with an easy-to-use curriculum planning tool. The designers intended the ELM to be flexible. Instructors can scale the pedagogy from a single-class interaction to a multi-session pedagogical arc. Instructors may find the ELM provides a simple, iterative planning tool that they can use to scope and scale a learning experience.

*Keywords:* SoTL, experiential learning, professional development, instructional design

DOI: https://doi.org/10.29173/isotl693

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*ISSN 2563-8289*

The Experiential Learning Map (ELM) is a holistic learning-experience planning tool that streamlines the design and implementation process of experiential learning across disciplines. Grounded in current experiential learning and curriculum practices, the ELM supports the development of high-quality learning experiences across various experiential learning methods. The ELM reflects the eight experiential educational principles of good practice: intention, preparedness and planning, authenticity, reflection, orientation and training, monitoring and continuous improvement, assessment and evaluation, and acknowledgment. First developed by the National Society for Experiential Education (1998), these principles have helped shape research in experiential education for the past 25 years and are hallmarks of good curricular design practice (Thomason et al., 2022; Butler et al., 2019). We developed the ELM in this tradition and also offer the added value of providing an easily accessible method and tool for designers of learning experiences to create those experiences with intention, iteration, and the flexibility to align these practices within their unique course and institutional contexts.

The ELM enables participants with different experience levels and perspectives to develop effective experiential learning opportunities rich with intention. Recognizing that "learning experiences have to be by design, not by accident" (Roberts, 2018, p. 56), the tool offers a streamlined process for individuals or diverse groups to design modules, courses, and programs at the institutional or cross-institutional level. The ELM can be used to create a module, course, program, or an institutional or cross-institutional experience. Its single-page design ensures the ELM can be easily presented as a worksheet or poster, or shared and viewed digitally. It can create a space for collaboration with instructors, students, staff, community partners, and others. By engaging diverse populations in the planning process, the ELM allows for a mindful and inclusive experience design process (Beames et al., 2012).

We designed the ELM as a team of four cross-disciplinary researchers, including two faculty members (business), a graduate student (education), and an undergraduate student (social science). With over 30 years of combined teaching experience using experiential learning methods, we identified a need for a tool that supported experiential learning design. Drawing from our diverse experiences across K-12 and post-secondary teaching environments, we recognized an opportunity to create a tool that reflects the numerous decisions and considerations necessary for successfully planning and implementing an experiential learning opportunity.

We have organized this paper in the following manner. First, we provide background and context for experiential learning and barriers to adoption, as well as the inspiration for the design and application of the ELM. Then we discuss specific critical elements in the design of experiential learning opportunities. Next, we describe the experiential learning map and demonstrate how to use it to structure

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*ISSN 2563-8289*

experiences in a way that considers all critical elements of experiential learning and curriculum design practices. Finally, we conclude the paper with a discussion that includes key takeaways and opportunities with and for the ELM as a tool for streamlined, intentional learning-experience design.

## BACKGROUND AND CONTEXT

Experiential learning is a field of education that encapsulates the methods, philosophies, and activities that utilize the power of experience in the educational process (Roberts, 2012). Experiential learning engages students in high-impact practices (Kuh, 2008), providing meaningful opportunities to develop their mindset, competencies, and skills. Grounding abstract concepts in intentionally designed experiences and providing space and structure for reflection allows students to engage in sensemaking and knowledge-building, leading to improved cognition, understanding, and knowledge (Dewey, 1938). These transformational learning experiences vary in their approach. They may include service learning, internships, practicums, and cooperative education (Lim & Bloomquist, 2015), live-action role play (Lacanienta, 2022), simulation (Hertel & Millis, 2011), play-based learning (Piscitelli & Penfold, 2015), community-based learning (Beard, 2010), field trips, or laboratory instruction (Wright, 2000). Whatever the approach, the common thread among these learning experiences is that the opportunity allows students to "create knowledge from experience rather than just from received instruction" (Bergsteiner et al., 2010, p. 30).

By offering students the opportunity to bridge practical experience and theoretical knowledge, students are better equipped to recognize the connection between academic theory and its application in practice (Kolb, 2014; Radovic et al., 2022). These approaches allow students to construct and apply curricular knowledge, encode it within their contexts, and generalize and recontextualize it to apply in other settings (Radovic et al., 2022).

Experiential learning approaches can be powerful catalysts for student development, enhancing both their academic knowledge and personal development. Experiential learning contributes to students becoming more thoughtful, reflective, and critical (Roberts, 2018). Additionally, students generally develop greater motivation, a heightened awareness of their learning, and improved self-awareness and communication abilities (Radovic et al., 2022). These approaches also enhance the quality and effectiveness of students' creativity, problem-solving, and critical-thinking skills (Uyen et al., 2022).

There is broad consensus that integrating experiential activities improves students' academic and cultural climate, leading to positive learning environments and outcomes (Uyen et al., 2022). This understanding has led to institutions across Canada developing policies to implement university-wide experiential learning

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initiatives (Falconer & MacDonald, 2020).

### *Barriers to Adopting Experiential Learning*

Although experiential learning offers many benefits, educators must consider various barriers when designing and implementing these pedagogical approaches. The first barrier is the need for instructors to have great knowledge and fluency in developing and implementing an experiential learning experience. Designing learning experiences without the necessary foundational knowledge often fails to meet students' expectations, negatively impacting student engagement and hampering their learning (Hunter-Jones, 2012). On the other hand, when instructors possess the tools and knowledge to design the content, the experience, the learning activities, and the reflection, they can better create experiences that hold significant potential for academic and personal growth for students (Reeves et al., 2005; Radovic et al., 2022).

