# Learning to Teach Through Action Research: Teachers' Perspectives on Their Experiences as Preservice Teachers

Deborah Toope, *Acadia University*

**Author's Note**

Deborah Toope https://orcid.org/0009-0009-0943-7376

Correspondence concerning this article should be addressed to Deborah Toope at deborah.toope@acadiau.ca.

**Abstract**

This article reports on a qualitative study that investigated teachers' perspectives on their experiences designing and conducting an action research (AR) inquiry as preservice teachers. As part of their two-year teacher education program, they learned about teacher research and AR methodology. For this study, they were invited to reflect on their learning as preservice teachers conducting AR and the impact, if any, this had on their subsequent practice. Using data generated from semi-structured interviews, AR proposals, lesson slides, and notes, I demonstrate how, as preservice teachers, AR provided them with opportunities to transform their relationships with students, engage in reflective practice, and shape their teacher identities as they transitioned to becoming teachers.

*Keywords:* action research, preservice teachers, teacher education, reflective practice

## Learning to Teach Through Action Research: Teachers' Perspectives on Their Experiences as Preservice Teachers

More than ever, preservice teachers need to engage in critical thinking in response to the increasing demands of teaching and learning. Early career teachers are called upon to take up this challenge as confident practitioners, knowers, and agents of change. School districts and departments of education expect teachers to engage in culturally responsive practices within inclusive learning environments (Government of Nova Scotia, 2024). However, what is less clear is how preservice teachers learn to teach in ways that enable them to think critically and responsively, in a manner that can sustain them throughout their careers. How might teacher education programs prepare preservice teachers to enter the field with confidence, and knowing that they are capable of generating the knowledge they need to teach responsively with agency (Cochran-Smith, 2020; Cochran-Smith & Lytle, 1999a, 2001, 2021; Miller et al., 2012)?

The transformative potential of teacher research to shape teachers' identities and professional practice has been well documented over the past three decades (Black, 2021; Cochran-Smith & Lytle, 1991, 1993, 2009; Darling-Hammond, 2012, 2017; Derakhshan & Nazari, 2024; Goodnough, 2010, 2011; Kitchen & Stevens, 2008; Nazari, 2022; Nichols & Cormack, 2017; Van Katwijk et al., 2021; Zeichner & Noffke, 2001). When teachers engage in research, they are positioned as researchers, knowers, and change agents (Cochran-Smith & Lytle, 1999a, 1999b; Comber, 2005). Teacher research is defined as a "systematic and intentional inquiry about teaching, learning, and schooling carried out by teachers in their schools and classroom settings" (Cochran-Smith & Lytle, 1993, p. 27). Teacher research is historically linked to AR (Cochran-Smith & Lytle, 1999b; Noffke, 1997) and is viewed as a practical methodology for teacher research (Sachs, 1999). In Canada, AR has had a long and well-established history as a path for teacher learning and changing practice (Clausen & Black, 2020). AR is understood as a form of self-inquiry into one's practice that can be done in collaboration with others to bring about a collective desired change or improvement of practice (Brown & Jones, 2001; Clausen & Black, 2020; Kemmis, 1991; McNiff & Whitehead, 2002; Noffke, 1997; Smith et al., 1997; Somekh, 1995).

In the context of this study, AR was an integral part of preservice teachers' educational experience in a Bachelor of Education (BEd) program, which aimed to engage them in inquiry through reflection on praxis (Cochran-Smith & Lytle, 1999). While AR is seen as a way for preservice teachers to take reflective action, and is included as a component of some preservice teachers' educational experiences (Black, 2021; Clausen & Black, 2020; Darling-Hammond, 2010; Kennedy-Clark et al., 2018; Munthe & Rogne, 2015; Ryan, et al., 2017), few studies have followed up with former preservice teachers to find out what impact, if any, AR has had on their current practice. Additionally, there is a need to unpack further the complexities of preservice teachers' perspectives, experiences, and knowledge generated through AR, and how this might inform teacher educators' practice in teacher education programs (Black, 2021).

The purpose of this qualitative study was to investigate the perspectives of teachers who designed and carried out an AR inquiry project as part of their preservice teacher education program. The primary objective of this study was to gather teachers' perspectives on their experiences with AR and to explore, if any, the effects this had on their subsequent teaching practice. This research centred around the following three questions:

1. What are teachers' perspectives on their experience with designing and carrying out an AR inquiry in their teacher education program?

