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Undergraduate Research as Pedagogy: Resisting Reproduction by Studying Novice Teachers

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Abstract

In this study, we (a university professor and four undergraduate researchers) conducted an autoethnography to explore the perceptions of the four undergraduate researchers as we studied the decision-making of novice teachers regarding literacy assessment and instruction. Drawing on Bourdieu's concepts of field, capital, and habitus, the undergraduate researchers learned about the cycle of pedagogical reproduction that often occurs in the first years of teaching. This knowledge provided them with the capital to develop strategies for finding a good-fit teaching position as they entered the teaching profession and to acquire a problem-solving mindset to strategically implement the literacy practices they learned about in their teacher education programs.

Undergraduate Research as Pedagogy:

Resisting Reproduction by Studying Novice Teachers

"Being equipped with research skills helped me develop a problem-solving mindset…Research heightened my ability to notice." Hannah

Hannah served as an undergraduate research assistant in a study on the decision-making of novice teachers regarding their literacy instruction and assessment. Now in her third year of teaching, she attributes her experience with research in equipping her with the ability to notice, to ask questions, and to investigate. "Conducting research made me start to look at the world through a different lens," Hannah explained. "I found myself asking the question 'why?' a lot more often." Studying novice teachers, she perceives, helped her become a more reflective practitioner and gave her the confidence to stand firm in what she believes is best practice. "Seeing our participants so often and easily abandoning what they knew to be best practice really had an impact on me…it lead me to want to be hyper vigilant about thinking about why I was doing things instructionally, instead of getting sucked into going along with what everyone else is doing."

Background and Purpose

In the 2015-2016 and 2016-2017 academic years, we conducted a longitudinal, multiple case study (Stake, 2006) in which we followed recent graduates from our teacher education program through their first years of teaching. Our purpose was to better understand how new teachers make decisions about the literacy assessment and instructional practices they use in their classrooms. Our research was part of a larger collaborative study with teacher educators in the northeast and Pacific northwest. In our portion of the research, we followed five recent graduates from our institution, and Andrew, solicited the help of Hannah, Denae, Jordyn, and Sara as undergraduate research assistants. Hannah participated in the first year of the study, helping design the project, seek IRB approval, and collect interview and observational data.

Denae participated in the second year of the study, also collecting data, and Jordyn and Sara joined the project after data collection was completed but helped with further data analysis.

Andrew selected Hannah, Denae, Jordyn, and Sara because they expressed interest in research opportunities and planned to enter a fifth-year M.Ed. program in our department. Hannah and Denae have since graduated and are now teaching in elementary schools. Hannah is in her third year of teaching, and Denae is in her second. Jordyn is now a graduate student at our university completing a yearlong student teaching placement, and Sara is finishing her undergraduate degree.

Throughout the research process, Hannah, Denae, Jordyn, and Sara repeatedly commented on how much they learned about teaching and the challenges teachers experience by researching novice teachers. Noting the significance of this unintended consequence, we decided to more intentionally examine what they learned about teaching from this research, and, in the cases of Hannah and Denae, how it influenced the jobs they chose and the instruction they now provide. Consequently, we decided to conduct an autoethnography (Adams & Jones, 2018; Jones, Adams, & Ellis, 2013) to answer the following research question: How do Hannah, Denae, Jordyn, and Sara perceive that their undergraduate research experience shaped their development as teachers and, as applicable, their current teaching practice?

Literature Review

A growing body of research emphasizes the importance of providing research opportunities for undergraduate students. The Boyer Commission Report (1998) recommends that colleges and universities integrate research-based learning as part of the curricula, and several more recent studies show that undergraduate research leads to improved critical thinking, communication and organizational skills, self-efficacy, and collaborative learning (Hunter,

Laursen, & Seymour, 2007; Lopatto, 2006; Seymour, Hunter, Laursen, & Deantoni, 2004). Additionally, numerous studies focus on participatory action research as a means for acquiring academic knowledge (e.g., Mountz, Moore, & Brown, 2008; Saul & Launius, 2010).

Despite this increased focus on undergraduate research, only a few researchers have examined undergraduate research in teacher education programs (e.g., Alderton & Manzi, 2017; Sindberg, 2016). And, although education professors collaborated with undergraduates in some of these studies, they have all focused on research that connects to a specific university course or field placement. They have not involved research opportunities outside of the classroom, nor have they specifically investigated research on novice teachers as a means for developing pedagogical knowledge.