Uyen et al. (2022) point out that, historically, educators have regarded experiential learning as ancillary and have primarily employed it in professional programs, where a more natural compatibility exists between learning content and experiential learning pedagogy. The lack of experiential learning in theory-based courses has only further pushed the ideology that experiential learning is linked to employability, which limits the perceived outcomes of experiential learning (Tiessen, 2018).

Barriers to implementation may also be related to the course participants and the institution. Regarding student barriers, experiential learning can be challenging for students to embrace due to its shift from the norm of teaching techniques. Students may require additional time to navigate the experience and adapt their behaviours and practices to be more comfortable with these approaches (Matthews, 2013). Additionally, the number of students enrolled in the course, the amount and type of participation, and the students' and instructor's cultural backgrounds may influence the student experience (Cranton, 2011; Tong et al., 2020). Institutional barriers such as time constraints, course structure, and curricular context can affect instructors' abilities to implement experiential pedagogies as well as the likelihood that they will incorporate experiential approaches.

### *Using Design Tools to Overcome Barriers to Adoption*

The popular Business Model Canvas (Osterwalder & Pigneur, 2010) inspired the ELM. The designers of the Business Model Canvas (BMC) aimed to provide a simple, relevant, and intuitively understandable method for creating, modifying, and identifying a business model's foundational elements without oversimplifying each element's complexities (Osterwalder & Pigneur, 2010). Like the BMC, the ELM breaks down into key elements to assist the user in navigating a planning and

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analysis process. However, in the case of the ELM, the planning and analysis is in relation to the learning-experience design process rather than a business model.

The BMC gained popularity due to its ability to encourage "entrepreneurs to consider each of the elements of the business individually and as a whole and to undertake an exercise of constant reflection, which stimulates creativity and innovation" (Sparviero, 2019, p. 237). This structure, mimicked in the ELM, promotes a shared language amongst a team, as well as brainstorming and collaboration through a structure for developing ideas and innovation (Stenn, 2017).

We are not the first to be inspired by the BMC and use the concept of a canvas in a different context. Michelle Carter and Chris Carter (2020) generated the Creative Business Model Template, Sergio Sparviero (2019) the Socially Oriented Business Model Canvas, and Giourka et al. (2019) the Smart City Business Model Canvas. In each scenario, the designers saw the value of using a canvas within their context. We have done that with the ELM, providing a tool to facilitate the thoughtful, intentional design of experiential learning.

## CRITICAL ELEMENTS OF EXPERIENTIAL LEARNING DESIGN

Effectively planning and implementing experiential pedagogies requires that instructors consider several important lesson elements. The following section will deconstruct each element of the ELM individually and describe its justification as a critical element of the experiential learning design process.

### *Learning Objectives*

Learning objectives refer to the skills, knowledge, and understanding (Monteiro & Sibbald, 2020) and the higher-order thinking skills, metacognitive skills, attitudes, and values (Reigeluth & Carr-Chellman, 2009) participants gain from a learning experience.

To achieve improved student outcomes, explicit alignment must be present between the learning objectives and the learning experience (Beames et al., 2012). The curricular validation ensures that the experiences being created for students are not perceived as tangential approaches to teaching (Smith & Sobel, 2010, pp. 17–18) but, instead, are recognized as alternative approaches to meeting standards and requirements in ways that engage students in meaningful experiences (Smith & Sobel, 2010, p. 16). Focusing on learning objectives ensures that students develop higher-level thinking skills and critically engage with course material, which leads to more substantial learning outcomes.

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### *Time Considerations*

Educators constantly work within time constraints. An instructor may have only an hour available to facilitate an experiential learning activity or may be less constrained with multiple three-hour classes available for prolonged activity. Whatever the case, it is essential to consider how long the instructor has to implement an experiential learning activity.

Another essential time consideration revolves around the extensive amount of time planning and implementing an experiential learning opportunity can take for the educator (Falconer & MacDonald, 2020). Educators may need to invest additional time in building and maintaining relationships with identified stakeholders, securing funding, scheduling site visits, corresponding with involved parties, arranging transportation for a large group, and handling other tasks. Investing time in these activities, along with the essential time needed to address all practical considerations, can influence the implementation timeline of an experiential learning activity. As a result, educators must take these factors into account during the initial planning stages of a learning experience.

### *Prerequisite Knowledge*

While typically experiential learning is seen as an opportunity to embed learning in authentic contexts (Matthews, 2013), it is vital to consider the prerequisite knowledge that students may need to be successful in the learning experience. This may be a prerequisite course, attendance at a previous lecture, or a required reading, activity, or other forms of knowledge disbursement. By considering the prerequisite knowledge students need, the instructor can ensure that this information is sufficiently conveyed in the course outline and then appropriately taught or shared in advance of the experience.

### *The Learning Space*

The learning space is an evolution from the common term, classroom. This language change reflects the greater flexibility of people, knowledge, material, and artifacts commonly seen in a learning environment (Beard & Wilson, 2013). Learning spaces refer to the broad range of places in which learning occurs, ranging from "outdoor and indoor, real or virtual, social or more than human, natural or artificial, private or public, formal and informal" (Beard & Wilson, 2013, p. 93). Regardless of where the learning space is, the place and the people within bring distinct characteristics that shape the interactions, relationships, and outcomes of learning within a particular environment (McArdle & de Koning, 2022).

Experiential learning encourages educators to prioritize the function of a space in relation to the learning objectives, learning activities, and the overall experience

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they intend to deliver. Experiential learning is increasingly moving out of the classroom and into community spaces (Beard & Wilson, 2013), allowing students to construct, observe, and apply instructional material in a real-world context (Cheng, 2022).

With knowledge situated in context, the emphasis on time and place is critical (Morris, 2020). The decision of where the learning will occur is crucial to the design process for experiential learning opportunities.

