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Defining Immersive Learning

ABSTRACT

Immersive learning practices (ILPs) in higher education are multidisciplinary in nature and varied in levels of integration into the student learning process. They appear in a variety of higher education programs such as teacher education, social work, law, and health sciences, and in practices such as service-learning, study away, internships, and foreign-language instruction. Based on observations of teaching and data from an open-ended survey and semi-structured interviews with post-secondary educators from three different countries, this study theorizes that immersive learning practices are composed of six distinct underlying theoretical components that work in combination. These six components can be used to describe, define, compare, and design different types of structured ILPs. This study suggests that ILPs are pedagogically distinct from other forms of engaged and experiential learning.

KEYWORDS

immersion, high-impact practices, multidisciplinary, pedagogy, engaged learning

INTRODUCTION

Immersion is considered a crucial component of multiple pedagogies in higher education (HE). Several high-impact practices (Kuh 2008) adopted by the American Association of Colleges and Universities, including global learning, community-based learning, and internships, have an immersive aspect to them. Despite their widespread use in HE, there is minimal literature that explicitly defines immersive learning practices (ILPs) as a unique pedagogy.

The authors of this paper are experienced in HE teaching and learning and collaboratively developed an intuitive sense that there is something distinct about immersion as a component of learning. Immersive learning is not fully captured by existing pedagogical models such as experiential education (Kolb 1984), in the current list of high-impact practices (Kuh 2008), or in literature on applied learning (Ash and Clayton 2009). High-impact practices, for example, do not necessarily emphasize the specific nature of the context nor the setting in which the learning occurs. There is little that is inherently immersive about first-year seminars, common intellectual experiences, writing intensive courses, or ePortfolios (Kuh 2008), all of which could be considered high-impact practices. We appreciate that immersive learning shares similarities with aspects of these models, but we believe it has additional components making it a unique set of practices.

We theorize that immersive learning is education that takes place in contextually relevant environments in which students apply their knowledge, skills, and abilities akin to what professionals and other community members do in their workplaces every day. Real-world settings may be approximated such as in a simulated clinical practice where a manikin or an actor is used in place of an actual patient. However, in many cases the immersive environment is in the “real world,” for example a workplace or a community center, either in a domestic setting or a foreign country. In immersive learning, students learn in situ through applying knowledge, practicing relevant skills, and exercising greater control over their own learning than would be typical in non-immersive learning situations. We argue that immersive learning is constructed and organized by an instructor or facilitator and is most effective when students have opportunities to focus, reflect, and engage actively in the learning process. We all have experiences that we learn from informally (i.e. learning that a hot stove, if touched, burns our hand). Immersive learning, conversely, implies there is intentionality to the learning experience; an educator is purposefully designing and facilitating the experience. By presenting learners with highly authentic experiences and by demanding active engagement, immersive learning produces cognitive, and in some situations, emotional responses. In a truly effective ILP, the learner may be confronted with cognitively dissonant phenomena. They may be surprised, cry, laugh, get angry, or respond in other authentic ways. Through immersive learning experiences, a student’s learning and overall understanding of a discipline is often transformed.

This study attempts to fill a gap in the literature by explicitly defining immersive learning as a distinct pedagogy and set of practices and to identify the critical elements that constitute an immersive learning practice.

REVIEW OF LITERATURE

Immersion as a specific pedagogy can be viewed within the experiential learning landscape as formed and defined by the work of scholars including Dewey (1933), Lewin (1936), Rogers (1969), and Kolb (1984). The activity of personal meaning-making and information gathering relies on intentional engagement from students to seek out and interpret information and provides them with the opportunity to gain new knowledge in the process. Dewey (1933) described learning as an active process that takes place when learners are given the opportunity to reflect on a series of consequences. This process has been argued to help individuals make sense of the world and become actively engaged in their learning (Kolb 1984). Experiential learning practices and outcomes are interactive and involve connections between the person, learning environment, and wider culture (Lewin 1936). Models of experiential learning provide a framework for examining and strengthening the critical linkages that occur across education, work, and personal development, with emphasis on relationships that develop between the learning environment and the outside world (Kolb 1984). These practices are often supported in schools, workplaces, community training facilities, and social groups, however, they do not have to be. For example, experiential learning can occur within a classroom context alone.

Examples of immersion as an ingredient of experiential learning experiences can be found throughout the literature on engaged and high-impact learning practices. Some of the earliest examples of immersion as a component of learning come from second language acquisition programs. In some cases, immersion happens via specific courses and programs that are taught explicitly in a second language (Brondum and Stenson 1998). At another level, some programs combine intercultural learning with language acquisition, and students live with host families in other cultures as a means of developing second language skills (Brondum and Stenson 1998; Freed, Segalowitz, and Dewey 2004.)

Students also experience immersion as part of the learning process in study abroad (international) and study away (domestic) experiences. Engle and Engle (2003) define study abroad through a five-level continuum of learning challenges, with the fifth and highest level being characterized by immersive experiences in which cross-cultural learning is a key component. Lutterman-Aguilar and Gingerich (2002) caution that not all study abroad experiences are alike, concurring with Engle and Engle's (2003) assertion that immersion is a key ingredient in high-quality study abroad experiences. Goldoni (2013) makes this dilemma clear in stating that even with the acknowledgement of global learning's value, the study abroad experience "may not always be as immersive and intensive as many participants, faculty, program directors, and administrators would wish, in part because students are most frequently sent abroad in groups, often to attractive, vacation locations" (359). Even in a high-impact practice like global learning, the more immersive experiences often yield the most profound and impactful learning for students. Mitchell (2015) notes that a key ingredient in highly immersive study abroad experiences is the amount of dissonance students have to contend with, furthering Mezirow's (1978) theory that "disorienting dilemmas" are necessary ingredients for significant and highly impactful learning.

In service-learning courses, students have opportunities to work in partnership with community members who may be different from them in multiple ways (Clayton and Ash 2004; Zoltowski, Oakes, and Cardella 2012). Adding a travel component to service-learning, thus making it "global service-learning" (GSL), can deepen the immersive aspect of the learning experience. Through GSL, students are afforded opportunities to work for extended periods of time in contexts that are different from the normative experiences at their home institutions (Jacoby 2015; Kiely 2005; Motley and Sturgill 2013; Warner and Esposito, 2009). This idea that GSL can help students connect their study away experience with authentic lived experiences of community members is captured by Hartman and Kiely (2014): "To what may be a greater extent than is the case for domestic, non-immersive service-learning, students are driven to see the world and their assumptions about it in new ways" (57).