2. What impact, if any, does this have on their current practice?

3. How did learning through AR impact preservice teachers' identities and relations with knowledge?

In this paper, I will discuss teachers' perspectives on their experiences with AR and how these experiences inform their practice. Specifically, I discuss how AR enabled them to become reflective practitioners, transform their relationships with students, and shape their teacher identities as confident knowers and change agents. I begin with a brief description of the study's context. Then, I will review some relevant literature and provide an overview of the research design. Next, I will present some research findings, discuss key themes pertinent to the research questions, and offer concluding comments.

## Background and Context

Teachers who participated in this study were members of two different cohorts at a university in eastern Canada. There was a combined enrolment of 22 preservice teachers. Each cohort had completed their education program between one and two years before the commencement of this research and had begun their teaching careers. As preservice teachers, they were part of a two-year BEd program with a certificate in STEM. A significant component focused on learning through inquiry. A central part of their learning over the two-year program was teacher research. I was their instructor for the teacher-research components and supervised their AR inquiries during their final semester. In the first two semesters, we explored topics such as engaging in reflective practice, developing an inquiry approach towards practice, posing research questions and wonderings, documenting observations during practicums, and using inquiry to inform their teaching. In the second year, the teacher research component involved preservice teachers designing an AR inquiry based on their wonderings.

Designing an AR inquiry involved a series of reflections over several weeks, scaffolded to build toward an AR proposal. Preservice teachers engaged in weekly discussions and reflections, which included identifying a research topic, posing problems, writing AR questions, conducting initial literature reviews, deciding on data collection methods, planning for data analysis, developing an initial action plan, and addressing required ethical components, including seeking permission from school administration, discussing their plans with partner teachers, and writing informed consent letters for parents. Once I approved their initial research plans, I sought ethics approval from the faculty's internal ethics review committee as part of a course assignment. Following the approval of the internal ethics review committee, I applied to conduct research with the local school district. Upon district approval, preservice teachers contacted the school principals and practicum partner teachers for approval before sending informed consent letters to parents of students in their classrooms. Preservice teachers had informally talked about their ideas with their partner teachers before formally requesting permission. Once signed informed consent letters were received from parents, preservice teachers began their AR inquiries.

There were a variety of STEM-related topics, including the use of children's literature in science, strategies for developing mathematical vocabulary, and the integration of digital technologies. While all preservice teachers in both cohorts designed an AR proposal, some were unable to conduct their research in classrooms for various reasons (personal circumstances, challenges with COVID-related restrictions, and scheduling issues). All participants in this study implemented their AR inquiries in K-6 classrooms.

## Literature Review

### Inquiring, Learning, and Knowing

Practitioner inquiry, teacher research, and AR are all terms used in the literature to refer to various forms of teacher research (Black, 2021; Cochran-Smith & Lytle, 2009; Goodnough, 2011; Kamler & Comber, 2008). Miller et al. (2012) question what counts as knowledge in teacher education and argue for courses in education that position teachers as "agents of change" (p. 221). Teacher research is viewed as a means of elevating teachers' professional status by incorporating teachers' knowledge into the educational knowledge base (Cochran-Smith & Lytle, 1999a, 2021). Teacher research is also viewed as a meaningful path for learning that is embedded in practice (Cochran-Smith & Lytle, 1993, 1999, 2021; Comber, 2005; Elliott, 1991, 1993; Kemmis, 1991; Noffke, 1997; Zeichner, 2003).

Following a three-year study into relationships of "inquiry, knowledge and professional practice," Cochran-Smith and Lytle (1999a) proposed an "inquiry as stance" approach to teacher learning (p. 288). Within this conceptualization of teacher learning, teachers continually investigate and interrogate their theories and practices, as well as those of others, in response to their experiences with students. Taking an "inquiry as stance" approach towards practice enables teachers to generate knowledge for teaching through their interactions with students. What is significant about this approach to teacher learning is how teachers are positioned in relation to knowledge. Instead of being passive recipients of knowledge from someone outside their practice, teachers are actively engaged in producing knowledge through inquiry within communities of practice (Wenger, 1998). Within this conceptualization of teacher learning, emphasis is placed on exploring theory-practice relations (Cochran-Smith & Lytle, 1999a).

Comber (2005) discusses the potential of teacher research as a way for teachers to engage in the theoretical work of teaching. She suggests that "teacher researchers assemble repertoires over time, layering theories one upon the other," enabling them to "explain and envision their work in productive, doable ways" (p. 52). AR is a way for preservice teachers to engage in systematic research and make connections between theory and practice (Kennedy-Clark et al., 2018; Ryan et al., 2017). An "inquiry as stance" approach disrupts binaries such as formal-practical knowledge and theory-practice (Cochran-Smith & Lytle, 2021, p. 102). Rather, Cochran-Smith and Lytle (2021) contend that 'inquiry as stance' foregrounds "the nature and extent to which those who teach and learn from teaching by engaging in inquiry interpret and theorize what they are doing" (p. 102). In this paper, I will demonstrate how, through AR, preservice teachers adopted an 'inquiry as stance' approach to their practice, which influenced their understanding of theory-practice relations by capturing how they worked to change practice in the interest of social good.