### *Stakeholders*[1]

Stakeholders include any individual or group outside the typical personnel who would be involved in, need to be informed of, or be affected by the experiential learning opportunity. Depending on the learning experience the instructor plans to create, the type and number of stakeholders one engages with may differ significantly.

In some cases, the instructor may spend months forming relationships with stakeholders, and, in other cases, stakeholders may be only minorly affected by the students' presence at the location. In either case, educators must consider which relationships must be formed and how long it will take to create them.

Engaging with organizations for placements or field trips requires "often time-consuming searches and negotiations, whilst their ongoing servicing requires briefings, liaison and maintenance" (Harris et al., 2010, p. 548). Depending on the context of the course and the experience, other partnerships may be with "local citizens, organizations, agencies, businesses and governments" (Matthews, 2013, p. 25). Keeping the relevant stakeholders in mind during the learning experience design will ensure that all necessary relationships are considered and that the instructor or administrator has sufficient time to consult with each stakeholder as needed.

### *Practical Considerations*

In developing the ELM, it was evident that most of the research spoke to the learning objectives, learning activities, and assessment methods for experiential learning. However, these components are only practical if the experience is adequately planned and implemented. Practical considerations exist during design, development, and implementation and must constantly be negotiated (Reigeluth & Carr-Chellman, 2009).

[1] While we recognize that the use of the term stakeholder can have a negative valence given colonial perspectives, we also recognize that it is widely used in many disciplinary contexts.

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Securing and arranging transportation to the site of a learning experience can be challenging, and it is important to consider students' travel abilities and their allocated time for their classes. To reduce this challenge, many educators will choose a location closer to the institution, leading to less time spent on planning and fewer financial resources required to organize and implement the experience (Matthews, 2013). When smaller groups visit multiple locations, whether simultaneously or at different times, the educator must also consider the feasibility of being present with each group (McArdle & de Koning, 2022).

Considering the various institutional protocols is also critical. To remain in adherence to protocol, educators may need to consider constraints such as risk management (McArdle & de Koning, 2022), as well as "the educational vision, rules of examination and ethical issues" (Radovic et al., 2022, p. 819).

Other practical considerations include transportation, travel expenses, weather (McArdle & de Koning, 2022), and the necessary human, material, and organizational resources (Reigeluth & Carr-Chellman, 2009). By addressing these considerations, one can be comfortable knowing that the common challenges of experiential learning implementation have been thoroughly evaluated and planned for.

### *Teaching-Learning Activities*

In experiential learning, most activities can be deemed as teaching-learning activities due to the simultaneous teaching and learning processes occurring throughout the experience (Brooks-Harris & Stock, 1999). The teaching may come in the form of an educator or facilitator directly sharing knowledge, from students teaching each other necessary skills or knowledge, or it might be self-teaching through exploration. Educators often align specific, planned activities with meeting particular curricular objectives. Other activities may emerge naturally, emphasizing specific themes, systems, content, and questions that appear throughout the experience (Beard & Wilson, 2013; Matthews, 2013). These experiences should allow students to "develop applied skills and translate theory into practice" (Tchoukaleyska et al., 2020, p. 580).

Considering the type of teaching-learning activities and the process of implementing those activities is critical. It is essential to consider how students are introduced to or discover the activity, the sequence and timing of the activity, the activity's perceived relevance to the learning, and the combination of people, places, materials, rules, and restrictions in place surrounding the activity (Beard & Wilson, 2013). Ensuring that students recognize how the activity aligns with their learning will further support student engagement with the material and, as a result, student learning (Austin & Rust, 2015). This can be done by consciously aligning all activities with the curriculum guidelines (Beames et al., 2012).

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While countless teaching-learning activities could be implemented depending on the discipline, academic level, learning objectives, etc., one teaching-learning activity fundamental to every experience is reflection. Every activity should facilitate critical reflection and analysis of the students' experiences, enabling a comprehensive and meaningful education (Tiessen, 2018). Engaging in reflection allows students to generalize their learning from a particular isolated experience and relate it to its greater application (Roberts, 2018). Without this explicit reflection, students may not identify the intentional academic learning opportunity offered through the activity (Young et al., 2008; Roberts, 2018).

### *Assessment Methods*

In any learning environment, "learning and assessment are inextricably linked" (Uyen et al., 2022, p. 4). As such, designing the appropriate assessment methods is as important as the design of the experience itself (Raymond & Usherwood, 2013). Because experiential learning is individual in nature, it may demand more innovative forms of assessment to "measure student learning and encourage students themselves to explore their experience, reflect on the learning they have achieved in terms of both knowledge and understanding, and, importantly, on the skills they have developed" (Cooper et al., 2004, p. 15). The link between learning objectives, the learning activity, and learning assessment becomes evident when it is necessary to determine which skills or knowledge are being developed and/or practiced and to develop an appropriate assessment strategy (Venkatraman et al., 2019). Educators may need to implement various assessment methods to determine whether the learning objectives have been met successfully (Uyen et al., 2022, p. 4). In experiential learning environments, practical assessments may include formal or informal student evaluations based on classroom observation (Uyen et al., 2022), final academic reports, artifacts, student written reflections, self-assessment, discussion forums, post-experience questionnaires, and debriefing activities (Radovic et al., 2022).

By considering the assessment methods early in the planning process, educators can ensure that all interconnected elements, learning objectives, learning activities, etc., are sufficiently accounted for in the design of the learning assessment.

### *Instructor Reflection*

As previously outlined, reflection is a critical component of learning. As such, for instructors to learn how to improve, change, or modify experiences, it is essential for them also to reflect. While there are various phases of reflection in respect to instructional design, rapid reaction, repair, and review are the three most critical phases.

