

Using Practice-Based Learning to Extend Undergraduate Teaching and Learning

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This research article reports results of a study centered on an undergraduate instructor who facilitated a practice-based field experience with undergraduate preservice teachers ($n=125$) in an urban museum setting, working with middle school students with a public museum school. In addition to exploring this practice-based field experience, we also examined ways the setting functioned as a third space for teaching and learning. Also discussed are some of the changes the instructor made to maximize student learning in this third space. Results indicate that implementing practice-based learning in undergraduate education serves to extend and support teaching and learning. Moreover, practice-based learning experiences provide additional learning opportunities, including connecting undergraduates' chosen careers with professionals working in the field. The outcomes of this study also indicate that when implementing and facilitating practice-based learning opportunities there are some pedagogical shifts instructors will need to make, including increasing one's flexibility and adaptability as well as intentionally utilizing the additional third space(s) as text and teacher, when and where possible.

Not quite 100 years ago, educational philosopher John Dewey (1938) coined the term, "experiential learning" and challenged educators to embrace the idea that learning occurs in social contexts, specifically that learners' knowledge and understanding occur as a result of social interactions and experiences. According to Dewey, in order to build new knowledge, educational systems and settings should be used to support the social nature of students and their learning. When purposefully embedding experiential learning within a given context, the role of the teacher is to facilitate experiences that lead students to build applicable understandings. One type of experiential learning is practice-based learning (Hynes, Costin, & Birdthistle, 2011). This approach directly connects course content with embedded, hands-on learning experiences where students directly apply their learning by practicing skills and approaches in their field of study, most often in professional contexts beyond higher education classrooms.

Practice-based learning can be accomplished through internships (Saqan & Ashmawy, 2018), service-learning (DeMartini, 2021), and field-based observations (Daly, 2021; Hamilton & Margot, 2020). Moreover, "practice-based learning" is utilized in a variety of majors as well as graduate and undergraduate programs across the globe, including health sciences (Tilley et al., 2007), business (Toledano-O'Farrill, 2019), and engineering (Vaughn, 2018). Faculty who facilitate practice-based learning do so to ensure that undergraduates have opportunities to learn about and engage in discipline-specific practices prior to entering the profession (Kozar & Marcketti, 2008). As a result, practice-based experiences serve to apprentice undergraduate students into their chosen professions, bridging students' learning between classrooms and professions (Meyers & Nulty, 2009). Aligned with this idea, Huggins (2017) noted that the term "practice-based learning" is a particular type of experiential learning, a theoretical framework centered on students learning by doing (Dewey, 1938; Eyer, 2009). In higher education the goal of practice-based learning is to provide opportunities for undergraduates to connect their university classroom learning while simultaneously working and learning in professional, career-oriented settings beyond the college classroom (Hamilton, Burns, Leonard, & Taylor, 2020).

Drawing on Ball and Cohen's (1999) work within teacher preparation, these researchers used the term "practice-based teacher education," to describe the ways preservice teachers routinely worked with and observed teachers and students in PK-12 school settings, doing so as an explicit and embedded extension of their undergraduate teacher education coursework. In this context, practice-based learning is intended to connect preservice teachers' university-based learning directly to the settings in which they will work, namely PK-12 schools and classrooms (Forzani, 2014).

In teacher education, we have been particularly impressed by the ways in which practice-based learning outside traditional PK-12 school settings serves to support undergraduate preservice teacher learning (Hamilton, Burns, Leonard, & Taylor, 2020; Hamilton & Margot, 2019; 2020). Practice-based settings include parks, neighborhoods, libraries, wetlands, museums, and local historical sites (Gruenewald & Smith, 2010). For example, Hamilton, Burns, Leonard, and Taylor (2020) found that sites such as public museums, children's museums, and construction sites afforded preservice teachers with additional opportunities to be apprenticed into their chosen profession, including applying pedagogy and engaging in varied teaching practices. As a result of these practice-based learning experiences in less traditional PK-12 settings, preservice teachers' understanding of where, when, and how teaching and learning take place expanded.

Connected to the value of integrating practice-based learning in undergraduate education, the purpose of this article is to examine a practice-based learning experience facilitated by first author, Erica, an experienced teacher educator. Erica worked with her undergraduate preservice teachers ($n=125$) in the City Museum, a large urban museum located in the Midwestern United States (pseudonyms used for all names and locations). In partnership with City Museum staff and personnel associated with the Museum Middle School (MMS), an urban public middle school (grades 6-8) housed within the City Museum, this practice-based learning experience included preservice teachers working in the City Museum with small groups of sixth-grade students each week during ED 300, their regularly scheduled undergraduate

content area literacy course. Erica facilitated this partnership six different fall and spring semesters, over the course of five years (2015-2020). As such, this study centers on the following research question. In what ways, if any, does a practice-based learning experience in a museum setting support undergraduate preservice teachers' learning?

THIRD SPACE THEORY

Noted by Stigmar (2010), the scholarship of teaching and learning centers on instructors bridging theory with practice. Thus, it is important to remember that the setting in which practice-based learning occurs can also enhance/expand students' learning. When learning is supported in this way, the setting itself functions as a third space (Bhabba, 1990; 1994). A third space is created when "the official and unofficial spaces of the learning environment—intersect" (Gutiérrez, 2008, p. 152). According to Gutiérrez, a third space - such as a practice-based setting - transforms one's relationship with others in a given place and within the environment itself, allowing learners to reconceptualize themselves in response to the space.