This autoethnography contributes to this line of research by providing insight into a collaborative undergraduate research experience outside of the university classroom that resulted in preservice teachers learning about teaching by studying novice teachers. Hannah, Denae, Jordyn, and Sara all noted that researching novice teachers helped them not only identify many of the preconceptions they brought to teaching but helped them realize the challenges to implementing what they learned in their teacher education program. In the cases of Hannah and Denae, they also felt that through their research experiences they identified important strategies to help them implement what they learned into their own first years of teaching.

Theoretical Framework

In our initial research on novice teachers, we drew upon Bourdieu's (1972/1977) theoretical concepts of field, capital, and habitus. French sociologist Pierre Bourdieu developed the theoretical concepts of field, capital, and habitus to explain how individuals within social systems reproduce structures in education (Bourdieu & Passeron, 1970/1990). "Institutional

arrangements" or fields socialize individuals (Lareau, 2003, p. 275). This socialization greatly influences what individuals recognize as feeling comfortable and natural and thus largely dictates how they respond (habitus) in specific situations. Within social fields, individuals draw on a variety of resources (capital) to maintain and/or compete for additional capital.

Novice teachers often must negotiate a misalignment that occurs between teacher education program philosophies and actual school practices (DeLuca & Bellara, 2013). When faced with this conflict, beginning teachers regularly revert back to the more traditional methods supported in their school environments (Zeichner & Tabachnick, 1981) that view teaching as a transmission of knowledge and literacy as a hierarchy of isolated skills (Asselin, 2000; Gray, 1984). Bourdieu and Passeron (1970/1990) referred to this phenomenon as reproduction in education. When novice teachers begin teaching in school settings that do not value the capital (knowledge, skills, and expertise) they bring, they often find it difficult to push for change, thus ensuring that reproduction of the instructional status quo occurs.

This theoretical framework is useful for understanding the preconceptions many preservice teachers bring into teacher education programs and how such preconceptions often reproduce traditional pedagogy, as they become classroom teachers. Teacher candidates are socialized to expect classrooms to look and operate a certain way, and thus, often take it for granted that their prior experiences are what teaching is and should be and thus reproduce it in their own classrooms. Occasionally, teacher education programs are successful in helping preservice teachers imagine more student-centered approaches, but preservice teachers often revert back to prior experiences when they enter the classroom (Zeichner & Tabachnick, 1981).

Recently, there has been increased interest among scholars in the generative nature of Bourdieu's work (Albright & Luke, 2008; Huddleston, 2012). Although individuals within a

field are often complicit in the reproduction of social structures, they do have some agency in how they respond and can at times resist reproducing the status quo (Bourdieu, 1972/1977). Individuals can resist by raising awareness of the social structures of the field and using one's capital to push for change. As Hannah, Denae, Jordyn, and Sara participated in their undergraduate research experience, they often noted how the knowledge they gained provided them with important capital. This capital, they believed, would serve them well by helping them identify districts that would be supportive of the student-centered methods they learned about in their teacher education program as well as providing them with the confidence to implement such methods in their own classrooms.

Methods

As mentioned above, this project grew out of a larger longitudinal, multiple case study (Stake, 2006) in which we followed recent graduates from our teacher education program through their first years of teaching. In that study, Hannah and Denae (and later Jordyn and Sara) met with Andrew on a weekly basis to code and discuss the data we collected through interviews, observations, and documents. It was in those meetings that we developed the idea of conducting an autoethnography that would examine how the research experience shaped their development as teachers.

Data Collection

As is often the case in autoethnographies (Adams & Jones, 2018; Jones et al., 2013), our process was often more intuitive than systematic and developed as our time together progressed. Our methods consisted of a mixture of informal conversations, journaling, and interviews. Throughout the undergraduate research experience, Andrew initiated reflective conversations with the undergraduate researchers regarding what they observed in the novice teachers'

classrooms, how teachers made instructional decisions, what concepts from their preparation program the novice teachers implemented, as well as what the undergraduate students might experience and do when they had classrooms of their own. Hannah and Denae participated in these conversations as they helped collect and analyze the data, and Jordyn and Sara similarly participated in these discussions as they read and analyzed the data after the collection ended. Hannah, Denae, Jordyn, and Sara all wrote journals about what they learned both during and after their research experience. Hannah and Denae continued their journal writing after graduation through their first years of teaching. Additionally, Andrew continued ongoing conversations with Hannah, Denae, Jordyn, and Sara, exploring how they have acted upon and implemented concepts they learned through their research.