Internships, co-op programs, student teaching practicums, clinical rotations, and other professional placements are all examples of work-integrated learning, or WIL (Dean et al. 2019). When done well—meaning proper preparation prior to, facilitated guidance during, and reflection assigned during and after the experience—WIL can provide students with significant opportunities to put the knowledge and skills they have learned in academic programs into professional practice (Stirling et al. 2016). Medical and nursing simulations that incorporate actors and manikins as artificial patients to train future practitioners are also highly immersive learning experiences (Parker and Myrick 2009).

These and other examples of immersive learning practices feature some characteristics that are associated with experiential learning practices, such as the potential for engagement with situated, authentic tasks (Lave and Wenger 1991), experience with dissonant phenomena (Mezirow 1978), and the need for reflection and metacognition (Harvey, Coulson, and McMaugh 2016). These qualities are significant ingredients of the definition of immersive learning that we propose. However, our definition also includes other significant dimensions of student learning and growth (Motley 2020). These include the amount of student autonomy throughout the learning process, the ability to focus on learning tasks, and notions of time including its allocations for learning as well as the continuity of the learning process. These contributing factors are not unique to immersive learning, but we assert that for a learning practice to be considered an ILP, it must draw in some measure from each of them in some combination.

THEORETICAL FRAMEWORKS

As educators, our intuition is that specific aspects of some learning experiences within our teaching are repeatedly observable. These aspects are ones that we have come to believe constitute a set of related learning practices where immersion is the binding ingredient. As we examined the literature on various teaching practices that we suspected may incorporate immersive learning, including service-learning, study abroad, internships, and clinical practicums, we encountered descriptions of many of these same constituent aspects of learning. As such, we used these observations as a guiding theoretical framework as we conducted our investigation.

Situated learning and authentic learning

Emerging from and connected to Vygotsky's social development theory (1978), Lave and Wenger's (1991) theory of situated learning postulates that the context in which information is gained and used impacts the cognitive retention of that information. Wenger (1998) further developed a model of situated learning in which learning evolves through a course of direct engagement in a community of practice (CoP), where meaningful relationships that foster the knowledge base for both individuals and whole groups are developed (Lave and Wenger 1991).

Stemming from this work, authentic learning has been described as a deviation away from the traditional didactic HE pedagogies and toward ones associated within real-world contexts (Herrington and Herrington 2006). Authentic learning mirrors the way acquired knowledge is put into practice relative to the complexities of the real world and how it is used in real life (i.e. professional) settings (Hill and Hannafin 2001). As a replacement for the short stints of compact and sometimes disassociated learning units, authentic learning activities can be more relevant and complex since they often occur over a sustained period of time where students engage with and within highly contextualized environments. Advocates of authentic learning state that these experiences do not simply supplement previously developed desk work and content; authentic learning activities are the course content (Herrington and Herrington 2006).

Autonomy and agency

Two related constructs key to our understanding of immersive learning are autonomy and agency. In educational contexts, autonomy can be defined as the degree to which students have control over their own goals, behaviors, and outcomes within a learning experience (Smith 2008). Autonomy is the developmental, process-oriented, and continual improvement of existing learning capacities, rather than a "product" of instruction (Smith 2008). Autonomy as a socio-cognitive system is not a state but rather a non-linear and variable process. Helping students become more autonomous often involves scaffolding as a means to encourage students to learn independently (Masouleh and Jooneghani 2012). According to Werner and McVaugh (2000), autonomy is inherently related to ideas of intrinsic motivation; learners perform best when they have choice about the nature of assigned activities and control over the strategies to internalize the challenges and results of their learning. Giving students unbridled freedom to select and develop their own individual topics, however, can become problematic in the learning process (Jones 1998).

A person's sense of agency refers to the quality of self-reflective and intentional interaction with and within their environment. Archer (1995, 2003) defines agency in relation to structure and culture where structure represents the domain of social positions and roles, and culture represents the world of ideas and beliefs. Contemporary thinking about agency further includes ideas about power and will, and that both are temporally embedded, suggesting that agency is shaped through: (1) considerations of past habits of mind and action, (2) present judgments of alternatives for action,

and (3) projections of future outcomes (Klemenčič 2015). Case (2015) suggests that students' emerging identities and sense of agency can be highly dependent on their social backgrounds and prior educational contexts. Klemenčič (2015) further states that although agency can be shaped by a student's past, it is not necessarily defined by it. They suggest agency exists primarily when students intentionally act on something or interact with someone.

Time and focus

How time is used in instructional settings—in particular, time allotted for specific learning tasks and the extent to which a learner can focus on specific learning experiences—can impact the learning process (Motley 2020). Time appears to be a variable that usually improves low student performance (Allen Gill 2011). Some research concludes that “time is a necessary, but not sufficient condition for learning” (Karweit 1984, 33). Although lengthening the time for a specific task may indeed lead to more learning, the critical component that relates time to learning may be student focus and cognitive engagement. Modifying time to lengthen chances for learning (time-on-task) and to reduce the number of items students need to prepare for in each period of time (focus) can minimize challenges to learning, skills practice, and content mastery (Soares 1998).

Time-on-task is a concept that can refer to the amount of time a student spends within a learning environment, allocated time for specific instruction, or time students otherwise spend on tasks necessary for learning (van Gog 2013). Time “blocks” can be measured through set minutes or hours in a day or duration during a term. Lengthening learning time blocks allows for more devotion to specific tasks and encourages, even demands, instructors to be more innovative in the design of learning periods, eliminating reliance on lectures as the primary means of teaching (Gullatt 2006). Longer time blocks can help students develop more meaningful relationships with teachers and peers and let teachers provide more useful guidance and deal more effectively with learning differences than shorter time blocks. Longer blocks of time can lead to greater mastery of content in terms of both breadth and depth and can help students make interdisciplinary connections (Soares 1998).