Within a third space, learning should be experiential, increasing the potential for the space itself to function as an additional teacher. As such, learners learn not only *in* but also *from* the space. When this occurs, the space becomes another teacher. Connected to practice-based learning in higher education, this means that learners learn about their chosen profession in a setting beyond

the classroom while also engaging in particular professional practices (e.g., K-12 classroom, non-profit agency, accounting firm, archeological site). As a result, these spaces function to support and contribute to undergraduates' learning. Aligned with tenets of third space theory (Bhabba, 1990; Gutiérrez, 2008, Zeichner, 2010), when done well, practice-based settings serve to facilitate and further extend students' learning because what happens in these third spaces is purposefully experiential, context-based, and service-oriented (McInerney, Smyth, & Down, 2011). As a result, practice-based settings, specifically those that function as third spaces, afford much promise and possibility (Hamilton & Van Duinen, 2021; Zeichner, 2010).

As a construct, Bhabba's (1990; 1994) third space theory supports existing work related to Dewey's (1938) theory of experiential education, in which the practice-based setting and the course instructor work in tandem to facilitate undergraduate students' learning about and within a given profession. Moreover, third space theory requires faculty to reconsider *what* happens as well as *what can happen* when one purposefully embeds practice-based learning within undergraduate education (Gutiérrez, 2008). As a result, third space theory frames practice-based learning as a pedagogy and practice that scaffolds learners' development, extends knowledge, and provides learners with developmentally-conducive learning experiences, all the while facilitating direct connections between course content and undergraduates' chosen careers. When aligned with practice-based learning, the

Table 1. Examples of Practice-based Learning in Undergraduate Courses Across Disciplines

Reference (alphabetical order)	Program	Practice-based setting	Goal of practice-based learning	Focus	Location
DeMartini (2021)	Sports Management	Local Parks and Recreation department	Align tenets of inclusion and social justice with local parks and recreation facilities to more effectively include all community members	Created a new site plan, including access for persons with disabilities Conceptualized and created new educational signage Identified and removed invasive species	United States
Mason & Dunes (2019)	Public Health	Local non-profit organizations	Bridge course content with needs of public health organizations; increase student understanding of local needs	Activities varied for students (e.g., working on an urban farm, preparing and eating meals with seniors, and assisting with an all-girls open gym program for Muslim-identified youth)	United States
Cromhout, Duffett, & Steenkamp (2021)	Marketing	Local small businesses	Apply theoretical marketing learning within a local business environment	Developed a campaign plan to improve marketing performance	South Africa
Chakradhar (2018)	Social Work	Local non-profit agencies	Connect undergraduates with specific service agencies to better understand local agency services and needs	In partnership with each agency's needs, conducted program evaluation Shared results and generated recommendations	United States
Saqan & Ashmawy, 2018	Engineering	Engineering companies or Organization	Align students' subspecialty with practicing professionals	Worked with professional mentor Gained on-the-job training and experience	United Arab Emirates
Hall, Lorenzo, Matte, Mozolico-Staunton (2018)	Allied Health	Friendship Village (FV)	Connect concepts of allied health to to the field, while also developing inter- and intra- personal skills	Worked with local staff Engaged with the FV community Identified priorities and needs Designed and implemented programs and strategies	Vietnam
Hynes, Costin, & Birdthistle (2011)	Business	Business firms	Introduce students to day-to-day management experiences and challenges, including business decision-making processes and operations	Worked with peers in team settings Collaborated to identify, research, and solve a business partner-identified issue Presented solution to partner	Ireland

settings in which these experiences occur can function as third spaces (Hamilton & Van Duinen, 2021).

PRACTICE-BASED LEARNING ACROSS DISCIPLINES

Noted earlier, practice-based learning can serve multiple student learning outcomes and can be used at all levels of undergraduate education, evidenced in studies connected to the scholarship of teaching and learning (Table 1).

Moreover, practice-based learning has been utilized to increase and enhance teaching and learning in a variety of disciplines across the globe. In addition to these studies (Table 1), there are important pedagogical and practical considerations when implementing practice-based learning. As Overton, Clark, and Thomas (2009) found in their literature review of alternative practice-based placements in occupational therapy, an important component of successfully facilitating practice-based learning in undergraduate courses centered on the need for direct supervision and instruction by the faculty member. When facilitating practice-based learning, the faculty member must actively and concurrently serve as guide in the classroom and in the field, ensuring students understand and can apply clear and direct connections between coursework and practice-based experiences. Bowen (2010), when exploring aspects of service-learning, which can also be integrated into practice-based learning, found there exists a need to ensure such learning experiences include applications in the real-world, interaction and collaboration, and opportunities to reflect on one's learning.

Further, Abahre (2021) shared recommendations based on an experience facilitating a practice-based partnership between an undergraduate archeology department in Palestine and Palestine's Ministry of Tourism and Antiquities. When examining the effects of this program, this researcher noted the importance of reciprocity when planning for and implementing this practice-based partnership. Two important outcomes from this study centered on the faculty member's ability to ensure reciprocity as well as engage in ongoing assessment of the field and student learning. One, it is incumbent upon the faculty member to ensure that all partners (i.e., students, college/university, and external partner) benefit from the relationship. To ensure reciprocity, it is necessary that the faculty member clearly understands their profession's trajectory as well as the partner's specific needs.

