# “I Can Do Things Because I Feel Valuable”: Authentic Project Experiences and How They Matter to Instructional Design Students

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*This paper examines how authentic project experiences matter to instructional design students. We explored this through a single case study of an instructional design student (referred to as Abby) who participated as a member of an educational simulation design team at a university in the western United States. Our data consisted of interviews with Abby that we analyzed to understand how she depicted her participation in this authentic project. In general, Abby found her project involvement to open up both possibilities and constraints. Early in her involvement, when she encountered limitations she did not expect, those constraints showed up as most significant and she saw the project as a place of disenfranchisement that highlighted her inadequacies. Later, in conjunction with changes in the project structure and help from a supportive mentor, she reoriented to the possibilities her participation made available, all of which disrupted the cycle of disenfranchisement in which she seemed to be caught. Abby saw more clearly opportunities that had previously been obscured, and she became one of the project’s valued leaders. We conclude by discussing implications of these findings for understanding how authentic project experiences can fit into instructional design education.*

## Introduction

Our purpose in this paper is to explore authentic project experiences in instructional design education. As Lowell and Moore (2020) summarized, such experiences are meant to help students “hit the ground running” (p. 581), preparing them for the rigors of professional practice upon completion of their academic training. Prior research has pointed towards a number of benefits they can have to accomplish this purpose. Studies indicate authentic projects help bridge the gap between classroom and workplace as they provide natural interactions between students and professional colleagues (Kramer-Simpson et al., 2015), expose students to the constraints and challenges of work settings (Herrington et al., 2003), and present opportunities to practice design in potentially demanding circumstances (Miller & Grooms, 2018).

Our interest in authentic project experiences centers on how they matter to instructional design students as part of their education. But whereas prior studies—both within instructional design and in other fields—have researched student perspectives to develop insights into what they think about authentic projects (Dabbagh & Williams Blijd, 2010; Hynie et al., 2011; Miller & Grooms, 2018; Vo et al., 2018), our concern was somewhat different. We studied the issue from a practice-oriented point-of-view (Nicolini, 2012), attending to different modes of engagement that are opened up to students through authentic project participation, including how students fit into project environments and what can be learned about how projects matter by depicting this fit qualitatively. To explore this in richness and depth, we carried out a single case study of a student involved in an authentic project at the culmination of her Master’s program in instructional design. Our inquiry focused on three questions: How did the student’s authentic project participation matter to her? How did her project involvement fit into her education? And what can be learned about student involvement in authentic instructional design projects by studying this fit?

## Literature Review

The expectations that clients, team members, and other stakeholders have about what instructional designers do can lead to challenges for novices in the field. Instructional design is a complex profession, requiring designers to cope with uncertainty (Ertmer et al., 2008), make frequent judgments (Gray et al., 2015), and adapt formal models or theories into practical action, with little time for reflection (Ertmer et al., 2009; Yanchar et al.,

2010). All of these can be difficult for new practitioners to manage, leading to work-related stress (Fortney & Yamagata-Lynch, 2013), and requiring employers to invest in on-the-job assistance (Stefaniak, 2017). The role of an instructional designer can also be very ambiguous, leading to additional stress if designers' expectations of their role are misaligned with those with whom they work (Drysdale, 2019; Radhakrishnan, 2018). In addition, instructional designers are often expected to be proficient in a wide range of skills that go beyond the actual design of instruction, including project management, building professional relationships, responding to shifting priorities, and promoting or defending their role to colleagues (Schwier & Wilson, 2010).

These needs have led to calls for more authentic experiences to be integrated into instructional design education, as a means for preparing students for the rigors of professional practice (Bannan-Ritland, 2001; Larson & Lockee, 2009; Lowell & Moore, 2020). Long a part of learning in many fields, authentic project experiences can vary in scope, ranging from class assignments based on true-to-life scenarios (Herrington et al., 2003), to working on client projects as part of coursework (Lowell & Moore, 2020), to internships where students work for an extended period of time and with at least some degree of autonomy (Johari & Bradshaw, 2008). They can be primarily teacher-directed, student-directed, or exhibit a mix of oversight methods (Aadland & Aaboen, 2020).

Regardless of scale or the name by which they go, however, authentic project experiences share at least some commitment to a learn-by-doing philosophy, as described in theories of experiential learning (Kolb, 1984). Their benefit is often framed in the opportunities they give students to practice design in real circumstances (Miller & Grooms, 2018), or at least circumstances that closely model real situations (Herrington et al., 2003). They allow students to collaborate with clients and disciplinary specialists (Kramer-Simpson et al., 2015; Lei & Yin, 2019), often exposing them to constraints they might face in on-the-job settings (Herrington et al., 2003). Projects can help students develop specific skills they will need upon entering the workforce, such as leadership and communication (Hynie et al., 2011). In many ways, the value of authentic experiences is the balance they provide between offering students a "dose of reality" about professional practice (Hartt & Rossett, 2000, p. 41), while at the same time being a reasonably safe environment where they can reflect on, and learn from, failures they might experience (Kramer-Simpson et al., 2015).

Research indicates there can be challenges with authentic project experiences, however. Especially in their more unstructured forms they likely require effective mentorship on the part of instructors or other experts to help students translate the experience into productive growth (Heinrich & Green, 2020; Johari & Bradshaw, 2008). Also, if the project is significantly beyond students' skills, they might not provide a sufficient return on investment to the person or organization providing the experience (Hartt & Rossett, 2000). The value of authentic projects can also be limited if students are not willing to fully immerse themselves in the learning task, especially those that might be structured around more simulated scenarios (Herrington et al., 2003). And students might have expectations about the experience that are unmet—such as the nature of the work they will be doing, their role on the team, or how effective the experience will be—leading to frustration or disillusionment (Dabbagh & Williams Blijd, 2010).