As defined by Zeichner and Liston (2013), these three reflection phases occur

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during or directly after an implementation. Rapid reaction is the reflection that occurs instinctively and immediately in a situation. It is vital to take note of these thoughts as they may help inform a later activity or a future iteration of the experience. Repair is a phase of reflection-in-action, where an instructor briefly pauses what they are doing, possibly while the students are working independently or prior to completing their activity. The third phase of reflection most relevant to experiential learning design is review. This is the reflection that occurs at the end of an element of an experience or upon completion of the experience. This reflection phase allows the instructor to consider more holistically the details of what happened during the session.

By engaging in a reflection in and on practice, instructors can not only document ways to improve the experience for their next implementation, they can also engage in critical reflection on their teaching, leading to teacher self-development.

### *The Experience*

Experiential learning is often simplified to "learning by doing" (Dewey, 1916, p.184). Constructing, observing, and applying instructional material in the real world creates a meaningful, contextual, and academically substantive learning experience for students. When planning for a learning experience, instructors who want to implement experiential learning must consider all elements of the experience, including authenticity, application, engagement, struggle, ownership of learning, and reflection (Butler et al., 2019).

An experience is not simply what a student does in the moment; it includes all elements of how a student receives and expresses information, the engagement and development of their physical, emotional, and intellectual self, as well as the intended outcome academically and experientially (Beard, 2010; Pritchard, 2017; Butler et al., 2019). Simply offering an experience does not guarantee an academic outcome for students. It takes the intentional framing of the content, immersion in context, reflection, and synthesis to ensure that the experience is educational and not only enjoyable (Roberts, 2018).

## THE EXPERIENTIAL LEARNING MAP

When instructors design a learning experience, they encounter several decisions and considerations. They must consider course content, student readiness, and program or institutional expectations before designing a specific learning experience. Doing all of this while also considering the critical elements and navigating the barriers of adoption can be incredibly daunting for an instructor of any level of experience.

The ELM (Figure 1) takes the ten considerations outlined in the previous section,

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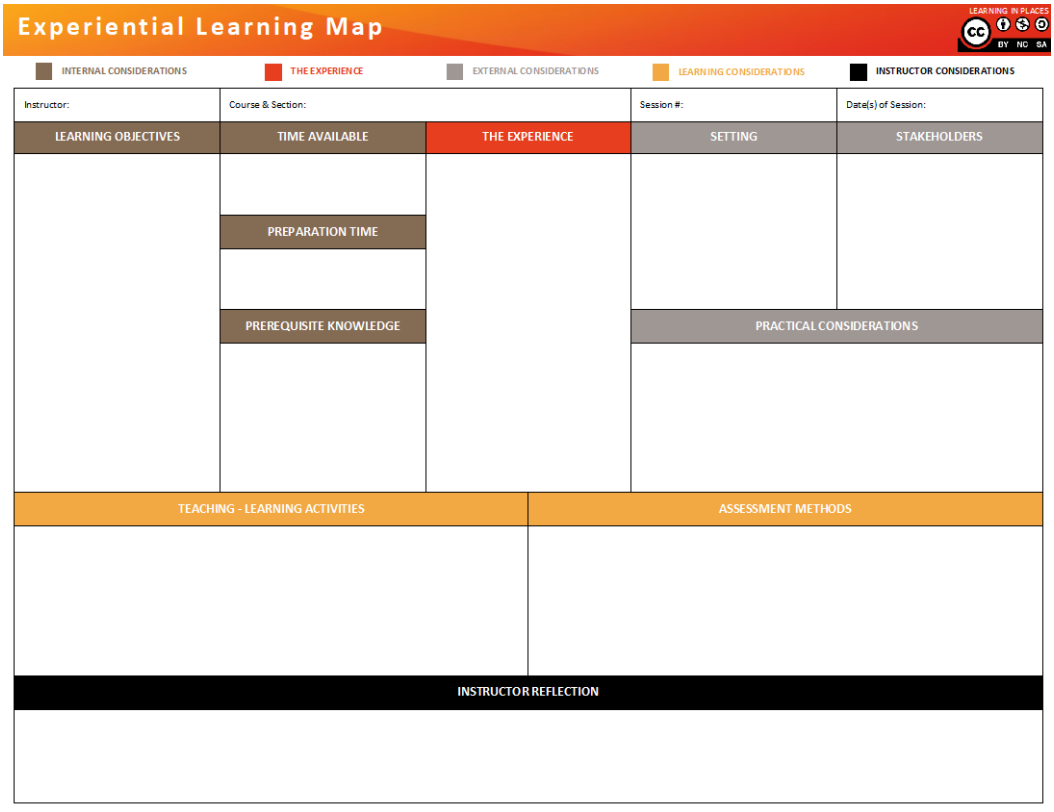
breaking the time consideration into two separate elements for a total of eleven elements, and thoughtfully lays them out in a manner that shows the relationship between adjacent elements, mimicking the design of the BMC. The ELM groups the eleven elements into five colour-coded categories: internal, external, learning considerations, the experience, and instructor reflection. The map is not linear, allowing the user to start with the information they have. This could be an existing idea, an opportunity that has risen through a network, a predetermined course syllabi or timeline, transportation restraints, accessibility needs, etc. While there is no advantageous starting point, the progressive nature of decision-making using the ELM may emphasize early decisions (Osterwalder & Pigneur, 2010). As the instructor works through the ELM, they can move between elements as new ideas, opportunities, or barriers arise. The tool allows for an iterative and dynamic process which invites users to revisit and revise sections as they make decisions.

