Using Practice-Based Teacher Education to Cultivate the Skill of Eliciting and Interpreting Student Thinking

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Empirical

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Abstract

Eliciting student thinking within group discussions is a core practice for all educators, but perhaps particularly for those who teach early childhood grades. Despite this, little preparation on eliciting exists in most teacher education programs. This article presents a pilot study in which a model of practice-based teacher education was used to train a group of preservice teachers studying early childhood education at one mid-Atlantic university on the art of eliciting student thinking within group discussions. This qualitative study seeks to answer the question: *After participating in a series of PBTE-based modules and a virtual simulation, what challenges in eliciting student thinking in group discussions were faced by the PSTs?* Four emergent themes were identified, including uncovering hidden biases, a deep understanding of students and content, minimizing teacher talk, and being a good listener. Themes are discussed and implications for teacher educators are presented.

Keywords

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Introduction

Currently, the field of teacher education is experiencing a shift from a sole focus on developing content knowledge to also emphasizing an understanding of the role that dispositions and beliefs play in teaching. This shift aligns with the core practices of teaching, which are the basic fundamentals of teaching that translate across grade levels and content areas (Shaughnessy & Boerst, 2018; TeachingWorks, 2025). Two critical core practices include *leading a group discussion* and *eliciting and interpreting student thinking*. In both, the purpose is to transform all conversations between students and teachers into rigorous learning contexts where students are positioned as knowledge holders (Ford-Connors & Robertson, 2017). In this way, these core practices teach preservice teachers (PSTs) to consider how their beliefs impact their interactions with students and help them develop equitable dispositions towards all learners.

The skills needed to successfully enact these core practices may be particularly important for future teachers of early childhood, who are tasked with developing the language and literacy skills of young learners who may struggle to express themselves clearly (de Sousa, 2019). Leading a group discussion and eliciting and interpreting student thinking have the potential to be cultivated through practice-based teacher education (PBTE), an approach that engages PSTs in scaffolded opportunities to observe, experience, practice, and decompose essential components of instruction (McDonald et al., 2013). The field of teacher education, however, has yet to present a clear model of effective PBTE approaches for early childhood teacher training, nor does the field have a clear understanding of how the development of these skills progresses for PSTs (Shaughnessy & Boerst, 2018).

The present pilot study seeks to examine a series of newly developed PBTE-centered modules that include Mursion^TM rehearsal simulations about the practice of eliciting student thinking within group discussions. The purpose is to examine how the simulation experiences supported PSTs ability to engage in the work of eliciting, and the challenges they faced when doing so. Specifically, this paper seeks to answer the question: *After participating in a series of PBTE-based modules and a virtual simulation, what challenges in eliciting student thinking in group discussions were faced by the PSTs?* Implications of this study for teacher educators seeking to engage their PSTs in these core practices are presented, as well as implications for the future use of the modules.

Literature Review

What is Practice-Based Teacher Education?

In recent years, an increasing number of teacher preparation programs have begun to draw upon PBTE approaches to develop PST knowledge of content and pedagogy. This shift has largely come in response to the calls for more authentic teacher preparation that bridges the gap between theory and practice (McDonald et al., 2013; Peercy et al., 2019). PBTE, thus, represents a shift in teacher

education, wherein the field moves away from *telling* PSTs about teaching to actually *practicing* teaching (Finkelstein et al., 2024).