The importance of reciprocity within partnerships such as this, including service learning, is also highlighted in Henry and Breyfogle's (2006) earlier study centered on concepts related to a typical after-school tutoring program, which includes teacher educators partnering with a local school and inservice teachers and involves undergraduate preservice teachers working with elementary students after school to provide additional instruction and support. Findings from their examination led the authors to challenge partners engaged in such work to use practice-based learning opportunities between university and community partners to move beyond a model of "giving and receiving between the 'server' and... 'served'" (Kendall, 1990, p. 21-22, as cited in Henry & Breyfogle, 2006). Instead, when engaged in models of practice-based learning relationships between stakeholders should lead to "...greater individual understanding of various life experiences as well as alteration of rigid social systems over time" (p. 34).

In addition to reciprocity, based on Hamilton and Margot's (2019) findings connected to teaching an undergraduate educa-

tion course in which preservice teachers worked and observed in an urban middle school setting, practice-based learning should also include regular opportunities for students to reflect on their learning, aligning Schön's (1987) practice of "reflection-in-action" with one's professional preparation. Regularly reflecting on and being challenged to think about one's learning and experiences serves to increase undergraduates' understanding of and capacity for making connections between their coursework, their chosen profession, and what they experience and learn in a practice-based setting (Hamilton & Margot, 2019). In facilitating "reflection-in-action," it is critical that the instructor regularly follow up and monitor undergraduate students' learning closely as they engage in the practice-based setting, to ensure learning outcomes are accomplished – including students' capacity to make clear and explicit connections between university coursework and what they learn in a given practice-based setting.

Museum Spaces as Sites for Learning

In the United States, museums are often considered centers of education and outreach (Lasky, 2009). More than fifty years ago, researchers connected to a National Science Foundation (NSF) grant shared findings and suggestions related to ways museums could support K-12 students' learning. Recommendations included bringing museum programs and artifacts to K-12 schools, offering K-12 in-service professional teacher training and development to increase teachers' understanding of and access to museums, and allocating monies and resources to bring K-12 students to museums to explore and learn (Goldman, 1970). Annually, museums spend more than 2 billion dollars on education-related activities and allocate about seventy-five percent of their education budgets to K-12 schools (American Alliance of Museums, 2020).

Many museums also support local school teachers, helping them meet national and state curriculum standards through purposeful programming delivered onsite at museums and in schools. In the United States, museums host approximately 55 million visits from K-12 students annually, most often through scheduled school groups (American Alliance of Museums, 2020). In addition to supporting K-12 students and teachers, university-museum based partnerships can serve to support preservice teachers' learning and development. One way these partnerships accomplish this is through expanding preservice teachers' understanding of when and where teaching and learning take place (Hamilton & Van Duinen, 2021; Hamilton & Margot, 2020).

Study Context

Similar to other fields in which undergraduate coursework is aligned with practice-based experiences, preservice teacher education has a long history of partnering with PK-12 schools and placing preservice teachers in local classrooms to complete required field experiences. While these settings are important to teacher education, Erica also became familiar with research connected to less traditional practice-based settings (Gruenewald & Smith, 2010). As a result, this instructor sought to expand practice-based learning for preservice teachers beyond traditional PK-12 school settings.

Thus, Erica created an embedded practice-based learning experience within a required 3-credit undergraduate content area literacy course (ED 300) at Midwestern University (MU), located in the Midwestern United States. As part of this course, the instructor partnered with staff at the Museum Middle School

(MMS), which is part of the fifth largest public school system in the state. Somewhat unique is the fact that the MMS is located directly within the City Museum. One of less than ten secondary museum schools in the United States, the City Museum and MMS were located within walking distance of MU. This partnership included 125 ED 300 participants and took place during the 2015-2017 and 2019-2020 academic years (Table 2).

Academic Year	Number of Participants	Participation Percentage
2015-2016	42	100%
2016-2017	39	92%
2019-2020	44	94%

To augment ED 300 students' learning, Erica collaborated closely with MMS administrators and teachers. Erica also worked closely with one of the MMS's sixth-grade teachers to design a partnership in which Erica's ED 300 students spent 45-60 minutes of their three-hour undergraduate class each week working onsite at the City Museum with small groups of MMS sixth-grade students. The work completed in the weekly small groups aligned with the MMS's English Language Arts (ELA) and social studies curriculum. These weekly practice-based experiences provided ED 300 preservice teachers opportunities to directly apply learning from Erica's class about adolescent literacy and included regular exploration and use of the City Museum to extend adolescents' learning and further develop ED 300 students' pedagogy and practice. Prior to ED 300, neither Erica or the undergraduate students had experience teaching or working in a museum setting.

Due to staff changes, Erica worked with one MMS ELA sixth-grade teacher during the 2015-2017 academic years and a different ELA sixth-grade teacher during the 2019-2020 academic year. There was a two-year pause on the partnership due to personnel and personal changes. When the COVID-19 Pandemic paused in-person learning in March 2020, ED 300 students' partnership with their small groups ended early, with one final asynchronous collaboration Erica designed to bring closure to the partnership.

DATA AND DATA ANALYSIS

Multiple data sources (Table 3) were collected and analyzed to address this study's research question.

Initial data analysis consisted of utilizing an interpretive approach through open coding (Miles et al., 2014). This process of open coding focused on this study's research question regarding how a practice-based learning experience in a museum setting potentially supported undergraduate preservice teachers' learning. First, participants' weekly written reflections were analyzed to identify and generate codes related to preservice teacher learning within the City Museum. Analyses of these data included content analysis (Newby, 2010; Miles et al., 2014) and constant comparative methodology (Corbin & Strauss, 2008). Specifically, participants' reflections were analyzed and coded individually, first within small groups and then within the context of ED 300 peers' responses (within each semester). Then, ED 300 students' responses across all semesters were analyzed and compared. Initial codes from these rounds of open coding and constant comparison were then examined and applicable codes were grouped into three overarching themes (Table 4).