Andersen (1982) may be one of the earliest proponents of intensely focused learning experiences in lieu of the standard concurrent models where students take multiple courses simultaneously. In many instances, in both K–12 and HE contexts, this is referred to as block scheduling (Wallinger 2000). In Andersen's (1982) model, students devote three or four hours per day to a course or subject over several weeks:

The well-motivated student would finally have the opportunity to devote himself or herself totally for four weeks to an intensive study of one subject matter without having to worry about the pressure of other subjects. These students would have the opportunity to become highly immersed, emotionally and intellectually, in a particular subject. (6)

Cognitive dissonance

Mezirow (1978) identified cognitive dissonance in his well-known theory about the process of perspective transformation wherein he describes the internal pressure and anxiety one may experience when established beliefs are disrupted. The internal pressure of encountering new ideas supports the critical examination of cultural assumptions and facilitates one's ability to process disorienting dilemmas (Damianakis et al. 2019) which can in turn lead to transformation. Hoskins (2013) claims that cognitive dissonance happens when students experience conflicts with their existing beliefs and external factors, such as a course's design or the setting of a learning experience.

In a qualitative study, Damianakis et al. (2019) found that many students suggested the process of transformation was uncomfortable and could even send them into a state of crisis. The changes that occur for individuals often include a greater understanding of themselves in relation to others and the world and a shift in their own beliefs and behaviors (Hoggan 2016).

Cognitive dissonance has often been referenced as an important part of HE students' learning experiences. For example, in study abroad courses, many students describe challenges they faced within the context of a new culture (Dinani 2018; Ishii, Gilbride, and Stensrud 2011) and in distance learning courses (Hoskins 2013). Ishii, Gilbride, and Stensrud (2011) explain that cultural dissonance can look like judging, stereotyping, downplaying, and avoidance in reference to the ways in which students experienced it within a new culture. For example, at St. Michael's College (University of Toronto), a model of dissonance and transformative learning (Kiely 2005) has been used for a global service-learning program in which students are immersed in situations of vulnerability as a means of learning how to problematize their assumptions about people living in oppressive systems (Locklin 2018). According to this model, the level of dissonance directly correlates to the transformative learning effects experienced by students (Locklin 2018). Across the literature, there is agreement that study abroad can also provide ample opportunities for students to experience cognitive dissonance and that critical reflection can help them consider and process a transformative learning experience (Dinani 2018).

Reflection

Reflection has a long history in educational practice. Scholars commonly trace it back to Dewey's foundational work from the early twentieth century (Dewey 1933). Despite this, reflection is often ill-defined and inadequately theorized in educational research and practice (Harvey, Coulson, and McMaugh 2016). For the purposes of this study, Harvey and colleagues (2016) provide a useful definition for reflection: "Reflection is a deliberate and conscientious process that employs a person's cognitive, emotional, and somatic capacities to mindfully contemplate on past, present or future (intended or planned) actions in order to learn, better understand and potentially improve future actions" (9).

The deepest and most impactful form of reflection is known as critical reflection and involves the careful examination of the theoretical, ethical, social, and political consequences of an experience, action, expectation, or practice (Fraser et al. 2022; Harvey, Coulson, and McMaugh 2016). From another perspective, critical reflection has been defined not only as examination of consequences, but as a process that elicits change in a person's self-understanding, thoughts, beliefs, and/or actions (Arend et al. 2021). Reflection can be conveyed through a wide variety of modalities and practices including through writing, audio/video recording, group discussion, or it can exist only in thought. Reflection can be private to the individual, shared with an audience, or engaged in collaboratively. One study compared reflection practices used across separate sections of an international service-learning course and found that guided reflection assignments, in which students respond to specific prompts, produced deeper reflection than open-ended reflection assignments (Sturgill and Motley 2014).

Reflection is a common practice in many academic disciplines (e.g., education and social work) and in specific pedagogies (e.g., service-learning and internships) (Finlay 2008). Literature on service-learning recommends reflection as a critical component (Jacoby 2015), meaning a practice isn't service-learning if it doesn't incorporate reflection. Eyler (2002) states that the "focus on effective reflection is the key to strengthening the power of service-learning," (519). Hartman et al. (2018)

further suggest that reflection is important in helping students process the dissonance that is often part of intense learning experiences associated with global and community-based learning practices.

METHODOLOGY

This qualitative research study was designed to understand how higher education teaching staff understand the concept of immersive learning within the context of their teaching (Creswell 2013) and through descriptions of what happens in the socially constructed world of higher education (Morse and Field 1995). In this investigative study, we used qualitative surveys and semi-structured individual interviews to explore pedagogies, approaches, and nuanced aspects of immersive learning practices from the perspectives of individual educators in order to learn how they define immersive learning in HE.

Sampling and recruitment

Participants who completed the survey were members of the International Society for the Scholarship of Teaching and Learning (ISSOTL); they include HE teaching staff, administrators, educational developers, and other staff with a keen interest in teaching and learning. Using purposive sampling, participants were recruited electronically using the ISSOTL listserv and other relevant HE professional networks related to the Scholarship of Teaching and Learning (SoTL). Interview participants were recruited through the professional networks of the researchers and were experienced HE instructors, professional staff, or researchers engaged in immersive learning pedagogies. As anonymity was protected in the survey, it is possible that some survey participants also engaged in the interviews.

Data collection and analysis

During the first stage of data collection, informed consent was obtained electronically when participants accessed the survey. Participants (n=71) completed a 12-question survey that focused on their understanding of and experience with immersive learning. During the second stage of data collection, verbal consent was obtained at the start of the interviews. Individual interviews (n=54) were audio recorded by researchers and transcribed verbatim by research assistants. Interviewees consisted of HE teaching faculty, staff, and administrators from 14 institutions (including four-year public, four-year private, and graduate specific institutions) in three countries: USA, Australia, and New Zealand (see Table 1 for demographic data). The interview protocol contained 14 open-ended questions and focused on descriptive and definitional aspects of immersive learning (see Appendix A and B for survey and interview questions).

Table 1. Demographic data of interview responses

University role	United States	Australia / New Zealand	Total
Teaching faculty	31	7	38
Staff	5	1	6
Administration	8	2	10

Discipline (faculty only)	United States	Australia / New Zealand	Total
Humanities	4	0	4
Natural sciences	2	1	3
Social sciences	6	0	6
Education	3	3	6
Communications	2	3	5
Business	3	0	3
Health sciences	11	0	11

Thematic analysis was used to interpret the open-ended survey and interview data (Clarke and Braun 2017). We initiated our analysis by exploring multiple theoretical concepts we hypothesized were contributing factors of an immersive learning practice. In analyzing our data, we used an inductive approach for coding, meaning we developed the codes from the data rather than using a pre-existing frame (Braun and Clarke 2006). Inter-rater reliability was used to reinforce the trustworthiness of the findings. Research team members independently reviewed nine interview transcripts, each creating codes. The full team then met together to create categories and identify emerging themes. (See Table 2 for descriptive statistics of themes and codes.)