Data Analysis

To analyze the data we used the constant comparative method (Charmaz, 2006). This consisted of coding the journals and any related documents for recurring themes. We then defined and collapsed these themes into more focused categories. Second, we developed a codebook and wrote reflective memos to identify and explore the recurring themes. In both the codebooks and the memos, we defined each of the major categories, provided sample quotations, and reflected on how they connected to our research question.

Next, we used Bourdieu's (1972/1977) concepts of field, capital, and habitus to further analyze and theorize the categories we developed through the constant comparative method. This analysis consisted of three steps: (a) analyzing the field of education in which Hannah, Denae, Jordyn, and Sara work or will be working (b) mapping the various capital that they developed through their undergraduate research and brought to their teaching, and (c) analyzing

their responses (habitus) as they make decisions regarding reading assessment and instruction in their classrooms (Bourdieu & Wacquant, 1992).

Implementing the steps of the Bourdieusian analysis was largely a reflexive process in which we used the concepts of field, capital, and habitus to analyze the students' experiences. As Hannah and Denae obtained their teaching positions, we analyzed what they shared with us about their teaching environments to determine what social structures were operating that would influence the literacy assessment and instruction they provided. We also drew upon what we learned about the teaching environments of the novice teachers we had studied to speculate what challenges Jordyn and Sara might face when they graduated. We also identified and discussed the various types of capital they believed they had obtained through studying novice teachers. This largely consisted of knowledge and skills but also included the social relationships we formed with each other and the support those connections provided. Our analysis of responses (habitus) was largely limited to Hannah and Denae's experiences finding jobs and making instructional decisions, as Jordyn and Sara had not yet graduated.

Findings

Through the autoethnographic process, three recurring themes emerged regarding how Hannah, Denae, Jordyn, and Sara perceived that the research experience shaped their development as teachers and, as applicable, their current teaching practice. All four undergraduate researchers shared the first theme, The Brutal Reality of the First Years of Teaching, as they experienced the data in a preservice setting. The second and third themes, Finding a Good-Fit Job and Developing a Problem Solving Mindset applied primarily to Hannah and Denae as they graduated, secured a teaching job, and experienced their first years of teaching.

The Brutal Reality of the First Years of Teaching

Through their undergraduate research experience, Hannah, Denae, Jordyn, and Sara quickly learned that the novice teachers we studied experienced numerous challenges in their first years of teaching. The research experience enabled them to dive deeper than the surface level scenarios they had experienced in their undergraduate courses and gain a more holistic picture of the difficulties new teachers face. Denae explained:

> …researching novice teachers quickly opened my eyes to the hardships of being a new teacher. I am glad that I was prepared to have some difficulties and challenges. It is not a walk in the park, and doing this research helped pull back the curtains on the realities of teaching. The research also helped me to become as equipped as I could be for some of the challenges that I might face, and warn me of some challenges to look out for. I truly believe I was more equipped going into my first year of teaching because I was able to see novice teachers first hand.

Hannah also drew on the metaphor of "pulling back the curtain" to explain the insights into the difficulties of teaching the research provided her:

> I think the research and observations we did helped me to pull back the curtain of what to expect in the first year. I think I was more prepared for challenges with curriculum, push back from teammates, need for organization, flexibility in my teaching than other first year teachers, just because I was able to think through some of these scenarios before I was thrown into them.

Hannah, Denae, Jordyn, and Sara noted that in their undergraduate education program, they had several field placements that involved observing teachers, but they were always with a seasoned teacher who typically had effective classroom management and instructional practices. In the

research project, they were able to see novice teachers who were struggling to make things work, making mistakes, and learning how to manage the various responsibilities of being a teacher.

For Jordyn and Sara, the research challenged their initial perceptions of what teaching is in ways the coursework did not, deconstructing the notion of an ideal classroom where teaching is simple and all students are eager to learn. Jordyn said, "Diving deep into one area of research has shed light on some realities that go beyond what my initial impression of teaching children was. I have come to realize that there are many things a teacher has to think about." As a preservice teacher, Sara had heard that her first year of teaching would be difficult, but nobody had explained what those struggles might look like. "This research experience allowed me to read the stories of a few teachers that are working in their first years of teaching," Sara said. "This gave me insight into what I may also struggle with as a first year teacher."