Using these three themes that emerged from the initial analyses of ED 300 students' reflections, researchers then used constant comparative methodology (Corbin & Strauss, 2008) to analyze and compare the content contained in the transcribed question and answer sessions as well as the focus group interviews, specifically looking for evidence of these two themes. Finally, drawing on the three established themes from these analyses, Erica's field notes and analytic memos were examined, in which we - once again - intentionally looked for evidence of preservice teachers' learning as it related to the need for flexibility/adaptability as well as the impact of place/space. Moreover, we continued to identify lessons learned as a result of this experience. Throughout data analyses, researchers also embedded member checking to ensure trustworthiness (Newby, 2010).

Data Source	Description and Purpose
ED 300 preservice teachers' weekly written reflections (captured via collaborative Google Documents)	Provides individual, prompt-based weekly reflections regarding participants' on-going work and learning within the City Museum (Google documents ranged from 30-50 single-spaced pages, depending on group size)
Question/answer (Q/A) sessions with ED 300 preservice teachers and MMS sixth grade teachers and administrators, lasting 35-45 minutes each; these occurred 2-3 times each semester. (audio-recorded and transcribed for further analysis) (n=12)	Captures preservice teachers' interactions and discussions with MMS sixth-grade teachers. During these whole-class focus group interviews, MMS sixth grade teachers offered responses to preservice teachers' questions, provided additional information about teaching in the City Museum, and shared personal teaching and learning experiences.
Focus group interviews with participating MMS administrators and teachers, collected at the end of each semester (audio-recorded and transcribed for further analysis) (n = 6)	Captures observations, experiences, and reflections related to working with and facilitating MU preservice teachers' learning within the context of the City Museum. During these focus group interviews, MMS sixth grade teachers offered additional information about teaching in the City Museum, including ways they sought to support and extend preservice teachers' learning within this practice based context.
Exit interviews with ED 300 students (April 2020) (audio-recorded and transcribed for further analysis) (n=7)	Captures observations, reflections, and connections related to ED 300 students' experiences learning and teaching in the City Museum.
Recorded/transcribed 1-hour semi-structured interview with Erica (October 2019) (audio-recorded and transcribed for further analysis)	This interview was intentionally conducted after a two-year hiatus with this practice-based partnership. At the time of this interview, Erica had re-started the partnership with the MMS and was in the middle of the fall 2019 semester. This interview specifically focused on Erica's reflections and experiences from the partnership's first two years as well as how these lessons and experiences were and/or could inform the current academic year's (i.e., 2019-2020) partnership moving forward.
Researcher's field notes and analytic memos (captured before, during, and after the study)	Offers insight into ED 300 instructor's (also one of the PIs for the project) observations of and experiences during the weekly MMS placement, assessment of preservice teacher learning, and personal anecdotes related to coordinating and facilitating a practice-based learning experience within the City Museum.

Overarching Theme (from collapsed open codes)	Selected Initial Descriptors (from initial codes)
Need for Flexibility/Adaptability	Change, Adapt/Adaptability, Adjust/Adjustment, Try[ing] New Things, Fluid, Unpredictable, New School Model, New Knowledge, Modify/Modification(s), Try Again
Impact of Place/Space	Learning in a Museum, Using Museum to Teach, Using Museum to Learn, Exploring Exhibits, Exhibits as Text, Using Surroundings, Observing and Learning in a Location, Sights and Sounds
Lessons Learned	Communication, Consistency, Reciprocity Matters, Hard Work, Coordination, De-Briefing (for undergraduates and partners), Partnership Norms, Logistics, Connect Stakeholders Together, Revise, Do It Different(ly)

FINDINGS

Based on data analysis and the three overarching themes that emerged as a result, practice-based learning within a museum setting *does* support preservice teacher learning, namely by providing opportunities to learn more about and practice flexibility and adaptability. Additionally, within the context of this study, the place/space in which the practice-based learning mattered and impacted teaching and learning because the place functioned as a text and as a teacher. We also found that when engaged in practice-based learning and examining the lessons learned as a result, it is useful to identify particular practices that best support this model of instruction and education, in order to maintain its efficacy and reciprocity.

Flexibility and Adaptability

Throughout data analyses, the importance of acknowledging and practicing flexibility and adaptability within secondary education was clear. Early on during the fall 2015 semester in an initial question/answer session with the two MMS sixth-grade teachers, in which ED 300 students asked questions and debriefed about their experiences working in their small groups, it became clear that flexibility and adaptability were essential practices in the profession and for this partnership. While encouraging ED 300 students to remain flexible and open to adapting each week during their small group sessions, one MMS teacher explained,

It's definitely not easy. [Teacher Name] and I were not handed the scope and sequence of what was supposed to be taught, including when, until August. And the scope and sequence isn't even finished for the second marking period, which starts the first week of November. Yeah, we're kind of chasing our tail in that sense this year, but next year is going to be better.

In a question/answer session when asked about their experiences planning for student learning and teaching in the City Museum, one of the MMS teachers explained during one of the later question/answer sessions in the spring of 2017 with ED 300 students,

...I'm intentional about teaching in exhibits still, but it's not as off-the-cuff or teachable moment as it was last year. I mean, sometimes it was a teachable moment because there was no lesson planned because there was no curriculum to write lesson plans from. So it was kind of like, "Let's go study culture and [Name of Exhibit]!" A lot of the curriculum that I've written so far has been based off experimenting with kids.