To address these possible shortcomings, scholars have studied authentic project experiences in instructional design education from a variety of perspectives. Some research has been more conceptual, such as Bannan-Ritland's (2001) review of what she called the principles of "action learning" (p. 37), which she illustrated by describing examples of how authentic project experiences can align with those principles. This type of research also includes Miller and Groom's (2018) articulation of a framework for integrating authentic projects into instructional design curricula. Other researchers have focused on the varying perceptions of those participating in authentic projects. Dabbagh and Williams Blijd (2010) found that students generally viewed authentic projects as a positive contribution towards their education, in spite of moments of "anxiety and confusion" that often accompanied their immersion in the project environment (p. 6). From another angle, Hartt and Rossett (2000) focused on the perspective of those providing authentic project experiences. They studied to what extent students' work provided a return on their organizational investment, and found that in many cases students provided meaningful value and the overall experience was positive for the organization. Finally, other researchers have focused on guidelines for designing particular types of authentic projects, such as Stefaniak's (2015) focus on service-learning experiences, Johari and Bradshaw's (2008) study of project-based learning in internship programs, and Lowell and Moore's (2020) exploration of authentic projects in online environments.

Our study aims to contribute towards this body of literature, focusing on authentic project experiences as a rich phenomenon that can reveal unique insights when examined from the perspective of the "concernful involvement" of students participating in projects (Yanchar, 2015, p. 110). We did not solely focus on what authentic projects accomplish from an external point-of-view, such as the educational outcomes instructors might want them to provide. Nor did we focus only on the

subjective perspectives that students might have about authentic projects. Instead, we studied how students were involved in, and engaged with, project work from a practice-oriented perspective (Nicolini, 2012), to more fully understand how authentic projects matter to students as seen through their responses to project experiences. This can generate knowledge about the nature of student involvement in authentic projects as well as how authentic projects fit into instructional design education more generally (Yanchar & Slife, 2017).

## Method

To address our research questions we chose a case study methodology. Our case is that of an instructional design student involved with a team-based project, designing simulations to teach cybersecurity at both the high school and college level. Throughout our report we will refer to her as Abby. We chose a case study because it would allow us to explore Abby's practical involvement with this authentic project in detail, providing insight into her participation by taking the world seriously as she experienced it (Packer, 2018). Our purpose was not to test a hypothesis about authentic projects, nor to generate universal laws or principles about how they fit into instructional design education. We also did not attempt to evaluate the effectiveness of the team with which Abby participated. Rather, we aimed to understand authentic projects in a new, and perhaps unfamiliar way, as we became attuned to the details of Abby's experience over the course of about a year. We were also interested in the discriminations she made in response to project-related events, including her affective responses to both positive and negative situations. This type of research allows readers to become "affectively reoriented to the world," meaning "that we think differently about the world, . . . that we feel it differently, [and] see it differently" (Wrathall, 2011, p. 170). Throughout our research we assumed a view of people and their practical involvement as found in the writings of Dreyfus (1991), Packer (2018), and Yanchar and Slife (2017), based in the philosophy of thinkers such as Heidegger (1962) and Merleau-Ponty (1964). In this perspective, "humans are fully embodied, engaged agents . . . situated in a lived world of significance," which allows for theorizing into human activity that does not "invoke a more fundamental reality of causal forces assumed to control . . . human participation" (Yanchar & Slife, 2017, pp. 147–148).

The context of Abby's involvement with this instructional design team was grounded in her pursuit of a Master's degree in instructional design from an R2 university in the western United States. This university enrolled about 34,000 students (31,000 undergraduates and 3,000 graduate students), and employed over 1,000 full-time, tenure-track faculty. The team included members from all of these groups – professors (including this paper's first author), undergraduate, and graduate students, from the fields of instructional design, information technology, and creative writing. The professors were supported by grants they had received to study simulations in cybersecurity education, including a large NSF grant. All of the students were part-time employees. Abby, who had been a member of the team for about 12 months, was involved for at least three additional reasons: the project fulfilled an internship requirement for her Master's degree in instructional design; she was using the project as the site of her thesis research; and the project gave her opportunities to complete various assignments for classes in which she was enrolled. According to Aadland and Aaboen's (2020) taxonomy, Abby's involvement would be characterized as student-directed. She was primarily responsible for ensuring her participation met her educational goals, and her work was not specifically designed to serve her needs. While Abby did receive oversight from professors associated with the project they did so in their capacity as project supervisors and not as her teachers.

Our data were drawn from our multi-year, in-depth study of the team with which Abby was involved. Our full corpus of data consisted of interviews with team members, transcripts of team meetings, field notes generated by researchers, and artifacts the team produced during the course of their work. From this data we segmented out observations and interviews in which Abby participated over the course of approximately one year, along with related field notes produced by the researchers during the same period. The researchers observed Abby in team meetings held every 1 – 2 weeks, and the first author conducted discussions with her every 2 – 3 weeks. Some conversations lasted a few minutes while others were an hour or more. The specific quotes we use in our report to illustrate Abby's involvement with the project were drawn from two formal interviews the first author conducted with her towards the end of the study, each lasting approximately 45 minutes. These interviews were audio recorded, then transcribed for analysis.

Our analysis method was drawn from Packer (2018). Packer's approach relies on careful analysis of the words and other linguistic conventions research participants use to relate their experiences. The goal is not to summarize people's experiences into a set of codes or otherwise abstract expressions that can be generalized across situations. In contrast, his method is meant to generate an empirically based interpretation of the local, practical work in which people engage to account for themselves and their situation. The results of such an analysis are typically ethnographic in character, although they are not full ethnographies since they are centered around participants' self-reports rather than including observations or artifact analysis. There are reports that

Packer called, “a way of seeing the world that follows from [interview participants’] way of being in the world” (p. 472). Further, it is often the case that the usefulness of these studies is at least partially found in their uniqueness. Rather than being valuable because they are universal, such research is meant to provide a distinctive vantage point from which to view a phenomenon—a view that can reveal fresh insights about common things.