Table 2. Descriptive statistics of findings (interviews and survey responses)

Theme	Codes (interviews)	Codes (survey)	Codes (total)
Time (aggregate)	71	6	77
Time: (Degree of focus)	(23)	(3)	(26)
Time: (Time on task)	(24)	(3)	(27)
Time: (Learning continuity)	(24)	(0)	(24)
Authentic learning	70	10	80
Autonomy and agency	44	0	44
Reflection	25	3	28
Dissonance	33	2	35
Facilitator role	29	0	29

FINDINGS

Multiple themes arose from the qualitative analysis of survey and interview data, which aligned with the components we observed within our teaching and found within the literature. However, an unexpected additional component emerged from the data, one that we had begun to suspect might be a significant factor: the active role of a facilitator. What follows is our findings on immersive learning practices, as defined by our research participants, through the following themes: authentic learning contexts, students' sense of autonomy and agency, the significance of time and focus, experience with dissonance, the need for reflection, and the role of facilitation. Each theme is described below using participant quotes.

Authentic learning contexts

Participants shared that immersive learning is authentic: "It's real and it's relevant" (P12). Students are able to engage in practical ways with learning that is germane to a discipline, as identified by this participant, "it feels more practical than just memorizing things for a test that they may forget later . . . it feels more real than theoretical" (P18). This component of immersive learning fosters the application of theory into practice as students are, "building their knowledge in the real workplace and using theory to inform it" (P15). Authenticity means that students are "embedded within a context where they are constantly being exposed to the idea or concept that they're trying to learn about" (P1). Another interviewee put it simply: "I think that it is immersing students in authentic experience with the content, concepts, etc. of whatever is being taught" (P25).

Authenticity has less to do with specific disciplines, as it is a concept that applies broadly across areas. One participant shared several examples that illustrate how authenticity applies across multidisciplinary applications of immersive learning:

I don't know quite how to phrase it, but there's a depth that immersive learning forces students to do if it's done right. That you're not just like walking by the swimming pool and putting your toes in just to see if it's wet or not, you're actually having to get in the pool and experience the water . . . To me that's immersive in a different way perhaps, but it's not just talking about producing a newspaper, it's producing newspaper. It's not just talking about what news anchors do, it's like being a news anchor, or running the cameras. So again, it's that real application of stuff, not simulating things (P29).

Authentic engagement can play a pivotal role in immersive learning practices broadly and in work-integrated learning pedagogies specifically, including internships, professional practicums, co-op programs, and medical simulations (Smith 2012). Authenticity provides students with opportunities that approximate professional applications of knowledge and allow students to experience the activities that are specific to future pursuits where they are "building their knowledge in the real workplace and using theory to inform it" (P15).

Students' sense of autonomy and agency

Autonomy and agency refer to the degree to which students have control over their own learning processes and outcomes (Smith 2008). Participants shared that this concept is key to immersive learning. For example, one instructor shared that providing for autonomous learning takes students "past the stage of just reading what someone else's interpretation is of knowledge (is) and creating (their) own knowledge" (P23). The concept of agency "gives the students as much choice as possible and lets them own it as much as possible" (P23). Two participants additionally stated that in

immersive learning, students can assert control over their learning by “choosing their own adventure” (P51) and “determining their own learning needs” (P20).

Participants describe autonomy as student-focused and student-centered; one participant reflected on the importance of “having a program that allows people who work at different rates and paces to still be able to keep up with the pace and allow people who look at things in a different way to still be successful” (P13). While beneficial for student learning, encouraging student autonomy and agency is not the traditional teaching method, as noted by this participant, “it looks so messy and chaotic” (P18). Instructors said that their students appreciate greater learning independence as suggested in this quote, “students begin to realize that this is an active process that individuals engage in and that they are capable of engaging in it” (P49).

Instructors share the tensions students feel when they are granted more autonomy and agency within a learning experience as noted by participant 18, “especially when you know some things that might work well or might not. But just letting them figure it out is where the learning happens, and it is so powerful.” Allowing students space to work out challenges on their own can provide opportunities for instructors to co-learn with students. One participant identified how autonomy in immersive learning includes co-learning; “It’s not the old bank deposit model of putting information into people, it’s really engaging them in a more active kind of way to be co-learners” (P29).

Significance of time

Many interviewees stated that immersive learning provides students with opportunities to center their attention on a topic or activities without distractions. For example, one participant explains, “I think when students don’t have to balance competing demands, and they can just go full tilt at something, then they can go very deeply into it for that time” (P49). Another interviewee suggested that it can be necessary to have focused and dedicated time for student learning because, “you want people to have the space and the time and the power and the freedom to be present with one another” (P30). Immersive learning experiences can be transformative; the transformation occurs in part because students have had time to focus their learning as noted here:

So you see both their social and intellectual growth over that period of time. And I think that particularly immersive kinds of experiences like that are extremely, quickly transformative to a student’s way of thinking and way of behaving in the world. (P19)

Not only do students have the ability to focus their attention during immersive learning, but instructors do too. During immersive learning experiences, the instructor can dedicate their full attention to students as indicated by participant 46: “we did this one week of immersion, really intensive, full days, and I was dedicated to her [student] the entire time.” Spending dedicated focus and time during immersive learning can become comfortable and produce deeper learning opportunities. Conversely, adding other distractions can change the learning environment. For example, students immersed in extended summer projects find it is not the same when returning to a semester’s menu of courses; similarly, this instructor indicated::

Some summers I have a group of four or six students working with me . . . they form a little mini cohort, and they just do science all summer and they love it. And when we shift back to the fall semester . . . I just warn them, like ‘Ok you’re going to keep doing this, we’re going to keep doing research together.’ But now suddenly it’s going to be

one of six things that you're doing, and we're really going to have to work so that you hold on to some of what you gained this summer (P49).