Hannah, Denae, Jordyn, and Sara also learned that they would have to set realistic goals for what they could accomplish in their first years given limitations on time, experience, and district requirements. For Jordyn, researching novice teachers helped her learn to make decisions about what to realistically pursue as a new teacher: "Drawing on the research we have done, I have been much more aware of choosing my 'battles.' Not in a sense of this is war, but more of what do I feel is a priority for the students I have been charged with."

As undergraduate researchers, Hannah, Denae, Jordyn, and Sara experienced Bourdieu's (1972/1977) concept of reproduction first hand, and they came to understand the importance that the environment played in the decision-making process of the novice teachers we studied. Hannah, Denae, Jordyn, and Sara noted a chilling quote from one of the novice teachers we studied who expressed that oftentimes new teachers at her school would get "brainwashed" very quickly into doing what everyone else was doing. This served as a wake-up call to Hannah,

Denae, Jordyn, and Sara regarding how easily novice teachers can find themselves replicating the practices that exist within their teaching environments. For a number of our novice teacher participants, this resulted in them feeling unsuccessful and unfulfilled in their school settings. "Through our research I had seen how unhappy the first year teachers were," Hannah explained, "when they just went along with what the other teachers were doing instead of sticking to what they know to work best."

Jordyn mentioned that the heightened awareness of reproduction she obtained through research makes her more "in tune" with the instructional decisions of her cooperating teacher in student teaching. "She [the cooperating teacher] has made comments to me about not wanting to rock the boat with changing the way that things are done in her classroom and not wanting to make 'higher ups' upset because of what she is doing," Jordyn said. "These are comments that I might not have internalized or taken note of without the filter that research provided."

Finding a Good-Fit Job

Hannah, Denae, Jordyn, and Sara quickly learned through our research that the novice teachers who accepted positions in environments that were congruent with the practices they had learned about in their teacher education program were much more successful at implementing those practices they had learned. Thus, when it came time for Hannah and Denae to find teaching positions of their own, they drew upon a number of strategies that emerged from our research. They spent time deciding what instructional approaches were most important for them, and they intentionally searched for schools that were already providing the practices they hoped to implement. They sought out interactions with the schools in which they were applying that were "information rich" (Liu & Johnson, 2006, p. 331), taking time to ask questions of the administrators regarding their instructional expectations and getting to know the culture of the

grade level teams they would be working with. This process of intentionally researching the schools to which they applied grew out of the importance of environmental influence they learned about through their research and resulted in accepting positions at schools that were largely congruent with their beliefs. Denae explained:

> I knew that finding a good-fit job was essential to my beginning years of teaching because I would need the support to implement the literacy structures that I believed in. …I had seen in the research how hard teaching in an environment that does not have the same pedagogy can be. Being a first-year teacher is hard enough, and I did not want to have to be put in a position where I was a fish swimming upstream.

Hannah was looking for a school that had a strong sense of community, a positive atmosphere, a mentoring program, and instructional and testing philosophies that aligned with what she had learned in her teacher education program. She wanted a district that supported reading and writing workshop, guided reading, authentic literature, student choice, collaboration, and teaching testing as a genre. She identified districts she wanted to apply to in the area she was looking at by looking at the district and school websites. She interviewed at two of the schools to which she applied. She went into the interviews with specific questions she wanted to ask such as Do you have a mentoring program?, What does that look like on your campus?, What is your philosophy of test preparation?, and What is the role of collaboration on your campus?

The first school where she interviewed offered her a position, but she had reservations about how good of a fit it would be for her. There appeared to be a lack of congruency between the schools' practices and her beliefs. Hannah decided to turn down the offer, confident that additional opportunities would come available.

Her second interview was a much more positive experience. The alignment between the second school's instructional practices and her philosophy was much stronger. "In the interview I was encouraged by how much they valued my fresh knowledge as a new teacher," Hannah explained, "how often they discussed collaboration, and by the way their instructional views really aligned with mine." Hannah also noted how she was able to interview with teachers from the grade level team and not just the administrators. This provided her with insight into how the teachers interacted. She noticed that they seemed to really enjoy their jobs and were very collaborative. Feeling confident about it being a good fit, she accepted the position when they offered it to her.