To achieve this outcome we conducted a hermeneutic analysis based on close readings of our data. This analysis centered around the effects Abby’s interviews had on our understanding of her project experience (Packer, 2018). We started by articulating our initial understanding of each transcript (done individually by each author and then in discussion together). We then engaged in the following steps recommended by Packer, focusing not on any inherent meaning in the words of the transcript but attempting to articulate the effects they had on our understanding. In each transcript we identified: (a) the context of the interview – its background, purpose, and facts it contained about Abby or her participation in the project; (b) gaps in Abby’s report, where she seemed to be making assumptions or taking for granted certain conclusions; (c) the tropes and structures through which Abby communicated details of her situation as well as her affective responses to her circumstances; (d) the chronology of Abby’s experience—especially breakdowns in her experience—and how she talked about herself as an agent in these events; and (e) any explicit knowledge Abby identified as important to understand her story. At each stage we recorded evidence that supported our interpretation of Abby’s claims, any disconfirming evidence or examples, the effects our readings were having on our understanding, and additional questions raised by that phase of analysis. Through hermeneutic comparison of each of these parts with the whole transcripts, as well as the whole with the individual parts (Fleming et al., 2003), we crafted an account that provided “a new way of seeing” (Packer, 2018, p. 149) the research issues of our study, while remaining true to the details of Abby’s experience.

While this method allowed for a detailed examination of Abby’s mode of engaging with the project—including her own complicity in creating that mode of engagement (Packer, 2018)—we acknowledge that it does come with some limitations. Abby’s reports undoubtedly reflected her own biases, and the project itself also afforded certain ways of participating better than others. So we recognize that other instructional design students may see and experience their authentic project experiences differently than did Abby, as well as respond to events in a different manner than she did. So our findings do not generalize to every situation educators might encounter. Nevertheless, there is still value in understanding the experiences of one student to the depth we provide here. Even single cases can uncover new possibilities or reveal uncommon or unfamiliar aspects of the world – possibilities and aspects that might remain hidden when using research methods that summarize the detail of large numbers of students (Stake, 1995). They can also suggest certain things that must be taken into account if one were to develop broader, more generalizable theories or frameworks, recognizing that if events happen even in one case they are legitimately part of the world, regardless of their frequency (Flyvbjerg, 2001). It is these types of findings that we aimed to generate through our study.

## Findings

As Abby described her involvement with the simulation project, she depicted it as a place of both possibility and constraint. As she initially explored the project space she encountered considerable freedom, and she believed these opportunities would allow her to meaningfully contribute towards ensuring the simulations would achieve their intended outcomes. But then Abby encountered limitations to her participation that she did not expect. The significance of these constraints started to eclipse the opportunities she had seen, and the project started to show up to her as a place of disenfranchisement that highlighted her inadequacies. Later, in conjunction with changes in the project structure and help from a supportive mentor, Abby reoriented to the possibilities available and disrupted the cycle of disenfranchisement in which she seemed to be caught. She saw more clearly opportunities that had previously been obscured, and she became one of the project’s valued leaders. These stages are summarized in Table 1, and are further developed in the sections that follow.

Table 1

Summary of Abby’s Involvement in an Authentic Project Experience

| Abby’s involvement | How Abby’s involvement was significant |
|---|---|
| **Abby encountered initial freedom, with few firm expectations and many opportunities to pursue what she thought was important.** | **Abby believed she developed a unique point-of-view on the project that would help her make a meaningful contribution.** |
| Abby encountered limitations; she did not have the skills to implement her ideas for improving the simulations, and teammates often told her that her suggestions were not the team’s priorities. | Abby felt like she had been boxed in and disenfranchised. She felt inadequate and started to pull away from full participation. |
| Abby received help from a supportive mentor, and was given new opportunities to lead out in aspects of the project’s development. | Abby reoriented towards the possibilities the project offered her; as she reengaged she became one of the project’s valued leaders, seeing even more ways she could be meaningfully involved. |

## Abby's Initial Involvement – Few Firm Expectations and a Unique Point-Of-View

Abby's initial engagement with the team looked as if it would serve mutually beneficial purposes. From Abby's point of view, joining the project gave her an opportunity to pursue a research interest that would ultimately become her thesis – how to better attract high school girls to STEM careers. On the team's part, they wanted Abby to oversee what she called the simulations' "education-oriented" components. Her first assignment was to develop learning outcomes for each simulation. Abby was also tasked to develop teacher support materials to accompany the simulations; while students were meant to complete each one on their own (as a unit within a larger class on cybersecurity-related topics), the team wanted to provide teachers with enough support to feel confident they could answer any student questions that might arise. And finally, because Abby had some training in instructional video production, the team anticipated that she would oversee the production staff who would develop each simulation's video elements (however, this was not scheduled to begin until a few months after Abby was hired, and so it did not influence her initial participation).

As Abby's involvement with the project deepened, she became aware that the nature of her work differed from other students. While others were required to provide tangible evidence of their progress on a regular basis, Abby's responsibilities did not come with the same amount of oversight. She generally followed her own schedule, and was rarely asked to report the status of her work in the same way as others. If something was not completed on time (such as the learning outcomes for a simulation phase), the rest of the team was told to move ahead, adjusting their work when Abby was finished. Relatedly, Abby also noticed that her deliverables differed from those of other students. Their work products were almost exclusively concrete – written narrative elements, files for UX elements, or code to run the simulation. Abby, in contrast, while producing a few tangible artifacts (e.g., worksheets for teachers), found most of her work to be conceptual, such as writing learning outcomes that might influence the form the narrative or user interface took, but that did not show up in the simulations directly.