PBTE follows a learning cycle that includes representations, approximations, and decompositions of practice (Grossman et al., 2009). Representations of practice encompass opportunities for PSTs to envision how teaching looks (Grosser-Clarkson & Neel, 2020). Typically, representations include videos of teachers and classrooms, student work samples, and teacher educator modeling of practice. Embedded within any representation is a decomposition of practice, or deep guided reflection over the skill; thus, when PSTs see a video representation of practice, a PBTE approach would then ask them to analyze and reflect on the teacher moves and student behaviors or responses that ensued (Grossman et al., 2009). Finally, approximations of practice involve carefully scaffolded experiences where PSTs can engage in teaching a particular skill (Grosser-Clarkson & Neel, 2020). While traditional teacher education programs rely heavily on student teaching and field experiences for approximations of practice, PBTE offers alternative solutions that do not depend solely on field placements. This is essential, as PSTs often feel a disconnect between their student teaching experiences and what they learn in coursework, and/or they do not get the chance to practice the skills they learn (Lindberg & Jönsson, 2023). This disconnect is even more prevalent in an era where many teachers are asked to follow a specific script, with pre-planned questions and even pre-planned student responses, where teachers are limited in their ability to make informed decisions or adjustments (Ahmed, 2023). In a PBTE approach, looking at transcripts of classroom interactions and decomposing them, engaging in role-play, or participating in simulations of teaching are all approximations of practice above and beyond field placements. When enactments do occur in classrooms, PSTs are asked to video record their practice so they can analyze and reflect on it with guidance from their instructor and peers – and then plan another lesson to further refine their skills. In each of these approximations, PBTE provides the opportunity for PSTs to repeatedly practice a target skill while receiving feedback and support from their instructors or peers (McDonald et al., 2013). It is largely within these repeated, scaffolded attempts that PBTE approaches deviate from traditional teacher education; in traditional contexts, PSTs teach a solitary lesson, receive feedback after the fact, but then are unable to apply it immediately – instruction has to move on to the next subject. Likewise, traditional contexts leave little space for in-the-moment feedback, as this would disrupt student learning time, and sometimes even call the authority of the PSTs into question. PBTE has no such boundaries and thus provides an optimal opportunity for repeated practice of particularly tricky skills.

Simulations in PBTE

One of the most powerful tools to approximate practice in teacher education is the use of mixed-reality simulations. Simulations, wherein PSTs can approximate actual classroom instruction, have been touted as a way to engage PSTs in flexible practice of skills without harm to real-life students (Dieker et al., 2023; Grossman et al., 2018). In simulations, PSTs can practice a lesson, or even a

particular pedagogical skill, while receiving feedback from their instructor and peers, who serve as a type of coach (Schutz & Danielson, 2019). This type of simulation is called a "rehearsal," and these are unique as they allow repeated practice of a particular pedagogical skill without harming real-life students (Grossman et al., 2018). Rehearsals are spaces where PSTs can interrogate their teaching practices, then create and revise representations of teaching, while receiving continuous coaching (Schutz & Danielson, 2019). Typical student teaching experiences provide minimal opportunities for in-the-moment coaching about the actual practices being taught in teacher education programs; this is partially why rehearsals are so powerful.

While there are a number of simulation platforms available, the present study focuses on the use of Mursion™. In Mursion™, a group of five avatar students are seated around a table and can represent a variety of ages – from early childhood to adult – depending on the purpose of the scenario. Each Mursion™ avatar student comes with a fully developed profile about their background, characteristics, interests, preferences, and learning needs, which were designed by Mursion™ to approximate students that PSTs are likely to encounter in the schools (Moody & Finkelstein, 2024). The avatar students are voiced in real-time by a Mursion™ specialist who remains behind the scenes but can flexibly and dynamically respond to PSTs (Dieker et al., 2023). That being said, much is left up to the imagination of the course instructor using Mursion™; student profiles can shift, including their needs, behaviors, and academic proficiencies. Additionally, it is the course instructors themselves who design the scenarios that their PSTs will engage in. A typical scenario would include an objective, launching point, challenges, and "hits and misses," for both the avatar students and the PSTs. Mursion™ simulation specialists work closely with instructors before each simulation to talk through the objectives, challenges, and avatar student responses and behaviors (Dieker et al., 2023).

A number of educators have begun using simulations to support subject areas like physical education and social studies (Dotger et al., 2015; Kaka et al., 2021). Moody and Finkelstein (2024) examined the affordances of rehearsals in supporting the skill of eliciting student thinking within a small group of early childhood PSTs. They found that the PSTs appreciated the scaffolding within rehearsals, as well as exposure to real-life student responses, behaviors, strengths, and needs. Rehearsals also helped them see the impact of their own actions on student understanding. The present study seeks to expand on Moody and Finkelstein (2024) by examining what PSTs understand about the practice of eliciting after participating in Mursion™ rehearsals focused on the topic.