### Action Research and Reflective Practice

AR has been an integral part of some preservice teacher education programs for decades and has shown its benefits for preservice teachers (Black, 2021; Phillips & Carr, 2009; Ryan, 2013). There is ample evidence to suggest that AR can shape teacher identities (Derakhshan & Nazari, 2024; Nazari, 2022; Taylor, 2017) and enable preservice teachers to "tell their own stories" (Phillips & Carr, 2009, p. 208) about becoming teachers. Across various teacher education programs, preservice teachers are positioned to take up different roles, including those of students, teachers, researchers, learners, guests, and mentees (Phillips & Carr, 2009). They often negotiate complementary, competing, and contradictory subject positions as they learn to become teachers.

However, the subject positions available to preservice teachers depend on the program and on the experiences made possible by their learning.

AR is described as a form of critical pedagogy (Gore, 1993). Critical research can be viewed as an ongoing process of reflection and action (Crotty, 1998). Engaging in inquiry from a critical perspective can be understood as a form of praxis (Crotty, 1998). Praxis involves a process of reflecting and acting upon the world to bring about change (Freire, 2002). Schön (1983) described reflective practice as a process in which practitioners can experience "surprise, puzzlement, or confusion" that arises from particular situations (p. 68). Reflection is also seen as a way of thinking and knowing in practice (Dewey, 1933; Schön, 1983). Dewey (1933) recognized the connection between learning and reflective practice as a means to bring about growth and change.

Reflective practice through systematic inquiry brings together theory and practice, opening possibilities for generating new knowledge about practice (Cochran-Smith & Lytle, 1999a). In this sense, knowledge is produced through and embedded in teachers' lived experiences (Britzman, 2003). While reflective practice is not new, designing experiences that enable preservice teachers to engage in reflection directly connected to action, such as AR, is not always possible. In this paper, I will highlight how reflective practice within AR was intentional and connected to change as part of the inquiry process (Dana & Yendol-Hoppey, 2009). I will show how engaging in reflective practice shaped their teacher identities by providing them with "a means to sort the present and/or present the past in personally meaningful ways" (Ryan et al., 2017, p. 3) as they learned to teach through AR.

## Research Design

For this study, I employed a qualitative research design to explore preservice teachers' perspectives on their experiences with AR within a BEd program. I was guided by critical and sociocultural perspectives, which enabled me to capture the complexity of participants' lived experiences and to gain a deeper understanding of how engaging with AR influenced their emerging teacher identities, their relations with knowledge, and their classroom practices. A narrative-informed approach foregrounded participants' reports, centring their voices as they reflected on their engagement with AR in both coursework and subsequent practice (Clandinin, 2006). I wanted to hear stories about participants' lived experiences with AR within their teacher education program (Clandinin, 2006).

### Theoretical Perspective

This study was informed by critical pedagogies (Freire, 2002; Giroux, 2022; Lather, 1992) and sociocultural perspectives of learning (Gee, 1989; Lankshear & Knobel, 2007; Wenger, 1998). Critical pedagogy is defined as "that which attends to practices of teaching/learning intended to interrupt particular historical, situated systems of oppression" (Lather, 1992, p. 121). Critical pedagogy draws attention to the political aspects of pedagogy, which centres on power-knowledge relations and agency (Giroux, 2022). From a critical perspective, this study was guided by emancipatory aims to address inequities in educational knowledge. Particularly, how teachers' voices are often left out of the knowledge base of education. I wanted to hear what teachers thought about their experiences with AR as preservice teachers and any impact this had on their subsequent practice. I aim to highlight the stories of preservice teachers and their relationships with knowledge through their experiences with AR during their education program.

Sociocultural approaches recognize that learning is social and occurs through interactions with others, facilitated by authentic experiences connected to everyday life within 'communities of practice' (Wenger, 1998). A sociocultural view of learning recognizes the interconnectedness of individuals as they participate in communities and engage in practices within situated contexts (Lave & Wenger, 1991). A sociocultural lens also draws attention to teachers' relationships with knowledge and how they come to know through their lived experiences within the context of their practice (Schön, 1983). This involves recognizing that individuals shape and are shaped by their lived experiences, including those within family, societal, and cultural groups (Gee, 1989). In the context of preservice teacher education, this means considering how preservice teachers engaged in situated learning as they conducted AR inquiries in K-6 classrooms, and the impact this had on the formation of their teacher identities (Lave & Wenger, 1991; Wenger, 1998).