**Figure 1**

*The Experiential Learning Map*




*Note:* See Appendix 1 for full-size image

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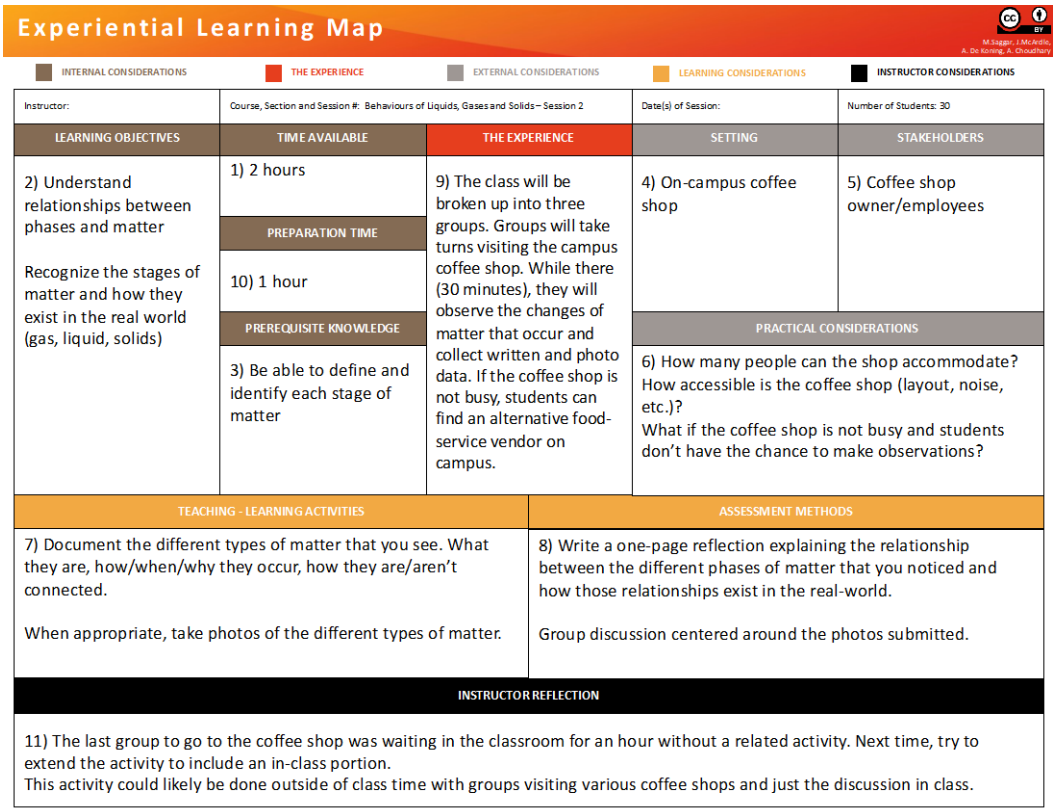
## *An Example of How to Use the Experiential Learning Map*

Figure 2 is an example of a hypothetical experiential learning activity designed for a second-year engineering class: Behaviours of Liquids, Gases, and Solids. While this is a hypothetical activity, this example is based on an existing course outline provided by the instructor.

**Figure 2**

*Sample Experiential Learning Map*




*Note:* See Appendix 2 for full-size image

When the instructor encountered the ELM, their department administration had already approved the course outline, and they were unable to make significant changes. Therefore, the team was working within the confines of what could be added to the course to make it more experiential. Note that, for the sake of the example, we have placed numbers in each box of the figure to illustrate the sequence in which we completed each box.

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Due to the limited course flexibility, the team started by identifying how much time could be dedicated to this activity. The instructor indicated that there could only be about two hours allotted for the activity in the second lecture of the course, as noted in the "time available" box. Due to this timing, the team reviewed the content taught in Weeks 1 and 2 and identified two appropriate learning objectives, which they added to the "learning objectives" box. However, given the choice of learning objectives, it was clear that some prerequisite knowledge was required. By identifying this required knowledge, the instructor could ensure that they taught or shared this knowledge before the activity, as evident in the "prerequisite knowledge" box.

The team then considered where the class could go while remaining within their regularly scheduled class time. The team decided to use the on-campus coffee shop as the location for this experience and added it to the "setting" box. This decision would allow the class to have a one-hour lecture before the activity as there is limited time needed for transportation. However, this decision affects not only those in the class; other considerations include stakeholders/relevant parties, as indicated in the "stakeholders" box. In this case, the coffee shop owner and/or other shop employees are the stakeholders for this experience.

Next, the team started thinking through some practical details as the experience took shape; they added these to the "practical considerations" box. For example, they needed to know how many people the coffee shop could accommodate. There were 30 students in the class, and the team wanted to know if all the students could be in the coffee shop at once without disrupting the guests and employees. This is something for the instructor to note and plan to visit the coffee shop to determine the size. During that visit, the instructor should also consider the accessibility of the coffee shop (layout, noise level, etc.).

The team then tried to plan for the learning considerations, including the teaching-learning activities and assessment methods. First, students will observe and collect data in the coffee shop, which they will use to complete a one-page reflection and engage in a group discussion. The team decided to return to the "teaching-learning activities" box and add the collection of photographs. With the new addition, the team also needed to consider how the experience would be impacted if the coffee shop was not busy. The team continued documenting these questions and adding solutions to the ELM as they worked through the design process.

Finally, the team had a plan for this activity and finished planning by filling out the "experience" box with a concise activity description. The team made final decisions regarding some of the considerations that arose during the planning process. These decisions included opting to divide the class into smaller groups to

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fit the small coffee shop and providing students with the choice to seek an alternative food services vendor if the students could not gather a comprehensive range of data in the coffee shop due to low activity.

Then, after the facilitation of the activity, the instructor would be able to reflect on their experience of planning and implementing the activity. This information would be added to the "instructor reflection" box. For the sake of this example, we added a theoretical reflection. Given the design of the activity, the instructor may have noticed that the last group to do their observation had about an hour in the classroom. By noting this, the next time the instructor wanted to use this activity, they would notice their reflection and consider adding an in-class portion to the activity. Similarly, while hypothetical, the instructor may also recognize that the only part of this activity that had to happen in class was the whole group reflection/discussion. Therefore, groups could have met outside of class to visit coffee shops on or off campus, which would have decreased the amount of class time needed to commit to the activity.