Time can also be considered in terms of the continuity of the learning process. In immersive learning, students do not have to begin again at each new class or learning experience, but can continue from the day before, as suggested by this participant:

Going once a week versus going every day. Let's take, you know, volunteering at the Boys and Girls club every single day for a couple of weeks, I think that would really be, that could be a more impactful experience than going once a week for 10 weeks. (P34)

Some practices, such as block courses or study away experiences, structurally allow for a deeper learning mindset: "there is something about the meeting every day, of diving deeply into a topic that I think more, is represented more by that term immersive than just, you know, experiential learning or inquiry-based learning" (P52). Another participant shared how dedicating even two weeks with students can allow for deep learning to occur:

What if I could take them to the mountains or over to the coast for two weeks right? The freeing, and not having so many competing demands at the same time, it's what allows them to go really deep that is pretty attractive. (P49)

The singular focus of an immersive experience can be a key component, as expressed by participant 52, "hyper focus on one thing, rather than spreading attention out over multiple classes, that contributes it to the immersive quality." Another respondent noted the advantages of immersive learning this way: "rapid connection back to what they were just doing a day or two ago" (P46). Another observed that an important strength of immersive learning is "the ability to sort of pick right back up where you started the day before. And knowing that those moments are fresh for students" (P52).

Experience with dissonance

Dissonance in the learning environment can leave students feeling confused, uncertain, and disoriented since the specific demands of immersive learning can challenge their previous ways of knowing. As noted by this participant, dissonance is "giving [students] an experience where they're forced to break their frame of reference" (P27). Participants said that immersion offers a different way of learning in which there is often, "so much unlearning to be done" (P10). To support learning in initial stages, students are often encouraged to jump right in as expressed by participant 18, "just getting in there and trying things without for sure knowing in advance what the right answer is." This approach to learning challenges students' previous thinking and ability to deal with ambiguity. This participant suggests that immersive learning helps students understand that in many cases "there is no exact right answer" (P16). Students come to realize that even professionals in real world settings don't always know all the answers.

Participants say that dissonance can be experienced as "a whole different concept to students. Not just regurgitation, but actually thinking" (P29). One instructor described, "I almost imagine it like you're being submerged underwater, and you have to like, figure out a way to paddle through it" (P54). On the other hand, another instructor explained,

As a teacher, I can encourage them in a way that's not just kind of throwing them in with the sharks right away, but in a way that says I care about you, and I want you to grow and learn. Therefore, I'm going to make things difficult for you instead of just patting you on the head and letting you stay in your pajamas (P53).

Instructors said they observe students experiencing frustration with cognitive dissonance as they are “unmooring from familiar pathways” (P47). Indeed, participants describe immersive learning as inherently frustrating for students initially in how it “doesn't let you escape until after you've crossed a frustration barrier” (survey). Another instructor explained:

I tell students it's like building your muscles. It's really uncomfortable and sore, it's painful. But as you start to develop those muscles you start to have a certain set of pathways or a certain set of orientations that you can carry to other contexts once you learned it (P47).

As learners, students need to wrestle with cognitive dissonance and work through feelings of uncertainty. Doing so builds confidence about what they are learning and what they know, as expressed by one instructor, “a spark comes on then; they start to understand the things they have been told actually are wrong” (P10). Students begin to rely on colleagues and see things “through the lens of other people” (P12). Their new learning, participants say, “may cause students to question their core sense of self in ways that are productive to their learning” (survey). Experience with dissonance, while challenging, can be an accelerant for growth and learning and is an inherent part of immersive learning experiences.

Need for reflection

For immersive learning to be effective, reflection is essential; it helps students process their experiences and prepare for next steps in the learning process. Immersive learning involves both the learning environment itself as well the tangible experiences within the environment; one participant described it as “not only putting students in a context where they want to learn the topic but helping them be critical about that experience and help them reflect on the experience” (P1). Instructors suggest that there are several ways in which students can practice reflection within immersive learning environments as one participant noted, “reflection can be done through writing, conversation or through art . . . particularly with the help of a good prompt question” (P34). Well-designed reflection activities, participants say, have many benefits for student learning. For example, they can help students reflect deeply on their learning and keep students on track of “what they were doing and experiencing” (P23).

Additionally, reflection can allow students to “work on personal growth and to help them process” (P53). A further benefit of reflection is that it provides students the opportunity to recognize “how am I biased in my worldview” (P1). Reflecting on immersive learning can force students to “see things in different contexts and make (them) think about them in a different way” (P27) and “to see and understand differences. What makes people make different choices? Being thoughtful about bringing them into experiences where they have to taste daily life” (P31).

Participants provided another way to consider reflection in immersive learning: reflection in action. Instructors indicated that they have observed students reflecting on prior experiences to support their current learning, such as observed by participant 13, “reflecting back on something you have done before.” Another instructor stated:

I always wanted my courses to live outside of those walls like, mainly, selfishly, I want this to be something students walk away thinking about and talking with their friends about and using in some way. Otherwise, what are we doing? (P30)

Role of facilitation

Research findings indicate that successful immersive learning depends on a facilitator to prepare and guide students through the experience. Researchers worldwide are beginning to recognize the importance of preparation for immersive practices. For example, in Eady et al. (2021), the authors investigate how to better prepare instructors to teach students about the writing they may encounter during an immersive learning experience. In this way, the instructor becomes an active participant in the student learning process, despite the increased autonomy of students in their learning. Indeed, the instructor role is reported by these participants to involve quite a “high level of involvement” (P53) and “interaction” (P54) including much “strategic planning” (P47) to prepare for successful learning activities. One participant stated, “we work pretty closely with them while the student is out in the field, even kind of managing their experiences. And I would say that that is sort of because we would call ourselves an applied field” (P28).

Other interviews indicated that university supervisors, as well as local site supervisors, are often deeply involved in forming a student’s learning experience. Referring to mentoring student teachers, one interviewee stated that the student “is there taking part in every activity, every professional activity that that teacher takes part in, that includes professional development, includes bus and lunch duty, meetings with parents, everything right across the board” (P31). This type of structure often appears as a common multidisciplinary framework when students gain professional skills and learn cultural and organizational norms in the immersive learning setting.

The instructor role also involves building relationships, and “having a connection with a student and letting them know they can trust me, they’re in a safe environment, and that messing up is expected” (P22). An equally important role of the instructor is providing regular “empathetic feedback to students with constructive criticism and positive reinforcement” (P54). The facilitative role of the instructor can also include check-ins with community partners, internship supervisors, preceptors, and even peers—all toward helping students stay on track with their learning. As one interviewee noted, the “internship supervisor is a huge part of the mentoring that goes on” (P34), by offering feedback, discussing challenges, and helping students navigate difficult situations.