## Method

I employed qualitative methods to investigate teachers' perspectives on their experiences with AR during their BEd program. Qualitative research centres on describing a social phenomenon and focuses on the meanings participants ascribe to it (Creswell, 1998; Denzin & Lincoln, 2000; Yin, 1984). Qualitative researchers are concerned with analyzing and interpreting data centred on the meanings participants bring to their experience of a phenomenon (Denzin & Lincoln, 2000).

## Participants

Participants in this study are practising teachers who carried out AR inquiries as a component of the BEd program with a certificate in the STEM program. These teachers had completed their BEd Programs one to two years prior to the start of this study. As preservice teachers, they were part of two different BEd cohorts. While all preservice teachers in the program designed an AR project, not all were able to conduct research in classrooms for various reasons. Out of the ten who were able to conduct AR inquiries, seven volunteered to participate in this study.

## Data Generation

Narrative can be seen as a means of discussing and organizing experiences into meaningful events (Richardson, 1997). The interview provided participants with opportunities to reflect on their experiences with AR, what they learned from those experiences, and to discuss their current practice. I shared individual transcripts with each of the seven participants to confirm that they accurately captured their stories and to engage in member checking to ensure the authenticity of our findings (Creswell, 2009). Other data included their initial AR proposals, lesson slides and notes.

### *Semi-Structured Interviews*

Data collection consisted of individual, semi-structured, open-ended interviews with seven participants, conducted and recorded via Zoom. Each participant took part in a one-on-one interview lasting approximately 60 minutes. The interviews were designed to elicit rich, reflective narratives about participants' experiences with AR and to gain insight into teachers' perspectives on these experiences and the impact, if any, on their current practice. Sample interview prompts included:

- Could you tell me about how you went about designing and conducting your inquiry?
- Talk a little about what you learned from your inquiry.

- What do you think about action research being part of a pre-service teacher education program?

I used follow-up questions to clarify, elaborate on initial responses, and invite further storytelling.

*Initial Action Research Proposals*

As a secondary data source, participants' written AR proposals provided insight into their early wonderings, understandings, questions, and research intentions. These documents served as artifacts of their learning processes and supplemented the triangulation of interview data.

*Lesson Slides and Notes*

I used my lesson slides and notes as a reference point for clarification on dates and topics introduced to students, such as being a reflective practitioner, data collection methods, and ethical considerations. These served as a reference for the scaffolding of topics in relation to initial research proposals.

## Data Analysis

Data analysis focused on understanding participants' perspectives by examining transcripts and interpreting their stories. Initially, I read through each transcript and wrote a summary vignette for each participant. Next, I reread each transcript to generate preliminary categories that emerged from the data. I recorded keywords and phrases in the margins to signal emerging categories (e.g., reflective practice, confidence, and responding to students). I used these categories to create initial codes and used these codes to triangulate evidence across participant transcripts (Creswell, 2009). Then, I reread each transcript at least twice, highlighting essential excerpts related to my research questions, identifying categories, and recording themes. I set up separate Word documents with labels representing these themes. I copied specific excerpts related to each theme into those documents (e.g., learning to teach, reflecting on practice, coming to know).

I also employed tools of critical discourse analysis to conduct a closer reading of selected excerpts (Fairclough, 2013). I examined specific linguistic features, including pronoun use, subject position, and metaphor. This practice enabled me to explore more closely the language participants used to describe their experiences, paying particular attention to the words and phrases they used to discuss their practice (Jennings & Graham, 1996). From a critical perspective, engaging with CDA enabled me to interrogate the subjectivities and discourses that shape teacher identities and their relations to knowledge (Britzman, 2003).

## Findings

### Transforming Relationships

AR has the potential to transform teacher-student relationships by placing students at the centre of teaching and learning. All participants in this study highlighted how AR enhanced their relationships with students. Through AR processes such as inquiry, questioning, observation, documentation, reflection, and analysis, they transformed their relationships with students by repositioning them as co-constructors of knowledge. My analysis sheds light on three ways AR impacted preservice teachers' relationships with students: personally connecting with students, utilizing students' knowledge, and engaging students' voices. In what follows, I am using pseudonyms for participants instead of their actual names.

In reflecting on their experiences with AR as preservice teachers, participants highlighted the significance of relationships. In particular, making personal connections with students was central to their AR inquiries. In my analysis of the data, I found that teachers cultivated more reciprocal and democratic relations with students.