Furthermore, based on Erica's experience and supported by extant literature, practice-based learning requires more planning and, generally, affords less control. For example, after Erica returned to this partnership in the Fall of 2019 after a two-year hiatus, Erica explained in a semi-structured interview,

...When I first started this [partnership], it was a lot of letting go, and being flexible and open, being responsive to the undergraduates' needs, and also trying to attend to the sixth-graders' needs. I tried to be flexible all the way through. But I came into it this year having had that two-year break and spending time with the data, and the data from the first two years of the study is definitive. This experience is important to the undergraduates.

Erica went on to provide a more recent example related to the ongoing need for flexibility and adaptability.

As I was telling you before we started, we aren't going to be at the museum next week, because they're going to be at sixth-grade camp. Which is great, because, wow, I'll have almost three hours with my undergraduates!

And then I got an email a couple of days ago, and I learned that they're going to have a Native American display the week after that [at the City Museum], so drumming, and dance—it's going to be an amazing cultural experience. But, now, we're going to the museum for an hour and a half that week, where we're normally there for an hour, and it's not going to be at the same time. So, ok, I just need to shift, and be ok with that.

As Erica worked to remain flexible and adapt, they also worked to be transparent with ED 300 students about the changes and shifts needed throughout the semester. Just as Erica had to adapt and respond to the needs of the MMS teachers and their students, ED 300 students were also required to adjust to these changes, often on a weekly basis. Such changes occurred because of scheduling, lesson plan changes, facility availability and even sometimes related to inclement weather.

Impact of Place/Space

Space as Text

Beyond the need to become more flexible and adaptive to students' learning needs, when facilitating practice-based learning, there exists an opportunity for the space to function as a text as well as a teacher. This was reiterated in multiple focus group interviews with MMS personnel. For example, early in the partnership in the fall of 2015, an MMS teacher shared how they conceived of practice-based learning within the context of a particular place and space.

I almost think of it as like a case study approach - that might be a way to describe it - where you are observing the place where you live [and learn] and using that as inspiration for what you're learning. So you're learning about something through the lens of where you are, the places around you, as opposed to learning about it in more of a distant, abstract kind of a way.

In another focus group at the end of the second year of the partnership in the spring 2017, a MMS administrator noted how places can be texts and teachers. They shared,

I'm going to use PE [physical education] as an example. Take the PE curriculum and then move it to, say, the park. So I'm going to do the same lesson that I might do in a gym in a school but the difference is I'm going to do it in a park. You think, "What does the park bring to this experience?" Then you're doing *The Hunger Games*' games because you're taking advantage of the environment, making use of it for what it is. And it's a different way of thinking about adapting your teaching to that place. You're not asking, "How do I do what I normally do in this place," you're asking, "What does the place bring to that?"

Such questions and observations, as the ones posed by this MMS administrator, capture the importance of place as it relates to learning, particularly when the place itself becomes a text.

Except for the very first semester of this partnership, part of ED 300 undergraduates' experience working with small groups of sixth-grade students in the City Museum included a collective book study. Each semester, ED 300 preservice teachers and their assigned small group of sixth-grade students collectively read and discussed a novel, while also connecting their learning to the City Museum, including the large river the building is situated alongside. For example, during the Fall 2019 semester, they read and discussed Parks' (2010) novel, *A Long Walk to Water*. The novel is centered on the challenges faced by a real person - Salva, a Sudanese refugee who was one of the "Lost Boys," as well as a fictitious young girl, Nya, and her family's lack of access to clean drinking water. In this novel, Parks offers parallel stories of two adolescent characters and the challenges they faced. As the ED 300 participants and their small groups read and discussed this novel, including humans' basic need for clean drinking water, they also explored the City Museum each week. One ED 300 participant explained in their reflection,

Something that's really special about the [City Museum] is its placement in the city, located right adjacent to the [Name] River. From any floor, you are able to view its waters and marvel at its accessibility. While it's not the cleanest water available to us, it is freshwater and it is in abundance. From my parents' house, it would take me only about 40 minutes to walk to the [Name] River, but I'd easily hit a number of small lakes and ponds before I got there. This is starkly different from the long walk to water that Nya [main character in *A Long Walk to Water*] and many others face.

Furthermore, during a question/answer session at the end of the fall 2019 semester, one of the MMS teachers encouraged ED 300 students to consider how the museum space can be used to support students' learning. Specifically, they talked about how they used a particular museum exhibit to make connections with Parks' (2010) novel to further enhance learning.

...yesterday we read Chapter 17 together, and the part where he is in the hospital, talking to his dad, and his dad tells him, "Your mom is still alive, she's back in the village," and like both groups, "ooo! Aww!" It was just so cute. And I also told [Erica] that we watched the movie *God Grew Tired of Us* which is about several lost boys of Sudan.

This teacher then went on to describe one of the City Museum's artifacts, namely a picture of five "lost boys" of Sudan.

[In the picture,] David Bishow - who actually, that's his jacket, downstairs, in the exhibit - he's in the movie-- it's showing three men being chosen, like they're looking at a list, they're finding their name, and they're being brought to the U.S. And, actually, in part of the movie, they show a reunion that happened in [urban location of City Museum]. The kids loved it. They had a ton of connections with it, it just made it that much more relevant.

In this way, this artifact - which is a text - enabled students to use the City Museum as a text, whereas the full exhibit itself served to teach learners more about issues related to water and global access to water.