Eliciting and Interpreting Student Thinking

TeachingWorks, run by the University of Michigan, has identified a series of "core practices" that all teachers, regardless of subject or grade level, should be adept at enacting (2025). One of those core practices is *eliciting and interpreting student thinking* (heretofore referred to as "eliciting"), which is when teachers pose a launching question, then carefully listen to student answers, after

which they develop additional questions to make sense of what students know and can do, which then guides their instruction (TeachingWorks, 2025). Not only is eliciting a foundational skill for classroom discussions, when enacted correctly it also provides a means of formative assessment and helps make classrooms more equitable. Through eliciting, teachers come to understand more about *how* and *what* each of their students thinks and understands, which enables them to plan learning experiences that address student needs (Ford-Connors & Robertson, 2017; Michaels & O'Connor, 2015). Teachers who are experts at eliciting are also able to create more rich classroom discussion spaces that move beyond typical initiate-respond-evaluate patterns of communication, wherein teachers and students fail to apply reasoning and evidence to discussions (Cazden, 2001). Skillful eliciting also intervenes on biases and stereotypes by helping all students understand and appreciate the thinking of others (TeachingWorks, 2025). When teachers are able to help students build upon their own responses, many of which may initially seem off-topic, meandering, or even incorrect, to highlight the brilliance behind each student's contribution, then all students in class benefit academically and social-emotionally. Eliciting thus means outwardly valuing the responses of all students, through which students begin to recognize that all forms of thinking have validity. As such, to become skillful elicitors, teachers must be familiar with their student's backgrounds, have strong classroom management, rich content knowledge, and be committed to equity (Cohen et al., 2020; Grosser-Clarkson & Neel, 2020; Moody & Finkelstein, 2024; Wetzel et al., 2015).

Despite being a core teaching practice, very little attention is devoted to the skill of eliciting in teacher education or in professional development. Not only are minimal opportunities to practice eliciting available within teacher education coursework, but the prevalence of scripted curriculum combined with the general lack of eliciting in most classrooms means that there are also rarely meaningful opportunities for PSTs to practice eliciting within field experiences (Benegas, 2019; Moody & Finkelstein, 2024). Specifically, more attention needs to be given to preparing teachers to elicit with diverse learners, such as multilingual learners and students from different cultures, ethnicities, and races (Ball, 2018). The present study presents a piloted series of practice-based modules, with a corresponding Mursion[TM] rehearsal, to support PST skill-building of eliciting. It uses participant data to uncover the challenges PSTs face within the practice of eliciting, with implications for teacher education programs and module redesign.

Theoretical Perspectives

The present study draws from tenants of PBTE, which is based on Dewey's (1965) theory about experiential learning; namely, to fully internalize a teaching practice, PSTs must be provided with intentional and repeated opportunities to experiment, learn, and experiment again. This goes hand-in-hand with Kolb's (1984) Experiential Learning Theory and Bandura's (1986) Social Learning Theory. In both, the value of experiencing, reflecting, thinking, and acting on a particular teaching practice is highlighted. In PBTE, PSTs experience teaching through representations of practice, they act on them through approximations of practice – such as Mursion[TM] rehearsals – which they then reflect on through purposeful decomposition opportunities. Each aspect of PBTE is supported

by expert coaches, such as course instructors, and their peers. In this study, these theoretical perspectives were used to determine how PSTs would engage with and build knowledge of eliciting, and to interpret their understandings.

Methods

The present study is a result of a college-wide initiative to increase the use of PBTE in teacher education coursework to facilitate the acquisition of core teaching practices, such as leading a group discussion and eliciting student thinking. As such, this study is the pilot project to see how to best teach these core skills within PBTE. Below, the pilot methods will be described.