> So, it [AR], it also helps you create relationships with kids, and that is the number one thing that you need to do in teaching. All of this stuff in the book, and the curriculum, curriculum guides, are not even close, it's not even close to the thing that matters…what matters is how you talk to them, how they feel, and if they feel loved or safe or not, you know. And I think this [AR] project gives you opportunities for that, it doesn't just teach you these 'skills' or like a curriculum, you know, it teaches you how to, how to talk to kids and be able to relate to them. (Karen)

As action researchers, preservice teachers take an "inquiry as stance" towards their practice (Cochran-Smith & Lytle, 2021). Taking an inquiry approach requires inviting students to share their thinking and feelings about their learning experiences. Karen noted that getting to know her students was a higher priority than curriculum documents. Through AR, she discovered that what matters most in teaching and learning is relationships.

Maya also highlighted the importance of cultivating relationships with students as a key takeaway from her AR inquiry. Here, Maya makes a connection between relationships and learning. Within AR, teachers and students are co-constructors of knowledge, and learning is a relational process. It is not just a matter of passing down information; it is about connecting on a deep emotional level with love and respect.

> What I learned in my action research, and what is my biggest, like, take away from that experience, is that relationships are key to any learning…You've got to appreciate them for who they are. (Maya)

Another participant, Lucy, shared her perspectives about how AR enabled her to get to know her students more deeply. Lucy said, "I think that it just makes me think about, like I said, the way students, what they like, what they're good at, what comes naturally to them." AR afforded opportunities to engage students' knowledge, interests, and strengths and provided teachers with the information they needed to respond to students within context. Tom also discussed the importance of adapting to changing situations by being responsive to students.

> So, I had to take a step back and look at where they are and what they already know. You need to be responsive to where they're at in their learning and to constantly adapt to the situation. (Tom)

Through AR, Tom used data to draw on students' knowledge and inform his practice. Tom learned that the ability to 'constantly adapt' to situations as they arise is a key component of teaching.

Jill highlights how AR helped her learn how to observe and document learning more closely.

> The benefits are definitely the fact that you, you definitely get to engage more with your students…you just get to learn how to create and build those relationships and connections. And to see how kids are innovating, and also how they interact with other students. (Jill)

As action researchers, learning to observe and pay attention to what students are doing and saying becomes part of teaching. Taking time to observe students closely enabled Jill to build stronger connections with them, and this remains part of her current practice.

As preservice teacher researchers, these teachers collected data from multiple sources, including interviews, surveys, and focus groups. These data collection methods provided numerous opportunities to discuss students' learning experiences and their feelings about learning. They invited students' opinions and listened carefully to what they had to say. More importantly, they used information gained from conversations with students to inform and make changes to their practice. When teachers engage students' voices, there is an expectation that they will listen and respond. Maya said, "You're listening to your kids, you're responding to what they need." What appears to be significant here is the idea that teaching begins with listening to students first, followed by the use of curriculum documents.

Through their AR, preservice teachers were keenly interested in hearing students' voices and making use of what they had to say as part of the teaching and learning process. Karen discussed learning the importance of giving students a voice and choice in their learning and how this impacts her current practice. Karen said, "I am more willing to allow kids to figure things out on their own than I ever would have been if I didn't have to go through this experience." Through AR, she came to understand that students needed opportunities to construct their knowledge, to 'figure things out.' She alludes to the significance of student agency in the next excerpt.

> Ahh, I also give them more freedom in their, in their projects, and learning… like I have more opportunity to give my students agency in their own learning. They get to decide a lot of the projects they do, and realizing that this is inquiry-based, hands-on learning, has such a profound effect. I wouldn't, I don't think I would have known, no matter how many times that my teachers, that you guys told us, it doesn't really hit you until you see it. (Karen)

Karen's use of the words 'freedom' and 'agency' signals a shift in power-knowledge relations. Here, students have a voice and make decisions about the projects they are interested in doing. Karen said that it wasn't until carrying out her own AR inquiry that she understood this, even though she had heard about it from teachers. Her use of the words 'it doesn't really hit you' speaks to the impact engaging in AR can have on transforming relationships between teachers and students.

**Reflective Practice**

Throughout their two-year BEd program, preservice teachers engaged in reflective practice in multiple ways as they documented their experiences during their AR inquiries. All participants in this study discussed how they learned to reflect and how this impacts their current practice. As researchers, daily reflection became a regular part of their teaching, learning, and praxis, enabling them to take action.