Together, these conditions created an environment where Abby initially felt free to pursue whatever work she thought best. She said that she felt "less tethered to one particular expertise," and although she was assigned certain tasks she did not feel bound to any certain process for completing them, nor did she limit her involvement to only those areas to which she was formally assigned. For example, she took it upon herself to complete one of the simulations on her own, from start to finish without the answer key – something no one else on the team had done. She told us this was because "I'm more responsible for what the student experience is like," and "I feel like it's my job to make sure that the students have the scaffolding that they need, that they're accomplishing the tasks, [and] that the tasks are meaningful," even though no one told her so explicitly. Additionally, Abby assumed responsibility for evaluating the simulations' usability. She told us that watching students actually using them helped her generate insights for improving the team's work. From her observations, Abby "could tell… if they thought [a simulation] was strange, or it rubbed them the wrong way." She also observed what she called students' "emotional reactions" to their experience, "if [this student] liked it or [another] didn't," that further informed her view of the project. Helping professors with their research into the simulations helped her develop additional ideas for improving them, as well.

Abby told us she initially believed that because these assigned and assumed responsibilities were unique compared to what her teammates were doing, she developed a "different perspective," regarding how to design the simulations so they would achieve their intended outcomes. She saw a "vision" of the project that was not "necessarily easy for everyone to see." She told us that, "because I've been involved in the research . . . and, like, going through it in classes, and trying to really understand the students' experience, I think I'm more connected with that aspect." She identified this as a distinct opportunity she had to contribute to the project team, "conveying that vision," as she called it, and sharing her unique outlook with others – one that they were not in a position to see on their own.

## Abby Encounters Limitations to Her Involvement

As Abby became more involved with the team, however, she told us that her working environment began to show up as more and more limiting, and that the project started to feel like a place of constraint. She slipped into a pattern of yielding to others to shape the simulations' direction, and eventually saw fewer opportunities to act on her own. As we undertake to describe this, we recognize the potential irony – one might think the environment Abby initially described, where she was largely able to decide when and how she would engage, and where she was bringing unique insights back to the team, would be a space of accomplishment. But in actuality she began to depict her participation as characterized by constraints and limits. As we will show later, Abby was eventually able to reorient and reengage with the project in a more freeing manner, but at least for a time nearly the opposite occurred, and she talked about herself as if she had been boxed in by obstacles that had been placed around her.

Yet this was not merely her private interpretation of the situation that she was able to overcome only by adopting a better attitude towards what seemed to be constraining forces. Rather, the project itself had real features that afforded themselves towards courses of action that were more limiting than freeing. As Abby pursued these she did so as if she were taking a path of least resistance – a path that, although it was the easiest, was nevertheless one that she moved into (although she avoided admitting that to herself at the time). Correspondingly, when we later describe the positive changes in Abby's participation, we will show that while it was true that it did include a change in how she approached her circumstances, it also reflected a change in the project structure so that it afforded itself towards more liberating possibilities on Abby's part. So we are careful not to portray Abby as either choosing on her own to see the project as a confined space, or as being forced into a constrained role by deterministic, environmental forces outside of her control. Abby's interviews invited us to see how the way she fit within the project's structure made it easy for limitations to show up as relevant, while at the same time recognizing that the concrete ways those limitations mattered to her, and how she chose to cope with them, were equally important in defining her experience.

**Being Boxed In**

Abby told us about two, interrelated factors that together showed the project as a space where she was boxed in, with limited options to meaningfully participate. First, as noted earlier, there was a contrast between the nature of Abby's work and that of her teammates. Abby told us that others offered what she called "tangible" contributions towards the simulation's final form – the form students would actually experience. This included the simulations' code, the graphic design that gave them visual representation, and the creative writing that brought each simulation's story to life. Abby, on the other hand, defined her contribution as, "helping people do what they need to do." She seemed to draw a distinction between the work others did—creating the concrete and visible building blocks that one could point to in the final simulation—and the work she did, which was conceptual, in the background, and useful to the extent that it helped the rest of the team do their jobs better.

While in the abstract Abby talked about such contributions as having "value," actual examples she shared reflected a more conflicted tone, because most of her ideas required someone else to actually give them a perceptible form. For instance, she told us that she accepted responsibility for whether students were successful in learning from the simulations, "if people are experiencing [poor learning outcomes], then I would maybe feel, like, maybe that's on me." But she also said she had not created anything that students would encounter directly to help them achieve those outcomes, nor did she have the ability to do so. "People aren't going to be, like, 'oh, Abby built this or did this.' . . . I'm not doing anything right now that's going to be a tangible thing." The nature of Abby's involvement meant that without help from her colleagues, what she designed would not be used by students. And it seemed this began to overshadow the importance of any concrete materials she was producing, such as her teacher support materials. After initially describing that she was working on them, and while we know from our observations that she completed the assignment, she did not bring them up again and did not mention deriving any satisfaction or sense of significance from their completion.

Alone this may not have meant much to Abby, other than occasional hints she offered about how she would have enjoyed the recognition that accompanied the simulation's concrete development. But Abby also found that her teammates could be reluctant to accept or implement any suggestions she provided. Through her research, usability testing, and personal experience completing them, she generated a number of ideas for how the simulations could be improved. And at least for a time she would bring her ideas back to the rest of the team. But often their response was her suggestions were either too difficult or were not their current priority:

I'm, like, "hey, I really think we should change this." And I feel, like, sometimes people are, like, "that's kind of hard and we don't necessarily want to do it." So then that value doesn't necessarily come to fruition.