Participants

The pilot of this study involved 21 PST early childhood education majors over the course of two semesters. All PSTs were in the junior year of their program, meaning they were placed one day/week in a prekindergarten or kindergarten classroom. All PSTs were required to engage with these modules as part of regular coursework. Consent to participate in the study (IRB #1516) was given after the course was completed and all grades were finalized. Demographics reflected the population of the college, with one male and 20 females. Two of the PSTs were Latino/a, two were Black, one was mixed race Black/Latino/a, and 16 were White. Two of the participants were native speakers of Spanish.

Instructional Context

This study took place across two sections of one early childhood curriculum course, delivered in Fall 2021 and Fall 2022. The early childhood program is part of the College of Education (COE) at a large, mid-Atlantic public university that is renowned in the area for its teacher education. The goals of the COE are to incorporate practice-based methods across all courses, with a specific focus on leading group discussions and eliciting student thinking. As part of this initiative, the author, who is a tenure-track faculty member, joined a group called "Faculty Fellows." This group was an initiative by the dean to promote knowledge and use of PBTE. It includes faculty from across the COE who are considered "leaders" in PBTE in the college (for more information, see: Finkelstein et al., 2024). This study is a result of the Faculty Fellows work, where the author designed and implemented PBTE modules about leading group discussions to elicit student thinking in one of her courses. These modules were implemented with two different sets of students, with co-teaching support from her colleague and head of the Faculty Fellows group. Employing the co-teaching model within these PBTE modules allowed the two faculty members to deeply probe into the PSTs' understandings and effectively engage them in practice-based opportunities like role-play.

The four-week series of PBTE modules were designed by the author, with input from the Faculty Fellows group. The modules were centered around the core practice of leading group discussions

to elicit student thinking (TeachingWorks, 2025), which can be seen in Table 1. When designing these modules, there were five main concepts that the author hoped the PSTs would understand: 1) High-quality teaching is about listening to student voices and valuing the contributions of all students; 2) Classroom discussions include eliciting that builds off student responses and encourages all students to participate; 3) All students should be positioned as valued participants in a discussion; 4) When eliciting, teachers must still maintain a focus on the objective of the lesson; 5) The teacher must also focus on creating a supportive discussion environment where all ideas, voices, and opinions can be shared. The module topics, PBTE activities, and data collected can all be seen in Table 1.

Table 1

Eliciting and Interpreting Modules and Data Collection

	Objectives	Activities	Data Collected
Week One	What is eliciting?	Role-play third turn moves (whole-class)	Transcript analysis #1
	Why is eliciting important?		Exit ticket #1
		Partner role-play	
	Third-turn moves: high and low press questions		Class recording
Week Two	Review broader understandings	Whole-class discussion	Transcript analysis #2
	Third turn moves: teacher uptake	Transcript analysis and decomposition	Exit ticket #2
	Determining the appropriate third turn move		Class recording
		Role-play third turn moves (whole-class)	
		Partner role-play	
Week Three	What are discretionary spaces? Considering alternate ways of responding	Video analysis (whole-class)	Discretionary spaces scenarios
		Video decomposition (partners)	Video decomposition notes
	Responding to multilingual learners	Discretionary spaces scenarios	Exit ticket #3
			Class recording
Week Four	Alternative ways of responding: motivation vs. Need	Discussion and review	Mursion recording
		Scenario enactment	Exit ticket #4
	Mursion rehearsal		Mursion decomposition
			Transcript analysis #3