A few months prior to applying for teaching jobs, Denae reached out to some recent graduates of her teacher education program who were teaching in the area she hoped to find a job. She ended up spending a full day observing in their school. "This provided so much hope and clarity…," explained Denae. "We saw students being treated with respect, we saw amazing relationships between colleagues, and we saw exceptional, innovative, and engaging teaching taking place. This was a place that I dreamed of being a part of."

Although a job opportunity did not arise at the particular school Denae visited, another job offer did become available in the same district. Denae ended up having three interviews, all in the area she wanted to find a job. All three of the schools she hoped would align with her beliefs and practices in regards to literacy instruction and behavior management structures. Denae wanted to find a school that implemented the reading workshop and guided reading practices she learned about in her teacher education program, and she wanted to find a school that addressed classroom management in a positive way that valued and respected the learners.

Denae initially received an offer from one of the three schools, and, like Hannah, she turned the offer down, fearing that it would not be a good fit given the criteria she was looking for. When she received an offer from the second of the three schools she interviewed with, she was confident it would be a much better fit. "It all boiled down to team dynamic and transparency," Denae explained. "…I was able to meet with all the members of my future team which was a huge deal. I was able to get a good glimpse of the team dynamic, coupled with the dynamic of the entire administrative staff." The school was in the same district she had visited a few months prior, so she was already familiar with the district's goals. The district had recently launched an initiative for implementing reading workshop and was using a school-wide approach to classroom management that positively valued children. When the time came for Denae to make a decision, the fact that she had already seen with her own eyes the kind of work the district was doing played an instrumental role. She said, "I felt like I had a clearer idea of what I was walking in to."

Developing a Problem Solving Mindset

By studying the decision-making of novice teachers regarding literacy instruction and assessment, Hannah, Denae, Jordyn, and Sara developed the ability to notice the recurring cycle of pedagogical reproduction in schools, and they obtained the capital needed to challenge the instructional status quo. Additionally, they acquired the skillset to push for further change when it was necessary.

In her student teaching placement, Jordyn developed an awareness of the changes she wanted to initiate, but felt limited in her role as a student teacher. "I am a guest," Jordyn said, "and as a guest I need to be cautious about how I suggest ideas, ask for change, or push for certain things. As a student teacher, I have very little capital." Similarly, Denae participated in a

student teaching placement that did not model many of the things she had learned in program, largely because the district had not implemented or provided support for a reading workshop model. However, as the year progressed both she and her cooperating teacher were given the freedom to implement guided reading groups for the first time. Denae believed that the lack of experience with a workshop approach in her student teaching motivated her to more diligently search for a district using workshop for her future job.

For Hannah, developing a problem solving mindset also emerged in her student teaching placement and then further strengthened in her first year of teaching. While completing her student teaching, Hannah taught in a setting in which the grade level team used a variety of "craftivities" from Teachers Pay Teachers for their literacy instruction. The weekly routine consisted of reading a story a couple of times early in the week and then completing a vocabulary quiz and a craft at the end of the week. As Hannah became more responsible for literacy instruction in the class, she convinced her cooperating teacher and then the grade level team to allow her to implement comprehension instruction in lieu of the crafts.

She drew upon *The Comprehension Toolkit* (Harvey & Goudvis, 2005), first in small groups, then with the full class, to focus on higher-level comprehension. She monitored progress and recorded observations to document student growth. Some teachers voiced concern, but her experiences with research helped her hold her ground:

> I found myself asking "Why are we doing reading this way? What are the students learning from these activities?" …Again, I didn't want to disappoint the team, and it was tempting to go back to what they'd always done. I think the research helped me to stand firm in what I felt was best practice. I knew that I had evidence of why this method was more effective, so I was able to support the decision.

At the school where Hannah had accepted a teaching position, she interviewed with both the principal and two teachers from the grade level team. This enabled her to ask questions to get detailed information about what teaching literacy would look like at that school. However, the two teachers at the interview taught math for the grade level and not literacy, so while their answers sounded promising, they were also vague.

After accepting the position, Hannah quickly realized that although the principal supported the district's balanced literacy goals, the literacy teachers on her team were more hesitant. They were still using a basal reader, a grammar textbook that taught grammar through isolated worksheets, and implementing test preparation passages throughout the whole year. "There was a lot of talk about needing to keep the rigor up," Hannah said, "but that 'rigor' resulted in constant worksheets. Even though I teach reading, my students were doing almost no actual reading in my class."