Space as Teacher

One way the City Museum was a teacher is evidenced during a focus group interview in April 2020, an ED 300 student explained how they used the City Museum to support sixth grade students' learning, specifically connected to Woodson's (2010) novel, *Loxomotion*, the shared text they all read and studied.

It was just so easy to be in that setting [i.e., the City Museum] while we were teaching them. Because you could just kinda turn your head, and look for a real-life example of what you're trying to learn about. It was so easy to scan the room you were in, scan the exhibit, be like, ok, how can I make a connection here? And trying to find something that connects. And you know, especially if you're moving around to different areas of the museum a lot, you can kinda know how certain exhibits tie into certain things. So like the [Name of Exhibit] is much more based on how people might feel out of place, how they might be different-- so that's kind of a good place to start, especially when they're learning about Lonnie, and how he might feel out of place, things like that. It's being able to know, turn, and just try to find that connection.

As this ED 300 student explained, a theme echoed throughout the data, when engaged in this type of practice-based setting, the actual setting also served to teach and facilitate teaching and learning.

Connected to teaching ED 300, Erica also shifted pedagogically in some of the ways they thought about teaching and learning. Typical college classroom settings usually house desks and/or tables, white boards, projector(s) and screen(s) and often include a teacher lectern or workstation with various technologies. When teaching and learning occur in these types of classroom settings, the physical space itself does not necessarily function as a separate teacher. It houses the teaching and learning but does not facilitate it. In these higher education learning spaces, teaching and learning occur most often transactionally between an instructor and their students. However, when moving learning into a practice-based setting, the actual setting can also serve as another teacher. For example, when reflecting on how the City Museum itself functioned as another teacher within their ED 300 course, Erica noted in one of their analytic memos

...The museum has lots of sounds, it has—I mean, that's the goal of the [City Museum], to be immersive, and experiential. So many of my pre-service teachers have come to this course believing that learning happens best in quiet, structured settings. But, that's not the case. And learning can happen outside of what we consider a traditional school setting, and they have to figure out how to make that work.

Erica explained that one way their undergraduates did this was through regularly practicing “teacher skills” with their assigned small group. These skills included “...eliciting students’ thinking, probing and making sure they are checking for comprehension, and helping middle schoolers extend their thinking, connecting it to the [City Museum], [City], [and] the world they live in.” When this happened, the City Museum became another text ED 300 students used to learn from and to facilitate middle schoolers’ learning.

As a practice-based setting the City Museum became another teacher for ED 300 students, as well as the MMS with whom they worked. Erica shared in a focus group interview how the City Museum functioned as a teacher centered on an experience learning about the Notre Dame Cathedral fire, which took place during the Fall 2019 semester.

...They read a *Time for Kids* article that was about the burning of Notre Dame’s roof. In the past, I would have been like, they’re going to read it, because that was how it came to me, then answer these questions. But I thought, *this activity is too school-based*. How do we use the [City Museum]? So, I added to the directions to have ED 300 students and their sixth-graders then visit two of the permanent exhibits in the [City Museum]. One was a stained-glass cathedral window from a church that’s here in [City], and another is an exhibit about City Hall.

So, these are artifacts from buildings that no longer exist. I asked ED 300 students and their middle schoolers to think about how these two exhibits helped them understand the significance of buildings and of places. For the people of Paris, Notre Dame is a really important place.

One of my ED 300 students, after class, talked about how one of their middle schoolers said during their small group, “Wait, I want to show you guys something!” So, they went up to another exhibit, and they pointed out a cross, and a crown of thorns reflecting the crucifixion of Jesus. And the middle schooler noted that, “They talked about that in the article too, because that’s in a church!” And the ED 300 student was so pleased, because it was a connection that the middle schooler made, and they were using the museum space to make a connection.

Reflecting on the experience later in this focus group interview, Erica noted the significance of this example – specifically how the City Museum itself became a teacher.

So, for these undergraduates and middle schoolers, it wasn’t just like, I see these things, but they don’t mean anything to me. It was, “Wait a minute, I’ve seen this in the [City Museum]!” And then they talked a little bit more about that, and then talked about how it connects to Notre Dame. That, in my mind, that’s the sweet spot.

In this instance, the ED 300 students and their middle schoolers were learning about something that happened in another country, on another continent. And yet, being in the City Museum’s space – with access to its artifacts and exhibits – fostered additional learning, including more connections and understanding.

As such, Erica challenged her ED 300 students to help the sixth-graders see explicit alignment between the novel (i.e., MMS curriculum) and the City Museum. In doing so, ED 300 participants helped their sixth-graders make different connections, some

literal and some metaphorical. Drawing directly from ED 300 students’ weekly reflections, literal connections included,

The first exhibit my students thought of was the “W is for Weapons” exhibit. We went there and made connections to the machetes and guns that the evil people were carrying when they approached the group [in the novel]. The second exhibit we went to was the “Birds of a Feather” section of the wildlife exhibit. The students saw a heron or a crane and it reminded them of the stork that the group found in the mud pit that they started to cook before the evil people came. My students also made the connections between the book and the “Drop of Marsh Water” exhibit. They noticed how dirty and gross one drop of water is.

Concurrently, the City Museum setting also facilitated metaphorical connections. As another ED 300 student explained in one of their reflections, referencing Parks’ (2010) novel,

One exhibit/artifact that my [students] and I explored this week was the ‘W is for Watches and Clocks.’ We specifically looked at a clock in the showcase that did not tell time. We connected this to the book because Salva did not know how long it had been since he had seen his family, and he did not know when/if he would see his family again. Another exhibit/artifact we explored was the scale outside the [Name of] exhibit. We connected the scale to the book because as during his whole journey, Salva was trying to balance his emotions and his new life.