This example, from the context of a second-year engineering course, shows one way the ELM can be used to design an experiential learning activity. A faculty member teaching entrepreneurship, education, or nursing might have a different disciplinary context informing the activity, but the considerations would be the same. While each process and application of the ELM will vary, educators can use the intention and the iterative process facilitated by the ELM across disciplines.

## *Key Takeaways from the ELM*

### THERE IS NO RIGHT WAY TO USE THE ELM

The ELM is designed to be a flexible tool that instructors can use in many different contexts. Instructors can use the ELM regardless of discipline, experiential learning pedagogy, location of the experience, age or number of students, available class time, etc. The ELM is meant to be a tool that supports instructional design rather than complicating it. Instructors can engage with the information they possess, factors they cannot alter, or aspects they wish to integrate.

### THE FOCUS OF THE ELM IS AN INTENTIONAL AND ITERATIVE DESIGN PROCESS

As an instructor works through designing an experiential lesson with the ELM, the goal should be to engage in a circular design process that provides opportunities for multiple revision points. As one section is filled in, an instructor might develop insights related to other sections. That iterative, circular design process exemplifies how the ELM can be a powerful tool for revealing potential problems, identifying opportunities for enhanced learning outcomes, or improving a given lesson or pedagogical design.

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### THE ELM FACILITATES A DIALOGUE BETWEEN INSTRUCTOR, COURSE MATERIAL, AND PEDAGOGY

Many instructors face the challenge of aligning objectives and pedagogical design to ensure that their learning experience is as effective as it can be for students. The ELM's intentional and iterative design process helps instructors make decisions related to the critical elements of experiential learning design. By taking the time to thoughtfully consider, individually and as a whole, each of the eleven elements of the ELM, instructors can have a critical conversation, either with themselves or with a collaborative team, as they go through the design process.

### THE ELM CAN BE A COLLABORATIVE DESIGN TOOL

An instructor can easily use the ELM as a group exercise by using the tool to co-construct a learning experience with students. Doing so increases student agency and reduces barriers typically seen in a traditional classroom power dynamic. Collaboratively creating the learning experience creates an ethical space for shared learning, reciprocal engagement, and community inclusion. Participants may openly question prior knowledge, experiences, positionalities, and biases in ways that confront education and colonial relations of privilege and power (Hailu et al., 2017; Styres, 2019). This practice embodies the spirit of reconciliation in the classroom by including and amplifying diverse voices not typically provided with authority and agency for designing learning experiences.

### THE INSTRUCTOR OR DESIGN TEAM SHOULD ALSO USE THE ELM AS A REFLECTIVE TOOL

After the lesson is delivered, the instructor or design team should intentionally and purposefully reflect on the learning experience, asking questions such as *What worked? What did not? What could have gone better? And how could the next iteration of the activity be improved?* In our experience, reflecting on these questions creates space for identifying opportunities for ideation and innovation within the design of a learning experience. The ELM has space for reflection at the bottom of the planning tool to consciously acknowledge the value of engaging in that process.

## OPPORTUNITIES WITH THE ELM

We opened this paper by describing critical barriers to adopting experiential learning. The ELM is a tool that can support educators through these barriers—multiple barriers related to inadequate training or knowledge about designing, planning, and implementing an experiential learning activity. The ELM helps address these barriers by providing a flexible framework that can be utilized across disciplines and institutions to support experiential learning design. While simply

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using the ELM cannot guarantee a high-quality learning experience, the ELM supports the instructor in critically thinking through the critical elements of the design, planning, and implementation process, which only stands to improve the student learning experience.

By furthering the research done in the field of experiential learning, we will continue to see increased implementation and administrative, financial, and curricular support for experiential learning across all types of learning environments. With the ELM highlighting learning objectives, teaching-learning activities, and assessment methods as key elements, we hope to open opportunities for instructors to imagine the possibility for and the reality of experiential learning existing in theory and applied learning environments.

Although experiential learning is a growing pedagogical choice (Matthews, 2013), many students still need to experience the positive effect of such an opportunity. For educators who recognize a lack of acceptance towards or a lack of understanding of experiential learning, they may collaborate with students to create the experience using the ELM. By engaging students in using the ELM, they become aware of how experiential learning directly relates to the course and their learning outcomes.

In conclusion, while the ELM does not erase the previously mentioned barriers, it offers a tool to help address them. As a planning tool, the ELM can help educators think through many of the often-overlooked elements, leading to a more thorough design process.

## NEXT STEPS/INVITATION TO COLLABORATE

While we have presented the ELM at various conferences and workshops, interacting with live audiences and with their lived experiences as instructors, we recognize that the next step involves empirically testing the ELM. We are looking for educators interested in using the ELM to design an experiential learning component of their course to collaborate with our team on a SoTL research project.

As part of this research study, educators would utilize the ELM to design an experiential learning activity (or activities) and provide insight into how the tool supported their learning-experience design process. If you are interested in collaborating, reach out to the lead author. The team intends to proceed with this research project over the next few academic years.

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## CONCLUSION

Experiential learning is a powerful pedagogy for students across all ages, disciplines, and institutions. When successfully planned and implemented, a transformational learning experience can improve students' academic and personal development. However, the many elements of experiential learning design can complicate the planning process.

Through a theoretical analysis of the fields of curriculum development and experiential learning, we identified eleven elements as key to designing and implementing experiential learning opportunities: learning objectives, time available, preparation time, prerequisite knowledge, the setting, stakeholders, practical considerations, teaching-learning activities, assessment methods, instructor reflection, and the experience. By intentionally designing experiences with these elements as a guide, instructors ensure that the lesson's critical components are evident.