DISCUSSION

ILPs place students in learning environments that are often liminal spaces (Eigen and Stein 1991) and prepare them to move into the larger social and cultural world beyond the university (Winnicott 1989). These types of spaces have been previously described as powerful learning environments as they promote constructive learning in authentic contexts (De Jong and Pieters 2006). Our direct observations on our own teaching are supported by the research we’ve conducted in this qualitative study. The analysis of this data allowed us to confirm, as well as discover, what we now assert is a definition of immersive learning practices. ILPs are constructed from the following constituent components: (1) engagement with and within authentic, situated learning environments, (2) the development of students’ sense of autonomy and agency, (3) the impact of time on learning, (4) exposure to dissonance, (5) use of reflection to connect experience with knowledge, and (6) the mentored guidance of a facilitator.

Comparing these findings with our own observations has further allowed us to identify several key points to include when considering the implementation of any immersive learning practice. First, it became clear in the analysis of the collected data that alongside the five original components of the ILP model we theorized, the need for the guidance of an experienced facilitator emerged as a sixth component of successful ILPs. Second, we believe that the time component is likely more complex than the rest of the qualities we define and may actually be composed of three sub-components. Third, while we assert that the components described in our findings are necessary qualifying conditions for a learning experience to be designated as an ILP, these qualities are not fixed; instead, they should be considered as ranges of intensity that can, and should, be attenuated for specific practices. We further explicate each of these three points below.

Need for facilitation

Our research suggests that successful ILPs need intentional facilitation to help prepare students for and guide them through an immersive learning experience (White and Nitkin 2014). In immersive learning experiences, the facilitator might be an instructor, academic preceptor, lab coordinator, or community/industry partner. The relationship between a student and facilitator is critical in ILPs due to the sometimes unpredictable nature of the real-world context. As immersive learning relies on interaction with space and place, the teacher as facilitator (Rogers 1969) serves as a guide to the new learning environment by orienting, grounding, and motivating students to engage in learning and actively shaping the experience in a specific context. Facilitators play an important role in ensuring safety and helping to organize learning structures such as group work (Margalef and Roblin 2016). As the immersive learning space is an environment that is designed to mimic the types of experiences students would face outside of a typical HE classroom, the facilitator's role is to build trust, incrementally scaffold significant learning, and offer motivation to engage with challenging or unfamiliar situations. In the act of being with the students, facilitators can help them focus on learning through "introspection, reflection, and discussion" (Ramsey and Fitzgibbons 2005, 337). In ILPs the facilitator is often an active part of the learning experience and can directly support students in deciding when and how to draw on different types of knowledge to make meaning out of uncertainty (Rogers 1969; Vygotsky 1978). As subject matter experts, the facilitator may demonstrate specific behaviors, set expectations, and offer feedback on student performance to enhance learning (Lajoie 2003). In scaffolding student learning, the facilitator gradually gives the students more freedom to make decisions and direct their own learning (autonomy and agency), offering clarification as needed while students move toward greater independence (Vygotsky 1978).

Facilitators should also intentionally consider how to prepare students for immersive learning experiences and how the qualities of ILPs identified here may impact their educational experiences. It might be helpful for students to understand, for example, that dissonant experiences can be useful when learning challenging material or that direct engagement with authentic tasks or communities may allow for greater synthesis of content with experience. To build capacity for new knowledge, the teacher must prepare students as they engage as "legitimate peripheral participants" (Lave and Wenger 1991), where they collaborate and participate in the learning environment by working alongside teachers, students, and others in the space. Being transparent with students about the unique qualities of an ILP may help them better understand the intention, design, and goal of the learning experience, especially if it pushes them beyond a normal comfort zone. Instructors can prepare for ILPs by noting the differences between immersive learning and other pedagogies. Considering the components that make up an immersive learning experience can help an instructor design activities that will maximize each component.

Complexity of time component

Although time is represented as a singular and specific quality in the model of immersive learning we present, it is likely more varied and complex than what our current data indicates. In fact, we theorize that the time component can be broken down into three distinct, but related, parts: (1) degree of focus, (2) time-on-task, and (3) the continuity of the learning process.

Degree of focus simply considers how the learning environment can be structured to minimize competing demands for a student's attention. When students are able to focus on a single task or topic, without distraction, we believe they will learn more (Motley and Sturgill 2013). Typical semester structures, in which students take four, five, or even six courses at a time, provide minimal opportunities for extended focus on any specific learning task since time is fractured across many learning activities.

Time-on-task describes the length of time allotted for the learning activity (van Gog 2013) and relates to degree of focus but may be distinct in how it specifically considers time blocks as they affect a learning activity. In an ILP, the amount of time a student spends actively engaged is a significant component of what makes the experience immersive and may make it unique compared to a more traditional learning experience in which a student only spends a few hours a week learning theoretical concepts. Time-on-task can be further illustrated by comparing a shorter, lecture format course with one that runs for a lengthier period of time, such as a fine art studio course. The studio course provides opportunities for instruction followed by extended time for students to practice what they have learned with the instructor present to facilitate. We believe this type of extended learning structure can be conducive to deeper learning,

We found little in the literature or our collected data about the concept of the continuity of the learning process. Nonetheless, our own observations of extended learning experiences such as those found in study away programs or block terms suggests that this may indeed be an important factor related to time. Continuity of learning takes into account the frequency and pacing of any learning activity. Block curriculum and other intentionally designed structures such as "January terms" or "May-mesters" allow students to take a single course that meets for extended periods of time, but in a shorter-than-normal term. This type of learning structure provides students with opportunities to learn in closely spaced intervals, such as daily meetings, and may be more beneficial for deeper learning than a course that meets over more spaced-out time intervals, such as classes that meet two times a week. Archer-Kuhn and MacKinnon (2020) assert that relationship building, trust, and student engagement can happen quickly for students in immersive block courses, because they spend multiple consecutive full days learning together using inquiry-based pedagogies.

The data we have collected so far does not disaggregate the time component as neatly as described above; however, in many instances, participants speak about time as a factor that is important for enhanced learning, but they often do so in ways that merge these three possible distinctions. Furthermore, prior research has suggested that the relationship between time and learning is indeed complex and likely influenced by multiple factors (Romero and Barbera 2011). Some scholars even assert that there may be no definitive correlation between the amount of time a student spends on a learning task and academic success (Mizhquiri 2019; Zepeda and Mayers 2006). Correlations between time and achievement may not fully capture how students meet learning outcomes, the effects of economic privilege and access to resources, or how time spent outside of class affects learning. Future research that carefully asks participants to consider the multiple ways time can be a component of immersive learning might allow for a more nuanced understanding of the many ways that time is a factor.