To provide an example of the weekly structure, week one began with a read aloud of the children's book "Same, Same But Different" by Jenny Sue Kostecki-Shaw to ensure that all PSTs were familiar with the story. This story follows two boys who are pen pals who write to each other about their lives in America and India. Their letters reflect the similarities and differences in their life experiences. After reading, the PSTs came together to read aloud a transcript of a real classroom conversation centered around this book. They then engaged in an analysis of the transcript, considering a) what stood out to them about the way the teacher facilitated the conversation and b) the way the students participated. This was a pre-work analysis, as it was conducted before the PSTs had learned about eliciting or group discussions, to uncover initial understandings and to get the PSTs thinking about the topic. As the lesson continued, the PSTs learned about a) what is eliciting student thinking?; b) what are the elements of practice?; and c) third-turn moves (see: Ford-Conners et al., 2017), or different ways to use questions to probe and expand on student's responses. In learning about these moves, frequent examples of student responses were provided so that the PSTs would learn to consider a) the sense-making enacted by the students, and b) how the teacher can use various third-turn moves to support their understanding. For example, there is a part of the book "Same, Same But Different" in which the two boys talk about the people who live in their home; the boy in America lives with his mom, dad, and baby sibling. The boy in India lives with 23 of his family members, including his extended relatives. In this lesson, the PSTs are presented with this example of a snippet of a classroom discussion:

> Teacher: How can we be the same, but also different, from others?
>
> Student: My cousin comes to my house sometimes and so does his mom, but they don't live with us, but other people live with them, like 8 people live in their house. And I really like when my cousin comes to visit because we like to jump rope together. But I just live with my mom and dad.

The PSTs are then tasked with discussing a) what does this response show that the student understands about the question and the story?; and b) how can we, as teachers, ask more questions (using third-turn moves) to elicit more from this student or to make their thinking visible to the rest of the class or to expand on their response to include other students? The PSTs are presented with five examples like the one above, involving varying student responses to different parts of the book, during which the PSTs are asked to consider next steps in the conversation to build upon the mock responses. The lesson for week one concludes with a whole group role-play, in which PSTs serve as students and use scripted responses (designed for this module to reflect real-life student responses) to participate in a group discussion about "Same, Same But Different." Within this role-play, the idea is for the PSTs to work together to decide how to proceed in the conversation. For example, if the role-play question was "What do the two boys have in common when being transported to school?" and the mock response is "They both have wheels," the PSTs collectively worked together to consider how that somewhat vague response connects to the story (e.g., one boy rides in a bus with wheels and one boy rides a rickshaw with wheels), and how they,

as teachers, could make this response more clearly connected to the question by probing further. This whole class practice then led to a partner practice using the same skills, in which the professor circulates and provides targeted assistance. Finally, the PSTs write an exit ticket responding to a) what is your main takeaway from today's lesson; b) what questions do you still have?; and c) what do you feel are your own strengths and areas to grow in this practice?

Each week of the unit included those types of activities, covering a variety of topics related to eliciting (as seen in Table 1), going more in-depth with each lesson. Specifically, week two expands upon third-turn moves to include the strategy of "teacher uptake," wherein a teacher restates or builds upon a student's idea. During this week, PSTs are challenged to respond in various ways to students, determining how to make decisions about the "right" moves to use to successfully elicit, with the goal of positioning all students as knowledge-holders. In week three, PSTs learn how implicit bias impacts discussions, including who gets called on and whose ideas are privileged, and work to uncover and subvert those actions. This continues in week four, PSTs deconstruct the reasons behind behaviors that are widely considered to be "bad" (such as interrupting) during discussions, and learn how to think about them in different ways: Does the student need something to help them successfully participate? Is the student properly motivated – by teacher actions and interests – to participate? Throughout each lesson in the unit, various transcripts of classroom conversations centered around books are presented and decomposed to reflect the PSTs' growing understandings about eliciting and eliciting with diverse learners. The transcript that was presented as pre-work in week one is revisited later, at the end of the unit, with the same questions. The idea here is to juxtapose their initial understandings with their newfound knowledge, to see how these grew over time.