Hannah initially followed her team's lead but worked hard to form a close relationship with them. This relationship gave her the space to make suggestions. Although initially her teammates disregarded her ideas, Hannah was persistent and respectfully kept encouraging instructional changes. Gradually, her co-workers became more receptive, and by the end of the year, Hannah and her co-workers had abandoned the basal reader and grammar textbook and were instead doing novel studies and learning about grammar through mentor sentences. They began providing additional time for independent reading, replaced many of the worksheets with leveled readers, and greatly reduced their amount of test preparation.

"I don't know what flipped that switch," Hannah explained, "but from then on they were much more open to my suggestions and trying new things." Hannah finished the year with 100% of her students passing the state exam. Because test scores were highly valued at her school, this

served as valuable capital for her regarding the changes she had encouraged and, in turn, earned her a high level of autonomy in the classroom.

Discussion and Implications

As we originally conducted our research on the decision-making of novice teachers regarding their literacy instruction and assessment, it was not largely surprising to us how powerful the reproduction process was among the novice teachers we studied. A number of the graduates we followed reproduced the existing practices of the schools in which they taught, many of which viewed learning as a transmission of knowledge rather than a process of allowing students to actively construct their own understandings (Asselin, 2000; Nettle, 1998). We were, however, also encouraged by and highly interested in the handful of graduates we followed who successfully resisted reproduction and were able to implement the student-centered practices learned in their teacher education programs. However, what we did not expect was the perceived impact that the undergraduate research experience would have on Hannah, Denae, Jordyn, and Sara.

By researching novice teachers, we raised their awareness regarding how pedagogical reproduction occurs, what Bourdieu (1972/1977) referred to as recognition. This awareness, coupled with the knowledge they gained regarding the challenges and struggles novice teachers face, served as capital that well equipped them for becoming novice teachers themselves. This capital helped them develop strategies for finding a good-fit teaching position that would, in turn, aid them in implementing the practices learned in their teacher education program. For Denae, this resulted in finding a position with instructional practices congruent with her beliefs, and for Hannah, it helped her identify an environment in which she could use a problem-solving mindset to bring about change that better aligned with her beliefs.

Hannah, Denae, Jordyn, and Sara believe that this undergraduate research experience provided them with the confidence to implement the methods learned in their teacher education program into their own classrooms. However, despite this success, Hannah, Denae, Jordyn, and Sara are just a small fraction of the much larger number of students that Andrew teaches. How might professors share such an experience with a larger number of students? Inviting undergraduates to serve as research assistants has many benefits for both the professors and the students (Hunter et al., 2007; Lopatto, 2006). Although student researchers require training, Andrew has found them to be a great help in all aspects of the research process. Undergraduate researchers are, in turn, introduced to the research process, including writing proposals, collecting and analyzing data, presenting at conferences, and co-authoring publications. However, although inviting students to participate as co-investigators in professors' research is important, it still only influences a small number of students, and the research interests of professors may or may not directly apply to novice teachers.

Another option to consider that others have utilized (e.g., Alderton & Manzi, 2017; Sindberg, 2016) is to engage preservice teachers in undergraduate research as part of a course assignment or field-based project. Rather than simply observing seasoned teachers, education professors could assign undergraduates to observe novice teachers in the classroom for the distinct purpose of learning the challenges that beginning teachers face and the extent to which they are able to implement practices learned in their teacher education programs. Professors could then introduce students to Bourdieu's (1972/1977) concepts of field, capital, and habitus to better help them understand how reproduction in education occurs. By carefully observing, documenting, and reflecting on lessons learned from a novice teacher, preservice undergraduates

could begin to develop some of the awareness and capital that Hannah, Denae, Jordyn, and Sara obtained.

As preservice teachers, teachers, and teacher educators, we recognize that prior research has demonstrated that schools are often sites of pedagogical reproduction, making instructional change difficult (Asselin, 2000; Nettle, 1998). Our study helps address this challenge by providing insight into a collaborative undergraduate research experience through which preservice teachers were able to recognize the cycle of pedagogical reproduction and acquire capital to help them push for change and implement the student-centered practices they learned about in their teacher education programs.

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