Components on a continuum

We assert that for a practice to be considered as immersive learning, it needs to incorporate all of these components: (1) student autonomy and agency, (2) exposure to dissonant experiences, (3) placement in authentic, situated learning environments, (4) strategies for maximizing elements of time, (5) incorporation of reflection to connect experience with knowledge, and (6) the mentored expertise of a facilitator. However, these six components are not fixed; instead, they are integrated into specific immersive learning practices in variable amounts. In this way of thinking, each component isn't a singular, static component but part of a defined range of intensity or impact that can and should be adjusted depending on the needs of the learning experience at hand.

A simple metaphor for this concept might be to think of each component as a volume knob or slider that can attenuate its relative intensity. As an example, let's compare two different types of service-learning courses to see how this might work. In the first, the service-learning community partner is a nonprofit organization located near the university. How the different qualities might map in this situation are shown in Figure 1. In this experience, students work autonomously and experience dissonance; they spend focused time on the task at hand in a situated context and with authentic partners; and, to process what they've learned, they reflect on their experience through the guidance of a facilitator. All six qualities are present, but, potentially, at levels that are comparatively lower than for our second service-learning course.

Our second example is a global service-learning course: students travel to another country under the guidance of an instructor and work with a community partner in the context of that location. In some ways, this course mirrors the structure of the local service-learning experience since students get to work in a situated context with authentic tasks and partners. What's different is that the authentic nature of the experience is likely considerably different from what it would be near the university, thus ratcheting up the potential for experiencing dissonance. The time and focus aspects of the learning environment are more intense due to the extended and continuous nature of the travel-based course structure. Furthermore, the need for students to act autonomously is also heightened as they will likely be working both independently and collaboratively away from the regular presence of the instructor. The challenges of such an intense experience will place increased demands on the instructor's facilitative skills and on the students' need for reflection to critically consider the many dissonant learning experiences. Figure 2 shows the different adjustments to the relative intensity of the six components for the global service-learning course compared to the one that is local (Figure 1).

In this way of thinking, each "slider" is a control that represents the relative amount that a particular component exerts on a student's immersive learning experience. For any specific learning practice or activity, any one component can be mapped relative to the other five as a way of considering how each makes up the structure of that experience. Considering the intensity of any one component—as well as the collective influence of the six combined components—on student learning can be a reflexive activity for the instructor, allowing for the deliberate consideration of a practice in situ and in action. Additionally, with prior knowledge of the learning experience and our model of ILPs, an instructor could consider the varying amounts of each component in a way that allows for intentional planning of the activity.

Figure 1. Local service-learning course

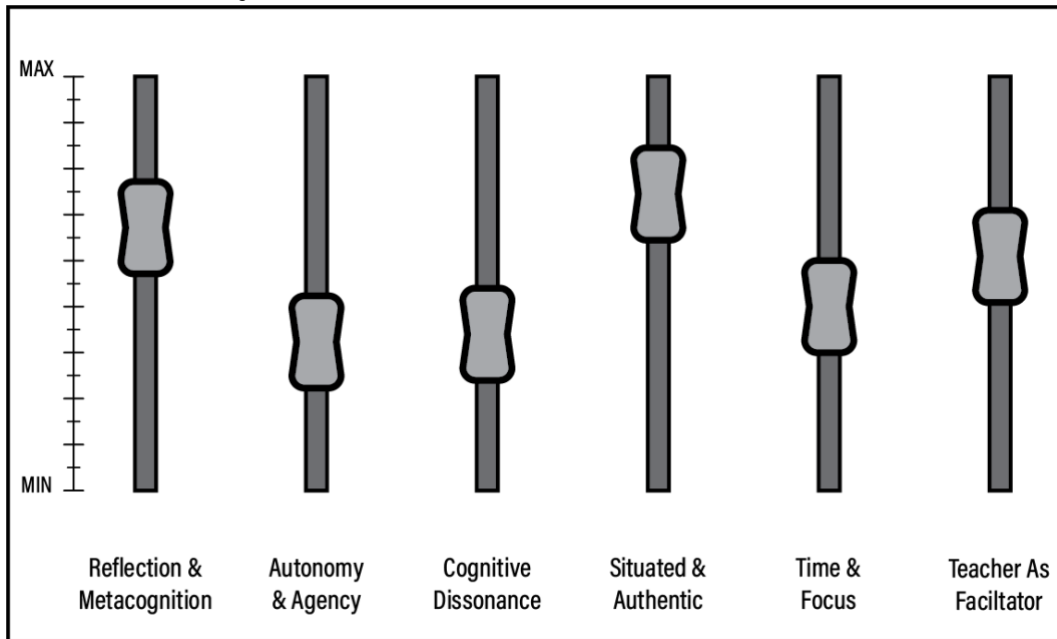
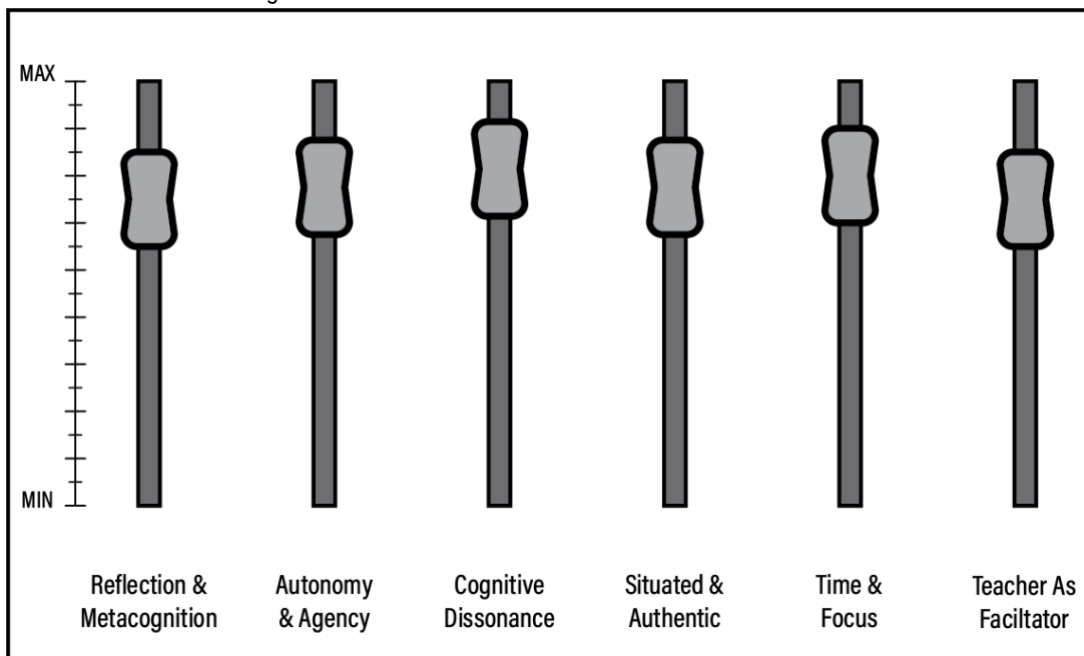