Abby offered multiple examples. A particularly illustrative one concerned the team's focus on building women's self-efficacy to pursue a cybersecurity career:

> I really feel like putting students' names in [the simulation] would be really helpful. We've used Junior because that's just an easy way to program it. And that rubbed me the wrong way when I got on, especially thinking if we're trying to target girls. Like, so, here's me putting my researcher hat on. I know we want to help girls feel more, like, identify with this better. And I'm thinking, no girl has ever been called Junior as a nickname. . . I tried it out with my sister, and my sister's, like, "Junior, what, is that me?" So, I can hear this from the students. I'm thinking from my research mind, "this is not good." I talked to [the lead professor], he's, like, "oh, yeah, students identify better if their name is there." Then when I take that to the team, they're, like, "oh, that's going to be a lot of work." So, how much do I push

it?

The result of dismissals such as these was a growing sense on Abby's part that what she wanted to contribute was not as needed as what her team members offered. Not only did it appear that they valued different outcomes than her, but she also concluded that she did not have the ability to influence the direction the simulations would take, "I've kind of let the developers do their thing . . . I didn't see myself to be in a position to tell them anything." She often described the simulations' development as occurring around her, where she was aware of what was happening, but they were not something she was directly helping. Over time, she saw fewer opportunities to engage in ways that would change the project's trajectory, including changes aligned with what she learned through her research into the simulations' educational effectiveness.

**Growing Disenfranchisement**

Given that Abby needed cooperation from her teammates to implement her designs, their dismissals hurt her deeply, "why be on a team if you're not doing anything? So, it kind of made me—if I'm not really doing much, then I just kind of feel pointless. Well, maybe I shouldn't be here." We use the term hurt intentionally. Similar to how a physical injury can become inflamed and sensitive, and the afflicted area becomes too tender to tolerate an otherwise benign touch, or bear what would otherwise be one's ordinary weight, Abby's growing sensitivity to her limitations led her to pull away from other team members to avoid difficult interactions. She particularly became attuned to, and even defensive about, potential offenses on the part of her teammates (whether intended or not).

One example occurred when new writers were hired to complete the simulation narrative. Abby told us that as they were beginning their work she tried to show them a set of scripts she had consulted on with the previous writers:

> I was trying to point out, "hey, look, we did a lot of work on this last spring. We might want to look in this folder because somebody already wrote a bunch of scripts. We don't need to reinvent the wheel." And [one of the writers] told me, "well, yeah, but we're master's students, and so we probably can do a better job."

Abby continued, "that response just felt like it was dismissing what I was trying to say. So, instead of listening and validating. . . like, 'tell me more,' it was just dismissing." Abby told us that by this she meant that she thought the writers were both dismissive of the work that had been done as well as of her attempts to have a conversation about it. Additionally, she was particularly bothered that at least one writer did not seem to understand that she was also a graduate student, "[the writer said], 'well, I'm a master's student.' Okay. So am I, but I won't mention that." Abby found the experience quite disheartening, telling us, "I was so frustrated," and describing how afterwards she started to withdraw from fully participating. At one point she told us that her response was, "all right, I'll step aside." At another time she described it as, "okay, I'll back out of your way." Both phrases seemed to suggest Abby's sense of resignation and defeat.

In talking about incidents like these, Abby seemed to describe the project as being a place of disenfranchisement, depriving her of opportunities to offer meaningful contributions, and where she had been judged as inadequate to contribute anything of substance. The positive aspects of her participation, which earlier had seemed so fulfilling, receded into the background. She started to primarily focus on her limitations, even going so far as to tell us, "I didn't really feel like I had anything that I was doing. . . [For a semester] I was hardly assigned anything. Yeah, I was like a bump on a log."

As we analyzed other events Abby talked about, however, we saw that while it was true that her contributions could be discounted, at the same time she started to pull away from the project as well. This also reduced the extent to which she was actively involved. In the face of rejection it seemed that Abby generally stopped putting herself in the position of being rejected again. At one point she even seemed to openly admit this, saying, "[I] was, like, not super engaged in what was going on." She described one instance, during the time she was "frustrated that no one was valuing what had been done last spring" (meaning when the new writers had abandoned the existing scripts). One of the professors asked Abby to work with the same writer who had been particularly dismissive to update some of the material students would initially encounter when using a simulation. Abby described this as another case of work she had previously completed being dismissed without actually examining what had been done, "I was like, 'it's all there, we did this, look at this.'" In response to the request, Abby told us that, "I refused to help. And so instead of being involved, I just, like, checked out." Out of these difficult interactions a vicious circle seemed to emerge. Abby thought her contributions were being rebuffed, and she responded by pulling away. But this meant she had fewer opportunities for meaningful involvement, which further darkened her mood. As she became more discouraged, the actions of her teammates tended to show up as if they were intentionally slighting her work. Whether they actually were or not, the result was the same; Abby became sensitive (or perhaps overly sensitive) to saliences that appeared slighting, which, in turn, fueled a further sense

on her part that she was not needed.

Interestingly, even though Abby told us that for a semester she "was hardly assigned to anything," based on team meetings we observed during that period this appears to have not actually been the case. We watched Abby participating in project decisions, taking assignments, and being treated by others as a full contributor to the project. Yet we do not interpret Abby's insistence that she had nothing to do as her trying to mislead us, or that her memory was flawed (although we acknowledge both of these as possibilities). Rather, since when she was not talking about her disenfranchisement she occasionally brought up other ways she was involved during this same period, it seems more likely that when she talked about not being assigned anything she was trying to communicate the affective quality of her experience instead of the literal facts of the situation. Saying that she was, "a bump on a log," or that, "[I] didn't really feel like I had anything I was doing," were her attempts to point out what was significant about her circumstances. What seemed to matter most was that she saw herself as not being a contributor, and that she did not see the simulations being improved because of her work. Yet, as we have emphasized, this sense was not solely created by either the events around her, or by her beliefs and attitudes about those events. It seems to be better characterized as a way of engagement that was jointly produced both by the situation Abby found herself in as well as how she attempted to cope with what she experienced.