As these preservice teachers carried out their AR, their reflections were systematic, intentional, and connected to their ongoing actions. Their reflections involved carefully considering the effects of their teaching on students, enabling them to pose questions for further inquiry. Through AR, Lucy reported she learned that reflection is a key component of effective teaching.

> Reflection, if that makes sense…Ah, I could kind of reflect on, okay, how did that go? How could I make it better when I go in tomorrow? What will I do differently? Ah, and I think that's a big part of teaching anyway, is reflection. And how can I improve? (Lucy)

For Lucy, daily reflection was integral to AR. Her reflections were deliberate, guided by questions related to her research topic and teaching practice. Lucy thought carefully about what happened in class each day and used this to design lessons for the following day. Her reflections informed her practice and were strongly connected to her agency.

Emma's reflections were also intentional and informed by her observations of students' learning. Again, reflection was more than just thinking about what happened; it involved the intentional analysis of data to generate evidence to bring about a desired change.

> I had to go in and talk to the kids to find out what they knew... Do they know anything? What can they tell me? What can they not tell me? What am I seeing in the classroom? What am I not seeing in the classroom? …So, it was kind of like, with my data, I was able to, almost able to see inside their brains, to see their thinking. (Emma)

Through reflection, Emma gained insight into children's thinking about mathematics. She was specific about the kinds of questions she raised during her close analysis of the data.

> And it was unreal to look back, because when you're in the classroom, you kind of, like, have blinders on, focusing on kind of one thing, but when you have all the data in front of you, you're just like, whoa! Like you need to step back, take it bit by bit, and focus on little bits, and then you kind of get to analyze it. (Emma)

Utilizing the data generated from her inquiry was an essential part of Emma's ongoing reflections. Emma's reflections were planned, deliberate, and informed her teaching.

In the next excerpt, Maya distinguishes between being reflective and reflecting in order to take action.

> And before then (AR), I never, like, I did in a sense because I've always been a bit reflective, but not intentionally... Like I always had feedback, but it wouldn't be like, oh, they said this so I should change this. It was always like, oh, okay, I could do it better. But I, I tried to, like, pinpoint things that they (students) were trying to tell me and fix those specific things. (Maya)

For Maya, reflection meant more than just feedback; it was about changing practice. Maya's word choices signal intention—change, pinpoint, and fix. These words all emphasize the action. Within AR, reflection served a purpose and was an integral part of the design. Maya also highlighted the importance of reflective practice that is connected to action.

> And reflective practice is really the only practice to me. It's, it's, it's not thinking that you're right, and it's thinking how can I do that better. It's how can I make it more towards that student? I mean, I look back, and I'm like, ohh, there's so much more, things that I didn't think about back then, that even now, reflecting on it, I could have changed so much. And that could have been so much better for some, for certain kids. And I don't know everything, so that could have easily made it worse for other kids, you know. Like, but all of that comes from my action research. (Maya)

For Maya, reflective practice is about ongoing learning and professional growth. Maya is implying that AR is a way of 'looking back' and moving forward. It is the back-and-forth motion

of learning and changing over time. What stands out here is that reflection did not end when Maya completed her AR project; it lingered over time and continues to impact her practice. Maya says, 'even now,' that she is a teacher, she continues to think about how she might have done things differently and how she might do things differently.

Evidence from my analysis of transcript data demonstrates how AR provided preservice teachers with opportunities to become reflective practitioners. Within AR, reflective practice was embedded in teaching and learning. Their reflections were guided by self-questioning and close analysis of data generated through their AR inquiries. In AR, reflective practice is intentional, systematic and directly connected to making changes to improve practice.

**Becoming Confident Teachers**

Within the teacher research component of their two-year program, there was a strong focus on adopting an "inquiry as stance" approach to practice (Cochran-Smith & Lytle, 2009, p. 119; Cochran-Smith & Lytle, 2021). Preservice teachers were encouraged to pose questions and problems, observe, reflect, investigate, and document their experiences. Positioning preservice teachers as researchers, knowers, and change agents influences the kind of teachers they might become, where teachers theorize practice, utilizing theory to inform their practice, and, in turn, practice informs and generates grounded theory (Cochran-Smith & Lytle, 2009, 2021; Miller et al., 2012).

AR processes included reflecting on observations and wonderings from their practicum experiences and selecting a topic that they wanted to understand more deeply. I identified three ways in which AR influenced preservice teachers' identities: positioning them as learners, helping them see themselves as knowers, and enhancing their confidence.

Teaching is viewed as a learning profession (Darling-Hammond & Sykes, 1999). Through AR, preservice teachers can take up the subject position of 'teacher as learner.' Positioning teachers as learners means deemphasizing the notion that teachers need to be experts and embracing the idea that new knowledge is possible through interactions with students. Teachers shared their perspectives on being open to new learning and not having to know it all.