In these instances, as well as others throughout each semester of this partnership, the City Museum facilitated thinking and learning. It was not only a space in which learning happened but it also actively promoted and prompted learning. As such, the City Museum served as a third space (Bhabha, 1990), as it became another teacher within this practice-based model of teaching and learning.

Lessons Learned: Pedagogical and Practical Considerations

For Erica, embedding practice-based learning into her undergraduate course required intentionality and some pedagogical shifts, including increased flexibility and adaptability as well as creating opportunities, when possible, for the setting itself to become another text and teacher which enabled the City Museum to become a third space (Gutiérrez, 2008). Based on analyses and Erica’s intentional “reflection-in-action” (Schön, 1987), it is also clear that to support this partnership, there are specific and intentional pedagogical and practical considerations to fully support this particular type of experiential education. Findings reveal multiple practices that supported reciprocity between partners and success of this practice-based learning opportunity (Table 5).

These are not the only practices that may be needed or used when implementing and supporting practice-based learning within an undergraduate course. Some settings may also require background checks and transportation needs (e.g., travel time to and from a given location, students’ access to transportation, including potential carpool coordination and/or access to efficient bus routes). Moreover, a site’s geographic location and weather may also play a role when accessing types of practice-based settings, particularly if a setting is outdoors. And, if site personnel changes – as happened to Erica – it may be necessary to revisit the partnership expectations and needs, revising and changing as needed.

Teaching Practice	Benefits for Undergraduates	Benefits for Partner
<p>Texting Application Used texting application (i.e., Remind) when onsite and during the semester</p>	<p>Facilitated immediate communication with ED 300 students via texts to their cell phones (e.g., changes in plans/logistics, identifying the location of a group, connecting with a middle school student).</p> <p>Allowed for sharing reminders about expectations during small group time and sending reminders about coursework due dates and deadlines.</p>	<p>Afforded easy access to ED 300 students when in the Public Museum, including finding a middle school student if/when they needed to return to the classroom or leave school early.</p> <p>Supported reminders, when needed, about a given exercise or expected timeframe for the small group time.</p>
<p>Co-Planning Engaged in ongoing co-planning with MMS ELA/social studies teacher to generate and identify relevant content and design weekly activities with directions and to-do lists, allowing for integration between weekly small group work in the Public Museum with ED 300 curriculum goals and student learning outcomes</p>	<p>Provided hard copies of weekly plans/overviews at the beginning of each class to ED 300 students before they walked over to the MMS to work with their middle school students.</p> <p>Offered A2 and ED 300 students opportunities to review materials and ask questions; within these plans, ED 300 students had flexibility to respond to middle schoolers' learning and needs, including identify spaces to work and learn within the Public Museum and which teaching and learning strategies to use to support adolescents' learning</p>	<p>Offered additional co-planning and collaboration opportunities between MMS teacher and A2.</p> <p>Afforded another, regularly scheduled learning experience in which adolescents could learn.</p> <p>Provided adolescents with additional, supervised opportunities to work and learn within the Public Museum setting.</p> <p>Offered adolescents with access to an additional mentor, who was also a current college student.</p> <p>Afforded opportunities for middle schoolers to engage in small group learning, with their peers and a more experienced other (i.e., ED 300 student).</p>
<p>Debriefing and Reflection-in-Action Utilized on-going, weekly reflection-in-action discussions and activities via whole class, small group, and Google Docs to assess ED 300 and learn more about MMS students' learning and experiences</p>	<p>Provided ED 300 students with opportunities to share what happened in their small groups each week, including what they did, how they used the Public Museum space(s), and what they learned and still wondered, specific to facilitating adolescent learning in a public space. These weekly conversations took place verbally in small and whole group conversations in the later part of ED 300 as well as via Google Doc groups, in which 3-5 ED 300 students were assigned to a Google Doc group and contributed their thinking and ideas, while also responding to their peers' initial posts.</p>	<p>Offered MMS teachers and A2 with insights about ED 300 students' learning, including information regarding specific MMS students that needed to be addressed or questions that needed to be answered.</p> <p>Provided a weekly "pulse" on how things were going with the practice-based partnership, offering opportunities to use this information to inform future small group activities and directions.</p>
<p>Question/Answer Sessions Embedded 3+/- question/answer sessions each semester after selected small group sessions, which took place after the end of the MMS school day (but still during ED 300); these occurred throughout the semester in an MMS classroom between ED 300 students and the MMS sixth grade teachers and included MMS administrators (when available)</p>	<p>Afforded ED 300 students with regular access to MMS sixth grade teachers, including opportunities to ask questions, challenge beliefs, elicit feedback and suggestions, and gain understanding about how to facilitate adolescent learning in a museum setting.</p>	<p>Created opportunities for MMS sixth-grade teachers to contribute to emerging professionals' learning and development.</p> <p>Presented opportunities to offer mentorship, encouragement, and stories from the field - based on MMS sixth-grade teachers' own teaching and learning experiences</p>

In addition to specific practices needed to sustain the success of a practice-based learning partnership, when asked about the value of the partnership during a focus group interview during the 2019-2020 school year, one of the MMS teachers reiterated the importance of reciprocity. They explained, "You're right, the partnership needs to be reciprocal, we need people with experience on both ends". Later they added,

Every school that I've worked at has some kind of mentor partnership. It has always looked a little bit different but the thing that I liked best about this one was we actually connected [ED 300 students] to the classroom learning and supported [sixth-grade] students where they were at. It wasn't like, "I'm going to do this separate thing with this person that comes once a week." Instead, it was, "I'm going to practice skills that I need with this person once a week." It's kind of push-in, pull-out.