## Abby Moves from Disenfranchisement to Valued Project Leader

Despite her growing discouragement, Abby did not completely abandon her membership on the team. When we asked why she identified at least three aspects that continued to draw her in. First, notwithstanding the difficult interactions Abby had with some teammates, others had become her friends, and she described a "connection with certain people I was working with" that she wanted to maintain. She also seemed to fall into something of a sunk cost fallacy, telling us, "I was involved when it started. . .  I guess I felt some level of investment and commitment." Finally, she would reminisce about the sense of belonging and being a contributor she once experienced, and hoped that she could recapture it in some form, "we were excited about this idea that we [came] up with. . . . So I guess I cared about being on the team and I wanted to be productive and useful." These largely emotional factors—all mattering to Abby in different ways and providing her different motives for wanting to participate—were significant enough to tether her to the project even as so many other aspects continued to push her away.

Alone, however, these commitments did not actually change anything in Abby's situation. While they inclined her towards at least some association with the team, she still remained mostly disengaged until three, somewhat intertwined features of the project structure also changed, that together seemed to open up possibilities that Abby found less constraining. The first was that a certain professor who was sensitive to helping students have good experiences began to assume a more prominent role as the team began working on a simulation for which he was the subject matter expert (we will refer to him as Eric). Abby told us that Eric "makes [her] feel valued," and, "he just totally built me up." The second factor was Abby enrolled in a project management class that required her to be a "scrum master" for a product team (a project management role found in agile approaches to product development). Abby asked Eric if he would allow her to complete her assignment for the simulation he was overseeing, "I need this experience, so I emailed Eric, like, 'hey, do you think I could be scrum master on our team?'" Eric's response was, to Abby, very enthusiastic, "immediately he started referring to me as the scrum master." She further commented, "he'd, like, let me lead in meetings," and, "the way Eric is, like, promoting me and what I can do, I think I [now] have more of a leadership role." Finally, development reached the point that video production began, and Abby said she also felt valued because, "[team leaders] put me in charge of the videos and actually said, 'Abby's responsible for this,' and, 'go to Abby.'"

As Abby pursued the new assignments and opportunities these structural changes opened up, the character of her participation changed as well, reorienting from a sense of disengagement to one of more complete involvement. She became more attuned to possibilities in her situation, as suggested by her comment that, "I can do things because I feel valuable." To illustrate she provided a number of examples of not only the new work she was doing but also the change she experienced in the character and quality of her participation.

One change was that even though the work Abby did during this period continued to be intangible and largely in the service of teammates doing concrete production, she began to describe it as adding value, as opposed to her previous sense that her work was not needed. For instance, even though Abby did not produce the simulation videos herself, she did take the initiative to recruit, hire, and support the videographer with little oversight or direction from those supervising her. Of this she said:

> I think we're all excited about the videos right now because we have [our videographer], who's, like, our – he's going to make it cool. He's going to make

> it cool. We have actors that we're excited about . . . [The videographer] interviewed them and sent me the videos and all these people are going to be so fun. . . So, I think I'm excited about the production, and we're shooting on Saturday, so it's like the big thing right now.

The difference in Abby's tone as she described her support of the videos was striking. Whereas her comments about previous events could reflect a sense of despondency, when she described her leadership over the video production—even though she was not directly shooting the videos herself—she spoke with a sense of enthusiasm that suggested she was more confident about her place on the team than she felt before.

A related change was that difficult interactions with teammates that had previously bothered her so much, seemed to recede into the background of her experience. She told us, "now I feel a lot more respected and capable and less impacted by those types of situations. So, I'm not as worried about that now." Even though she told us there were still hard conversations or challenging problems to address, her sensitivity to them diminished, and she talked about them more dispassionately than she had before.

And finally, as Abby began acting as the scrum master she started to see things about the project she had not noticed earlier. In particular, her experience of being disenfranchised no longer appeared to be so unique. She started to get a sense that the overall project had been "stuck." She told us, "there hasn't been a whole lot of organization in getting stuff done," and seemed to indicate that from the perspective of her new role she could see that she had not been the only person frustrated because they felt like they were not contributing, or that what they were doing did not matter. But realizing this did not lead to her to slip back into discouragement. Rather, she seemed more attuned to situational possibilities for how she could lead out and help the team make better progress, like enforcing daily status updates, planning agendas for project meetings, or contributing new design ideas that could create additional project momentum.

By the time of our final discussions with Abby she appeared to have largely overcome any sense that the project was boxing her in. Neither was she as discouraged as she had been earlier. But she did not just perceive different things about the simulations, her teammates, or her own work. She was involved in the project in a completely different way, more as a valued leader than as an occasional contributor. This does not mean the project has become trouble-free. As mentioned, after being placed in a leadership role Abby could see project shortcomings she had not seen before, and even while we were interviewing her she had questions about whether the simulations were as effective as they could be at achieving their outcomes. But Abby seemed to approach these challenges from a position of self-possession, rather than disenfranchisement or doubt. She became a leader not only because she had skills to help her lead, but because she started to respond to circumstances like leaders respond, as suggested by her comment:

> I'm involved in lots of aspects of lots of things. . . When things are brought up [I think], "oh, yes, I have something that I want to bring up for the team to think about." . . . I have more to contribute because I'm more involved.