> Well, like I said, I think that's one of the most important things, not to go in there and think you know everything, and there's no room for improvement in yourself. It's important for you to understand that you have a lot to learn yourself, as a teacher. And you're always learning. (Tom)

Tom raises a caution about entering a classroom thinking you know it all. As a learner, Tom is open to learning that spans over a lifetime. He understands that he does not have to know it all to teach and that it is critical to be open to the kind of learning that comes from practice. For Tom, learning through AR meant being able to make improvements. Willie also referred to learning as 'not doing things' as 'going through the motions,' but to learn by doing.

A sociocultural view of learning recognizes the situated nature of learning within a particular context. This view of teacher learning is embedded in their interactions with students and affords new relations with knowledge.

> I went into it thinking that I would teach them everything. Like I, I've researched it all, and I knew what I was teaching… But it was just like, I don't know, eye-opening, what you can actually do as a teacher! And eye-opening, what you can do when you reflect on what you

> can do, if that makes sense…It made me aware that it wasn't all, it wasn't all known, and it doesn't have to be. And you just got to 'trust your gut'. (Maya)

Positioning teachers as learners can transform teacher-student relations in powerful ways. Maya began to think that she had a solid plan but was surprised by the possibilities of not knowing. Maya became okay and excited when she trusted herself to be fine, even if she didn't know why. This highlights the interconnections between knowing and praxis. Karen's words speak to the power of generating knowledge of practice (Cochran-Smith & Lytle, 1999a).

> You know, if things are easy, if you just study for a test, where somebody has already given you the information for it, and you put it back up on a page. But when you have to find the answers without googling them, you know, you've got to see it, and do it, and change your mind, and then change your mind again. (Karen)

Through Karen's experiences with AR, she came to understand the distinction between the knowledge that comes from outside practice and knowing that comes from practice. Karen alludes to a different kind of knowing, the kind that knowers see, do, and feel. This is her knowledge and not someone else's. Karen's knowledge comes from her questions and through inquiry. Here, theory and practice are intertwined in the doing of teaching and learning.

Participants shared how they gained confidence in their ability to teach through AR. What seems significant here is how they talk about their experiences with AR as preparing them to teach.

> Yes, I think it (AR) definitely had an impact on my confidence… knowing that I could do it even when things get tough, this project really helped that. (Karen)

Karen learned that she could work it out when 'things get tough' and gained confidence in her ability to solve problems. Below, Maya explains that through AR, she came to know she could teach.

> And then you know…like this is crazy, like I can't do this! But then, when I got to do my action research, and I finished my action research, and I did the video…I was like 'Whoa, like, wow!'…It [AR] gave me such confidence, and it gave me time to practice, and make mistakes, and to figure out what my teaching would be, and what my classroom would be, what do I want for my students, what kind of teacher do I want to be?… Honestly, it was one of the main experiences that really shaped and showed me what I wanted to be, and where I wanted to go with my kids. Like the things I needed to remember when I'm teaching on my own. (Maya)

AR enabled Maya to practice, make mistakes, figure things out, and consider the kind of teacher and learning environment she wanted for her future students. Maya's preservice experience with AR shaped her teacher identity and afforded opportunities to learn more about the kind of teacher she was becoming and wanted to be. Like Maya, Lucy expresses that she did not feel like a teacher until doing AR.

> I feel appreciative to have this before I became a teacher…because I have nothing to compare to, because I wasn't a teacher before I did this (AR). (Lucy)

The phrase 'wasn't a teacher before I did this' is a powerful statement. Learning to teach through AR afforded Lucy and other preservice teachers' opportunities to practice teaching.

Karen offered her thoughts about preservice teachers doing AR as part of their teacher education program.

> I still remember that [AR] better than any lecture I've ever attended, right? So, I think yeah, that's how you learn through doing these projects, and you also learn how to deal with adversity, which we need a lot of… But this action research project was a little bit like that. It was a little glimpse of what it's like to be thrown out to sea, you know…There's nobody who has done this before that can tell you how it goes. So, it was good. It was an experience that I think you really need. They're going to have to figure it out in your first year of teaching, right, or the second, or the third. Somewhere along the way, you have to face those things. (Karen)

The metaphor 'thrown out to sea' evokes the idea of having to do it on her own. Karen implies that this type of experience is something every preservice teacher should have, as it reflects the reality of teaching. In AR, nobody told Karen what to do; she was in charge, she had to figure it out on her own, which prepared her for the realities of teaching.