The idea that a practice-based learning experience is a push-in and pull-out experience is apt. This practice-based learning experience, in which flexibility and adaptability were embed-

ded and practiced alongside the use of the actual place as a text and teacher aligns with the goal of having ED 300 undergraduates "push in" to and engage in specific pedagogies and practices aligned with their chosen profession while also pulling out learning and developing as future teachers, a direct result of teaching and learning within the context of the City Museum.

DISCUSSION

Based on this study's findings, there are multiple, novel ways practice-based learning can be used to support undergraduates' learning. Although this qualitative study is not replicable due to the unique nature of the City Museum and its qualitative design, its findings can and do contribute to the field of practice-based learning and can be utilized to present a case for embedding practice-based learning, when and where possible, in undergraduate education. In response to this study's research question, the more faculty can embed practice-based learning in their courses, the more undergraduates will have opportunities to engage in experiential learning. Although they require varying levels of flexibility

and adaptability, these practice-based experiences can serve as additional entries into the profession, not only giving undergraduates access to professionals themselves but also to the practices and applications that occur within a professional setting (Table 1). Moreover, this model affords opportunities for the location (i.e., place/space) to become a text as well as a teacher, in which case the setting functions as a third space (Gutiérrez, 2008). At the same time, various locations may be more or less conducive as third spaces and, thus, it is important that the instructor and partners ensure the space's intentional use as a third space which can lead to deeper learning and understanding.

Drawing most heavily on the third theme (i.e., “lessons learned”), there are a number of considerations faculty must make, including logistics, attention to student learning, sustainability, and the importance of maintaining a reciprocal partnership that benefits undergraduates and the professionals in the field. In some cases memos of understanding (MOUs) may also be necessary between partners. In Erica's situation, there was no formal MOU but the IRB study protocol related to this partnership served to add clarity to expectations for this partnership. Erica also met with City Museum and MMS personnel regularly before, during, and after each semester to ensure reciprocity and clarity of roles and responsibilities.

Dewey (1938) was correct in surmising the important role the instructor has when students are building their knowledge while also learning from and with experts in their career fields. To ensure that students' knowledge is constructed in meaningful ways, instructors need to intentionally leverage student experiences in the practice-based setting to grow students' capacity to understand and make connections between what they learn in the classroom and what they learn in the field. Direct connections must be identified, discussed, and broken down between previously learned content in courses and students' experiences in the practice-based setting. Doing so generates opportunities for practice-based settings to function as third spaces (Gutiérrez, 2008).

Faculty must also consider logistics, such as what locations and organizations might serve as potential practice-based learning partners. Once partners, spaces, and settings have been identified, it is important to ask and answer questions such as:

1. What are the curricular advantages and constraints of working and teaching within this space? If enough curricular advantages exist, how might this space and its associated personnel become part of the curriculum of the course?
2. How will students get to and from this space, particularly if this space is located beyond walking distance of the institution?
3. What are the best ways to partner with this setting's personnel, and how can undergraduates gain direct access to their professional knowledge and skills through working with these personnel?
4. What benefits exist for associated personnel who choose to partner with you?
5. How can this partnership function symbiotically?
6. What opportunities will students have to reflect on their learning throughout the semester, in order to propel their thinking and professional development?
7. What opportunities will faculty members have to reflect on their teaching and learning throughout the semester, to ensure the success of the partnership and its sustainability?

These are not the only questions that may be asked and answered when considering embedding practice-based learning. Based on previous research as well as this study's findings which are informed by Erica's experiences working in this partnership over the course of a five-year time period, these questions offer an important first step for faculty who seek to cultivate and embed practice-based learning opportunities into undergraduate courses, with the explicit goal of supporting and extending learners' professional growth, understanding, and skill development.

CONCLUSION

We know that learning occurs as a result of one's social interactions and experiences (Dewey, 1938). By providing undergraduates practice-based learning opportunities, they have opportunities to acquire knowledge from instructors in a setting aligned with their future career. Moreover, when these partnerships are reciprocal, students are able to build new and deeper understandings with professionals, their instructor, and peers (Henry & Breyfogle, 2006). Applying and practicing their learning in practice-based settings, particularly those that function as third spaces, allows undergraduates to better understand the discipline itself and offers connections to professionals in the field (Hamilton & Van Duinen, 2021).

When engaged in practice-based learning, the instructor becomes an active conduit for learning and facilitating meaning-making that occurs as a result of the practice-based experiences. The instructor is also responsible for making clear, explicit connections between course content and learning objectives as well as the students' experiences in the practice-based setting. When this happens, instructors harness the power of practice-based learning, as they help their undergraduates make sense of their prior learning and support the construction of new knowledge through interactions and experiences they encounter in this third space. We know from our own experiences that when practice-based learning is integrated into teacher education programming it further informs preservice teachers' understanding and professional development, allowing them to observe, experience, and try out learned content in multiple settings (Hamilton & Van Duinen, 2021; Hamilton & Margot, 2020; 2019). Moreover, practice-based settings allow undergraduates to have new experiences that can be built upon and learned from and explicitly connected to undergraduate coursework.

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