As we have emphasized, this seemed to be due to opportunities Abby was given as well as her own willingness to accept those opportunities and make something of them. Whereas before she experienced a vicious circle of further and further disengagement, she now seemed caught up in a virtuous circle. Others' willingness to believe in her and give her new ways to contribute opened a space for her to act. Accepting what they offered reignited her enthusiasm, and her improved mood showed her even more opportunities for involvement. Abby herself seemed to recognize the change, telling us, "there's just been a huge contrast" between times that she was so hurt by actions of her teammates that she was willing to step away from active participation, to the time of our interviews where she was being told by her colleagues, "Abby's so important on this team, Abby's involved, Abby does everything, Abby does more than the professors." When we shared that this was also reflected in our own interviews with other team members, and that they were equally telling us how much she was contributing, her response was, "wow, that's, wow. That makes me feel like I want to do even more!"

## Discussion

Our interest in studying Abby's case was to explore how her authentic project involvement mattered in her instructional design education. Analyzing her interviews provided us "a fresh way of seeing" (Packer, 2018, p. 148) what it could entail to be a student involved in this form of learning, which we summarize as three insights. First, Abby's account contributes towards the literature recognizing that even though authentic project experiences can have clear advantages, they also may not always be unambiguous goods in students' education. Second, we suggest that a reason for this is because the outcomes of authentic project experiences do not solely lie in any intrinsic properties of the opportunities themselves, nor in students' personal attempts to make meaning out of those opportunities. Avoiding a

dichotomous distinction between situation and student provides a clearer view of how authentic projects become a learning space when students engage in the practical work of fitting themselves to the affordances such experiences offer. Finally, we learn from Abby's case that challenges accompanying authentic project experiences can be mitigated, but doing so will likely involve cooperation from those with the ability to adjust the form and structure of an experience, as well as the participating students themselves.

### Authentic Project Experiences May Not Always Be a Pedagogical Good

For Abby, participating in the simulation project allowed her to apply a variety of skills in authentic settings and offered her unanticipated leadership opportunities, but also challenged her self-confidence to the extent that she nearly abandoned her involvement. This duality suggests there can be tensions in authentic project experiences as a pedagogical strategy, and they may not always be unambiguous goods in students' education. This aligns with findings from prior research. While researchers have described a number of benefits these experiences can provide (Johari & Bradshaw, 2008; Miller & Grooms, 2018), the literature also recognizes that the very authenticity of these experiences can create complexities with which students may have a difficult time coping (Dabbagh & Williams Blijd, 2010; Hartt & Rossett, 2000). They may find themselves tangled up in binds they do not yet have the ability to unravel on their own.

Our study extends this literature, not only by drawing attention to the forms potential complexities could take, but also by showing at least some ways that students might affectively respond if complications arise. Highlighting both potentialities seem important to help educators address challenges they might face when implementing authentic project strategies themselves. For instance, one reason project involvement was not an unambiguous good for Abby was because when her teammates were reluctant to implement her ideas, their dismissals showed up to her as obstructing her ability to meaningfully contribute. But while her views were certainly understandable, they were also not unavoidable. We can imagine how it may not have mattered as much to other students if they were challenged as Abby was, or how they might even have been energized by the need to find ways to better persuade their colleagues. So in her case, for educators to understand how to help Abby have a better experience they would have to pay attention to the situational affordances as well as the relevance of those affordances to her. Yet we are aware that Abby's experience only highlights some of the difficulties that might create strains for students involved in authentic projects. So we encourage continued research into other possibilities authentic project experiences might open up, especially research that explores challenges that can accompany the approach.

### Authentic Projects Become Learning Experiences Through a Reciprocal Relationship Between Student and the Project World

As just mentioned, and as we have described throughout our report, Abby's experience was born out of real situational affordances, as well as how she negotiated and navigated those affordances. This seemed typified by how she described how her mode of engagement changed after Eric appointed her scrum master, "I can do things because I feel valuable." In Abby's world, she not only felt more or less valued based on what she was able to do, but she also felt more or less capable of acting depending on how valuable she felt. Her experience seemed characterized by reciprocality. She had to respond to features of the environment outside of her control, but her responses altered the project context and changed what type of involvement was available to her moving forward. Focusing only on one side or the other—opportunity or Abby's attitude—seems insufficient to understand either Abby or the project itself. What transpired cannot be reduced either to the influence of environmental forces acting upon her, or her private processes of constructing meaning out of her experience (see Wrathall, 2004). It seems more accurate to attempt to unify what was provided from both Abby and from the project space, "not [as] sharply distinct, self-sufficient states or separately existing ingredients, but [as] essentially interwoven aspects of a single, unified phenomenon. . . More like two sides of a coin or two dimensions of a figure" (Carman, 2020, p. 77).

Recognizing this provides a more comprehensive way of understanding authentic projects as learning experiences. Abby's account indicates that neither a view of learning that locates it primarily in environmental influences or one locating it primarily in individual processes of meaning-making is sufficient. For instance, while she clearly had to respond to environmental factors in her journey towards becoming a project leader, Abby cannot be portrayed as someone who learned leadership only because her actions came into alignment with a set of standards or norms provided by her environment – a view implied by theories that define learning as the result of processes of socialization and enculturation (cf. Matthews, 2016). And while she clearly had to interpret her situation and decide what events meant to her, she also cannot be portrayed as having learned leadership only because of personal, internal changes to her knowledge, attitudes, beliefs, or skills. Equally important were the changes to what Yanchar et al. (2013) called her "embodied familiarization" (p. 219) with the project, meaning how she was able to practically comport herself

to fit into the space provided by the real, situational demands of her work. Abby learned from her project experience as she became more capable of "meaningful engagement" with what had previously been foreign. She became more "accustomed" to, and "familiar" with, how to navigate the very practical concerns her situation required (p. 220).