The ELM offers a dynamic framework for instructors to ideate, collaborate, and create experiential learning opportunities for all students. The tool outlines the eleven elements that should be considered in the learning-experience design process and is a unique alternative to the traditional lesson plan. The tool's versatility ensures applicability across disciplines, institutions, and various scales of experiential learning opportunities.

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## AUTHOR BIOGRAPHIES

**Maya Saggar** is a Curriculum and Learning Specialist and owner of Impact Learning. Maya is currently pursuing an EdD at the University of Calgary, specializing in curriculum and learning. Her research interests are in the areas of experiential learning, learning environments, interdisciplinary studies, and curriculum development. maya.saggar@ucalgary.ca

**John McArdle** is Associate Professor, Salem State University. Recent Fulbright specialist in Kosovo, he now holds visiting appointments and conducts research at the Universities of Calgary, Mitrovica, and Prizren. He researches how regulatory environments impact business strategy, how regulation and built environment shape social and firm behaviour, and place-based and constructivist pedagogy. jmcardle@salemstate.edu

**Alice de Koning** is a Professor (Teaching) at Haskayne School of Business, Academic Director of Hunter Hub for Entrepreneurial Thinking, and RBC Teaching Fellow in Entrepreneurial Thinking. Her research interests include metaphors for entrepreneurship in public discourse, opportunity identification in entrepreneurial teams, social impact business models, and experiential learning methodologies. alice.dekoning@ucalgary.ca

**Anjali Choudhary** is a law student at the University of Alberta. Her experience and research interests centre on civic education, social justice, and public policy. Outside of academia, Anjali advocates for underrepresented voices through journalism and social justice organizations. anjalichhoudhary@gmail.com

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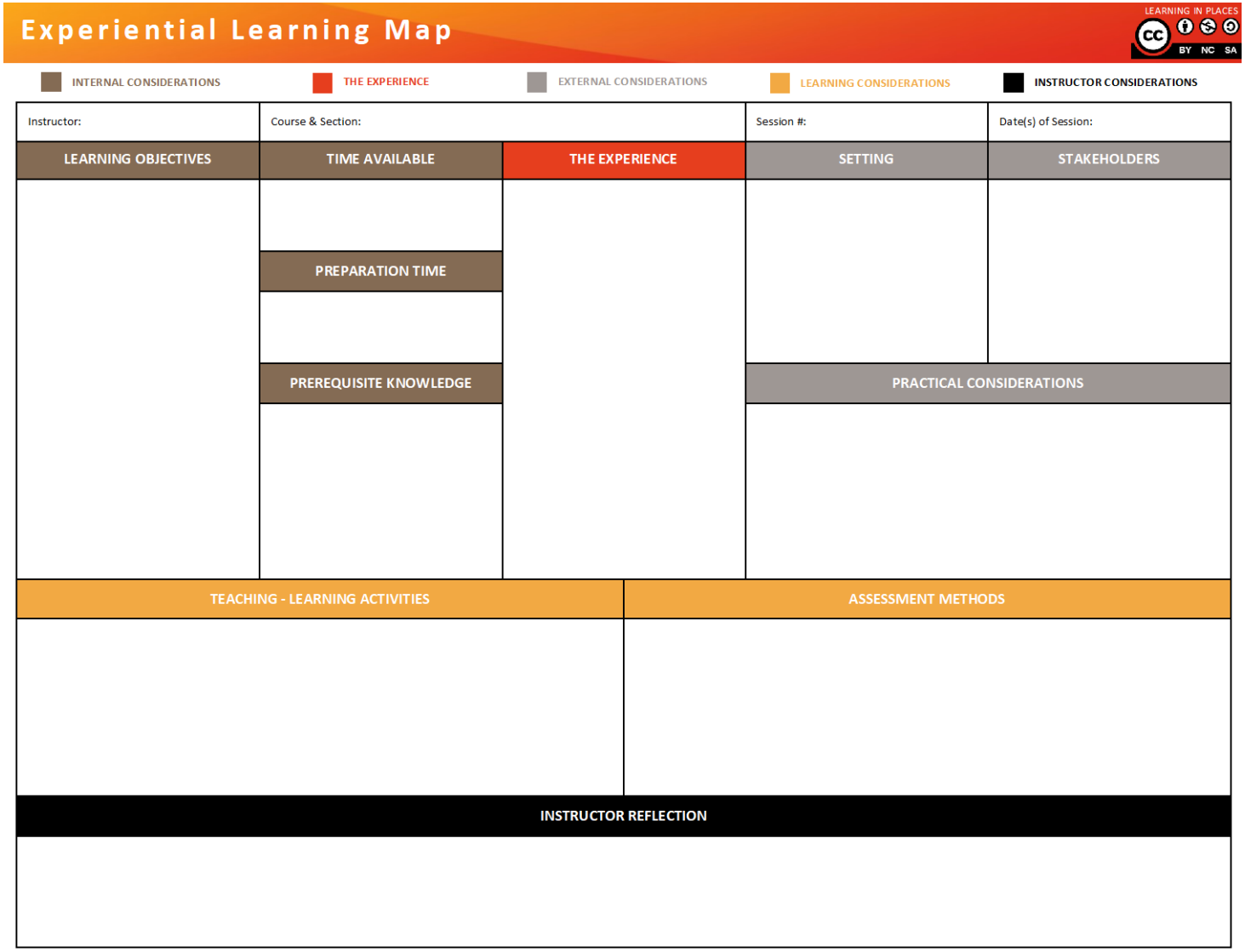
# APPENDIX A