The Mursion™ rehearsal took place as the culminating activity of the unit. This rehearsal was conducted outside the typical classroom, in a specially designed classroom for Mursion™ that includes a whiteboard, smartboard, and tables that can be grouped to facilitate discussion amongst participants. This rehearsal was designed by the author and centered around the book "Dreamers" by Yuyi Morales, wherein PSTs were asked to engage avatar students in a discussion about the question: *How does language help us every day?* The Mursion™ rehearsal was discussed and planned with the COE Mursion™ specialist, who helped negotiated the avatar responses (called "hits" and "misses"), which were cultivated to challenge the PSTs to facilitate an equitable conversation, where all avatar students were included, able to share their opinions, and thoughts were valued. Of the five avatar students, two were multilingual learners (one with beginning English proficiency and one with intermediate English proficiency) and one exceptional learner.

Data Collection

A large set of qualitative data was collected during each week of the module (see Table 1). Much of the work involved looking at representations of practice, whether that be videos with transcripts or just transcripts, and then decomposing them, either individually or with the class. These

representations were excerpts of real-classroom discussions. After each week, the PSTs would complete an exit ticket, which asked the same two questions: 1) What was your biggest takeaway from today? and 2) What questions do you still have? PSTs completed and submitted these on Blackboard as part of their coursework. Finally, all course sessions were recorded, including the Mursion™ rehearsals, which PSTs then decomposed to evaluate the teaching moves used and provided suggestions for change. The present study draws only on exit ticket data from each module over the course of the two semesters, meaning a total of 84 exit tickets. Data were collected by the author, as the instructor of the course.

Data Analysis

Following procedures by Luke et al. (2023), data were coded by two reviewers – the author and a colleague who is part of the Faculty Fellows group and who has extensive knowledge of PBTE and core practices. First, all exit ticket data were anonymized and inputted into a spreadsheet. Following procedures by Saldaña (2015), both coders read through the data one time, then emergent themes were determined related to lingering questions and areas of growth. The coders then met to refine the codes, focusing heavily on the areas of the module that the PSTs were still grappling with, such as "identifying connections." This code was assigned to any PSTs comment about struggling to see how a student response fits into the overall conversation topic. As each coder worked to categorize the findings, representative excerpts were identified. Following procedures by Creswell and Clark (2018), researchers then examined the whole data set a second time to establish and expand upon the results.

Results

This study sought to answer the question: *After participating in a series of PBTE-based modules and a virtual simulation, what challenges in eliciting student thinking in group discussions were faced by the PSTs?* Five themes were identified, which will be discussed below.

Theme 1: Implicit bias impacts how teachers respond to students.

One of the main goals of these modules was for PSTs to understand that being an equitable teacher means appreciating the knowledge that all students bring to the conversation (Shaughnessy & Borst, 2018). Through the module videos and experiences, the participants realized just how much implicit bias impacts classroom discussions. Lisandra explained,

> To make sure I am providing an anti-biased and anti-racist environment, I must utilize conscious knowledge to respond to all my students. By asking myself questions such as, are they engaged? Is the content interesting? Are they feeling valued? Are they feeling part of the classroom? I can start pinpointing why my students are presenting certain behaviors. Other important questions that can help me reflect on my student's behaviors refer to my student's needs as a human being.

In this, Lisandra came to understand that overcoming bias requires conscious work, to understand both how students are feeling within the discussion and their needs (Kavanagh & Danielson, 2019). Rachel said, "teacher actions, and how they can create a huge impact no matter how little the action" and Avery said, "we need to be careful about how we respond and how to make the student feel in the moment inside of classrooms." Every PST mentioned something about equity in discussions being the teacher's responsibility to cultivate, with most explaining that it would not necessarily come naturally.

Theme 2: To successfully elicit, you must have a strong understanding of both your students and the lesson's content.

While many may believe that the topics taught in early childhood are simple, they do in fact involve many complexities and nuances that teachers must become familiar with to provide successful instruction (Ford-Connors & Robertson, 2017). As such, the success of any early childhood discussion hinges on teachers being comfortable with the content and thus being able to identify connections between the objective of the discussion and any unclear student responses. This can be easier said than done, which the PSTs noticed when attempting to elicit in their internship classrooms, role-play groups, and with the avatar students. Jayma explained, "knowing the text very well and being able to constantly relate back to it is very beneficial in making sure the focus question is constantly in mind." Cleo expanded about why this is so important, saying

> Educators must dissect student responses at some points to reveal the connection between the objective and their response. It is okay to take a few moments to think of a response rather than moving on immediately to the next student. Dismissing a student's answer because it does not exactly align to the objective can remove the opportunity for deeper thinking and lessen the chance the student will participate again.