This is a view that transcends reductive attempts to locate learning primarily in one type of cause or another, either cognitive or cultural. It shows learning as a process of developing a practical stance towards the world – in Abby's case a stance taken by instructional designers. Certainly this stance includes learning new skills or developing a new identity, but is not defined by these features alone. It also includes how the world feels as one inhabits it, such as how the project felt to Abby when she was disengaged, or as she re-engaged (cf. Dreyfus, 1991). It entails how one anticipates, and becomes sensitized to, saliences in the world, such as how Abby as a project leader could see the team was not as organized as she once thought, and how this drew her attention towards opportunities that might have otherwise remained unnoticed (cf. Wrathall, 2004). It encompasses how one becomes resolved to act in response to opportunities the world offers, such as how Abby accepted the responsibility to plan project meetings so they would be a better experience for everyone involved (cf. Dreyfus, 2017). In this view, authentic projects fit into instructional design education not because they provide a single cause of learning, or even a group of causes, but because they contribute towards "shifts in how the world shows up, how learners fit into the cultural contexts of life, how they engage in practices, and the stands they take on matters of significance" (McDonald & Yanchar, 2020, p. 643).

## Educators and Students Jointly Improve Authentic Project Experiences

These views suggest a new way of understanding events that might arise during students' participation in authentic project experiences. Individual project events will not necessarily be good or bad because of any intrinsic properties they possess, because their value is at least partly found in how students respond to them. While it is true that project experiences can be well- or poorly designed, their design itself is only a starting point for the evolution of the experience that will occur as actual students get involved. But neither is it correct to say that any given event is neutral—with its learning value created by students themselves—since individual events will open up certain possibilities while at the same time closing down others. So it is still incumbent on those planning authentic experiences to "offer compelling beginnings" in projects that students "may be persuaded to pick up" as they engage in the project space (McDonald, in press). If authentic projects are not effective because of their inherent properties, instructional design educators and students can at least work together to make them effective by attempting to improve how students fit into them. This implies that educators may be able to help students break out of negative cycles of participation as they alter conditions in the environment and as they point students' attention towards new possibilities that might be opened up by the improved conditions.

Prior research suggests practical ideas that educators can consider for accomplishing this, including: cultivating meaningful relationships between students and mentors so that students come to trust the guidance they provide (Michela & McDonald, 2020); ensuring the designs of project environments do not inadvertently discourage or punish students for expressing their independence (Johari & Bradshaw, 2008); providing students frequent opportunities to reflect on their experiences and whether those experiences are leading to desirable ends (Bannan-Ritland, 2001); and ensuring regular evaluation is part of authentic project environments so necessary adjustments to structures or relationships can be made (Larson & Lockee, 2009). We recommend additional research be conducted to develop other design guidelines that are consistent with our findings.

But as our study emphasizes, when challenges arise during authentic projects it is likely not the sole responsibility of any party alone to mitigate the problems – neither the educators planning the project nor the students learning from it. This is not because either side can be relieved of responsibility, but because both sides are likely contributing something towards the unfolding situation (for good or bad). Challenges may have as much to do with what stands out to students as important about their involvement as they do with any objective factors within the context itself, although situational factors would certainly contribute towards what students could see. So neither side's efforts alone will be sufficient to alter the circumstances. On the side of the educators, while they can set up any number of conditions, they cannot set up how students respond to the conditions they provide. On the side of the students, no matter what attitude they bring into a situation, they may still find conditions that stifle their contributions or otherwise impede their capacity to act in alignment with the practical stance the authentic project is meant to make available. So cooperation from all sides will be needed to address authentic project challenges – those with the ability to adjust the form and structure of an experience, as well as the participating students themselves. Improving the student experience will jointly be a matter of changing what opportunities the environment provides, and of students becoming reenergized as they anticipate anew the potential futures such opportunities could

unfold. But educators cannot pick up the possibilities on behalf of students directly. Ultimately, as it was for Abby, students have to accept the changes they are offered, and make the project personally relevant in a manner that improves the quality and character of their participation.

## Conclusion

Our purpose in this study was to explore how authentic project experiences matter to instructional design students. Through a case study of how an instructional design student, Abby, depicted her experiences as a member of a design team, we came to understand how (a) authentic projects may not always be unambiguous goods in instructional design education; (b) how this is so because authentic projects become learning experiences through a reciprocal relationship between students and the project; and (c) how because of this, educators and students must jointly cooperate in improving authentic project experiences. Of course, more research is needed to more fully understand how authentic projects matter to instructional design students. But our initial exploration here at least illuminates how part of their significance lies in the range of practical and affective responses students might have to them. We hope that further research will continue to focus on these relationships between students and the project experiences in which they participate, seeing them as important not because of what they do to students, but also because of what students are able to meaningfully contribute towards the experiences themselves.

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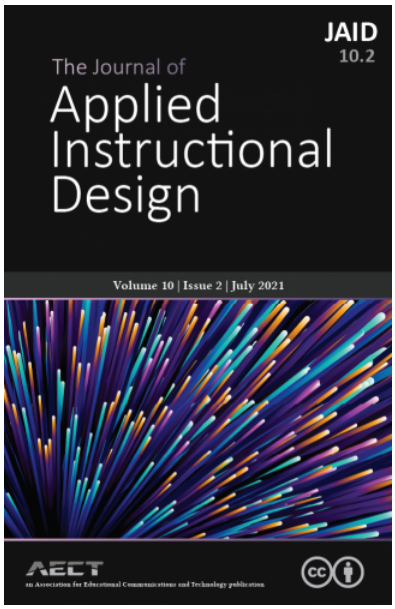


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