Jill expressed a similar perspective when discussing her current teaching context in a multigrade setting.

> Like, I don't think I'd be able to juggle as many grades and as many things as I do, as I have been doing now, than if I didn't do it before in my project. So, it kind of gave me a more open perspective…it (AR) basically allows you to just step into it, before you step into the actual teaching. (Jill)

For Jill, AR is a way to 'just step into' teaching and to practice and learn. Maya summarized learning to teach through AR by saying, 'It's like, it really helps solidify what you have learned, and gives you the confidence. Yeah, I know what I am doing! I know how to teach!' Others noted a similar experience.

In the excerpt below, Emma enthusiastically responds to an interview question about what she learned from her AR project.

> That I can teach!! I remember I was so nervous. I was talking to my internship teacher, and she was writing a sub plan. She wasn't going to be there the next day, and I said, I don't know if I'd be able to teach…I remember sitting at my own table with these kids running my own centre, and I was just calling the shots, and I felt great, and I was like I am a teacher! (Emma)

Emma is expressing the kind of professional confidence that comes from knowing she is in control and able to make decisions.

## Discussion

The findings of this study highlight the transformative potential of action research in preservice teacher education. Participants reported significant growth in three key areas: increased professional confidence, the development of reflective and action-oriented practices, and a shift toward more democratic relationships between teachers and students. This kind of knowledge is significant to teachers' agency (Miller et al., 2012). Collectively, these findings suggest that action research can serve as a powerful pedagogical approach in preparing educators who are more critical, empowered, and socially responsive. In addition, it can add to the research on how preservice teachers can be "supported in constructing identities as teacher researchers" (Taylor, 2017, p. 17).

First, adopting an "inquiry as stance" approach towards practice afforded opportunities to transform their relations with students (Cochran-Smith & Lytle, 2021, p. 100). Teachers reported a difference in their relationships with students. AR required preservice teachers to observe and listen closely to what students were saying and doing. This led to more democratic relations as they came to understand their learning more deeply. They were genuinely interested in hearing their students' perspectives, understanding them, and involving them in the learning process. As researchers, they posed questions, sought out students' opinions, and used this information to inform their practice. They were open to learning alongside students, and learning and knowing became embedded in practice. They learned how to be okay with not knowing and to co-construct knowledge with students.

Second, teachers reported that, through action research, they became more reflective practitioners, and this was strongly connected to their agency. They reported becoming more intentional in their teaching, making decisions based on data they had generated and analyzed. Taking an "inquiry as stance" meant moving forward and taking action to improve their practice. Engaging in AR as preservice teachers enabled them to continue to make changes through reflection and action.

Third, AR provided teachers with opportunities to practice teaching, which enabled them to become more confident. They reported that AR gave them more confidence in knowing they could teach. Through AR, they were positioned as producers of knowledge, empowering them to use their own knowledge to inform practice. This finding adds to previous research (e.g., Cochran-Smith & Lytle, 2009) that underscores the empowering nature of practitioner inquiry in teacher education.

These findings also carry important implications for teacher education programs. Embedding action research into preservice curricula can help bridge the theory-practice gap by positioning preservice teachers as researchers, inquirers, critical thinkers, knowledge producers, and agents of change. Also, learning through inquiry and engaging in AR, can potentially impact teachers' learning throughout their careers.

Given the small sample size and short duration of preservice teachers' action research projects, future research could explore the sustained impact of action research over time and investigate how institutional and contextual factors support and limit teacher inquiry. By fostering confidence, reflection, and action, as well as more democratic pedagogical relationships, AR holds the potential to cultivate responsive teaching practices that can sustain teachers throughout their careers. In teacher education, it is important to consider pedagogy as the process of knowledge production (Britzman, 2003).

## Conclusion

This small-scale research study involving interviews with seven teachers about their experiences conducting action research as preservice teachers offers valuable insights but also has some limitations. On the one hand, the in-depth interviews afford a deeper understanding of how preservice teachers perceive and engage with action research, providing insights into the potential impact on their subsequent teaching. These insights can inform teacher education programs by highlighting the conditions under which school districts and departments of education can support AR as an investment in teachers across their careers. I acknowledge that having seven participants constrains the generalizability of the findings, as this may not be representative of the broader population of preservice teachers across different contexts, and that relying on self-reported data

introduces potential bias. However, there is ample evidence across participant accounts to suggest significant benefits of AR in preservice teacher education, particularly in learning to teach in ways that promote more democratic relationships between teachers and students, strengthen connections between reflection and action, and enhance teacher identities as knowers and change agents.

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