Figure 2: Global service-learning course



LIMITATIONS AND FUTURE DIRECTIONS

Our current research is limited in its selection of participants. Although our data shares the perspectives of higher education faculty, staff, and administrators from multiple institutions in three countries, it represents only a thin slice of those practicing immersive learning in their courses and programs. This research is also limited by the fact that our collected data is from teaching faculty, academic staff, and administrators—not students. Future research will explore similar questions from a student perspective. We also intend to identify specific practices in which immersion is a key

component and explore the values and opportunities for students that ILPs offer as well as the challenges it presents to all participants, including faculty, staff, and students.

Additionally, it should be noted that immersive learning is a term sometimes also used to describe digitally-mediated experiences—such as virtual reality—in both entertainment and educational contexts. However, our definition of immersive learning practices does not include digitally mediated experiences.

CONCLUSION

In this study, we establish a definition of immersive learning as a set of practices that share a common aim and set of ingredients, even though there may be differing situations and variable amounts of each component. Our work proposes that there is value in conceptualizing immersive learning as a distinct framework and not simply a piece of a larger puzzle or theory. Although aspects of ILPs are shared with other ways of thinking about how students learn, including experiential learning, engaged learning, or applied learning, these terms are often broad, overlapping, and inconsistently defined. Our attempt here is to carefully delineate the specific qualities of a learning experience that make it immersive.

Discovering the six components of immersive learning practices as well as the ranges of intensity present in any ILP came from this multi-disciplinary SoTL project. As teachers, we each brought our disciplinary lenses to initial discussions about immersion as an important component of some forms of learning. These discussions led to shared insights about our experiences, which were confirmed through this research study, bringing confidence to the discovery of the six components of ILPs. We believe that ILPs may have broad application in many higher education contexts and support student achievement in specific disciplinary curricula. For example, in social work education, reflection is a critical component of the curriculum and heavily embedded into each course, as is the recognition that cognitive dissonance is helpful in developing students' critical thinking skills. The intensity of these two components—reflection and dissonance—would be high in social work programs. In other disciplines, such as those in science or technology fields, reflection may be used less intensely (Fook et al. 2016) while other components may be used more.

Ultimately, our research leads us to theorize that immersive learning is both a pedagogical concept and a set of practices, and that educators across disciplines can design their approach to teaching and learning to become more (or less) immersive by adjusting the intensity of the six defined components of ILPs. Through guided facilitation and the intentional manipulation of these components, educators can use immersive learning to help students move past surface level understanding to deeper levels of knowledge and personal transformation, allowing them to contextualize abstract, theoretical knowledge with authentic—often professional—ways of knowing and doing. Recognizing that the six ILP components function as ranges of intensity may help instructors consider to what degree any component should be utilized to get the most out of a particular ILP. In this way, the components of immersive learning practices can be applied intentionally and flexibly across disciplinary contexts.

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APPENDIX A: SURVEY QUESTIONS

1. In your view, what defines immersive learning? What types of experiences constitute immersive learning?
2. At what point in your academic career did you choose to use immersive learning strategies?
3. Please share the events or circumstances that led you to explore and engage with immersive learning strategies.
4. What types of immersive learning experiences are you currently involved with directly (e.g., through a course you teach or an alternative break program that you lead)? Please include specific details.
5. What types of immersive learning experiences are you currently involved with indirectly (e.g., manage or oversee an internship program or direct an office of service-learning)? Please include specific details.
6. What other immersive learning experiences are you aware of at your institution (even if you are not involved)? Please include specific details.
7. How are the immersive learning programs you've described above integrated into the rest of the curriculum in your program or, more broadly, at your institution?
8. Different learning strategies may be particularly well-suited to promote specific outcomes or goals. What do you think are the unique strengths of immersive learning? What do you think immersive learning strategies are best suited to achieve?
9. What learning outcomes have your students achieved (or you hope they will achieve) through your use of immersive learning strategies? What learning objectives have your students struggled to achieve?
10. What kind of supports have helped you to achieve the outcomes you identify?
11. What challenges have you experienced when using immersive learning strategies?
12. What strategies/tools do you use to assess student learning outcomes when you use immersive learning strategies?
13. Please share any additional comments you have about your experience with immersive learning strategies.

APPENDIX 2: INTERVIEW PROTOCOL

1. Have you participated in instructional practices that you think are unique or atypical in any way?
2. Have you personally participated in any instructional practice that you consider to be immersive learning in any way?
3. Tell me a little bit about how you became involved in immersive learning?
4. Are you familiar with any other immersive learning programs at your institution whether or not you directly participate in them?
5. Next, I'd like to hear about your views on what constitutes immersive learning. How would you define the term "immersive learning" within the context of higher education?
6. What are some of the specific teaching and learning practices that you consider immersive learning, regardless of whether or not you have personally used them?
7. What do you believe are the significant benefits of immersive pedagogies to student learning?
8. Next, I'd like you to share your views on challenges related to immersive learning and ways that institutions can best support these practices. What challenges or barriers exist when using immersive learning practices?
9. What are some limitations you see in immersive learning practices?
10. What types of support currently exist to support immersive learning at your institution?
11. What types of support do you believe should exist to support immersive learning at your institution?
12. What changes in your immersive learning programs would you like to see?
13. If you were to give advice to someone creating an immersive learning program, what would you tell them?
14. Are there any other questions I should have asked?



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