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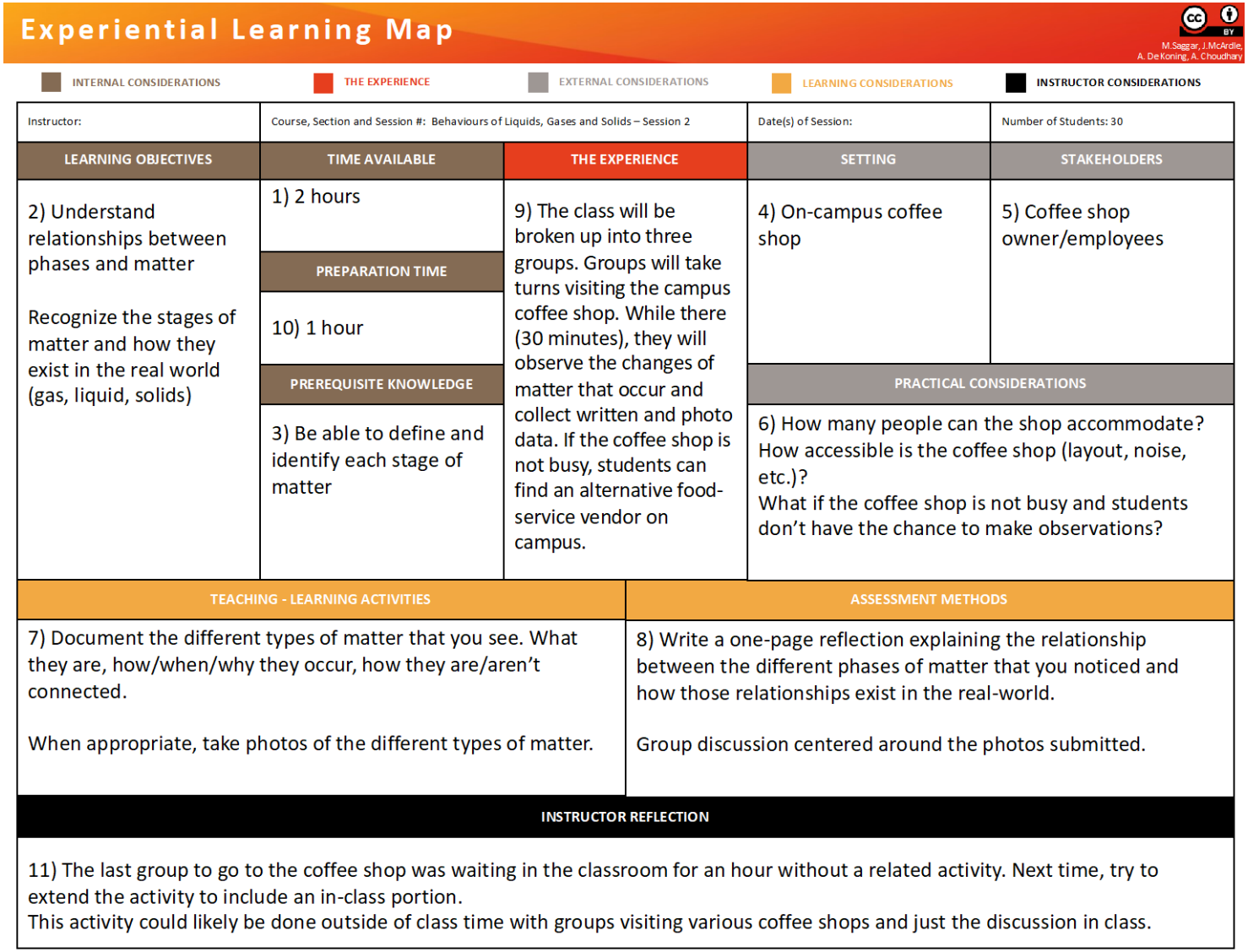
# APPENDIX B



## Experiential Learning Map



INTERNAL CONSIDERATIONS | THE EXPERIENCE | EXTERNAL CONSIDERATIONS | LEARNING CONSIDERATIONS | INSTRUCTOR CONSIDERATIONS

| Instructor: | Course, Section and Session #: Behaviours of Liquids, Gases and Solids – Session 2 | | Date(s) of Session: | Number of Students: 30 |
|---|---|---|---|---|
| **LEARNING OBJECTIVES** | **TIME AVAILABLE** | **THE EXPERIENCE** | **SETTING** | **STAKEHOLDERS** |
| 2) Understand relationships between phases and matter<br><br>Recognize the stages of matter and how they exist in the real world (gas, liquid, solids) | 1) 2 hours<br>**PREPARATION TIME**<br>10) 1 hour<br>**PREREQUISITE KNOWLEDGE**<br>3) Be able to define and identify each stage of matter | 9) The class will be broken up into three groups. Groups will take turns visiting the campus coffee shop. While there (30 minutes), they will observe the changes of matter that occur and collect written and photo data. If the coffee shop is not busy, students can find an alternative food-service vendor on campus. | 4) On-campus coffee shop<br>**PRACTICAL CONSIDERATIONS**<br>6) How many people can the shop accommodate? How accessible is the coffee shop (layout, noise, etc.)?<br>What if the coffee shop is not busy and students don't have the chance to make observations? | 5) Coffee shop owner/employees |

| TEACHING - LEARNING ACTIVITIES | ASSESSMENT METHODS |
|---|---|
| 7) Document the different types of matter that you see. What they are, how/when/why they occur, how they are/aren't connected.<br><br>When appropriate, take photos of the different types of matter. | 8) Write a one-page reflection explaining the relationship between the different phases of matter that you noticed and how those relationships exist in the real-world.<br><br>Group discussion centered around the photos submitted. |

**INSTRUCTOR REFLECTION**

11) The last group to go to the coffee shop was waiting in the classroom for an hour without a related activity. Next time, try to extend the activity to include an in-class portion.
This activity could likely be done outside of class time with groups visiting various coffee shops and just the discussion in class.

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