Through these experiences, the PSTs were able to realize that teachers must have a strong understanding of the questions they are asking and the objective they are pursuing, to be able to make connections between the objective and student thinking.

The PSTs also expanded on how important it is to have relationships with your students before engaging them in discussions (Shaughnessy & Borst, 2018). They explained that only when you really know your students – their backgrounds, interests, and preferences – can you get to the heart of *what* and *how* they think. Maryanne said, "it is really important to make sure you know your students because that will make it easier for you to know what type of questions to ask them, so they are engaged." Rachel explained further, "it is important to think of ways to elicit responses using third turn moves that are relevant to the child, their skills, and their interests." Some PSTs found that the avatar scenario really highlighted why knowing your students is important. Kayleigh said,

...the varied personalities of students made the simulation more real. The students talked and acted like real students, and it made their responses so different. This allowed me to truly think about how to meet the students on an individual basis and adapt to their needs.

While other PSTs, like Kayleigh, appreciated how "real" the avatar student reactions were, they indicated that they would've felt more successful in eliciting with them had they been more familiar with the avatar student backgrounds. Christine said it was helpful to match the avatars to students in her class, saying "I was able to make connections between the personalities of the avatar students and some personalities in my class. This experience helped me see how I can take those responses and connect it back to the objective."

Theme 3: Teachers must make a conscious effort to reduce teacher talk and create opportunities for all students to participate.

Throughout this unit, the PSTs began considering the discussions they witnessed in their internship classrooms, realizing most were heavily centered around teacher-talk. They began to self-reflect on their own practice, realizing they struggled with dominating all conversations with their own ideas and thoughts. After participating in the avatar scenario, the PSTs came to new understandings about their own actions. Julianna said, "it showed me firsthand how much it helped to limit teacher talk since the students are the ones moving the conversation along." Julianna realized that when she stepped back from the discussion, she was able to learn more about what her students understand. Cleo realized, "…teacher actions are very important and can determine the way a student learns and their outlook of school." Thus, too much teacher talk leads students to believe that teacher talk is valued above their own contributions – so why even try when they will just be told the right answer?

Not only did the PSTs come to understand why releasing control over the conversation was important, they also realized that they were responsible for ensuring all students were able to participate in the discussion (Michaels & O'Connor, 2015). When reflecting on her interactions with students in her internship classroom, Jayma said "... an area of need is to not always call on the same students that I know will give the right answer. I find myself doing this sometimes because it is more comfortable and less work." Through the modules on eliciting, Jayma came to realize that she would continually rely on the same students to answer questions or move discussions forward, acknowledging that it is easier to do so. As they progressed through the modules, Jayma and the other PSTs realized that involving all students was not going to be easy and would require both intentional effort and more practice to do so consistently. Alondra explained, "I think my next steps for growth in this area is getting better at making sure I use every student in the conversation rather than focusing on one or two." Thus, while the PSTs did not feel that they had mastered this skill yet, they were aware of its importance and set goals for their future practice.

Theme 4: Good listening means not putting your own interpretations into what students say but instead asking for clarification and/or probing further.

This theme emerged at the end of the modules, after PSTs had participated in the avatar rehearsal. This rehearsal triggered some new understanding about listening, an underemphasized topic in teacher education (Greenhalgh-Spencer, 2022). Looking back at the avatar experience and decomposing the transcript caused PSTs to realize that they often were using brief student responses to make assumptions about what the students understood, and thus quickly moving the conversation forward. To illustrate, Hannah wrote, "I have difficulties transitioning between listening and interpreting student think and developing additional questions for students. Mostly because I try to implement my own ideas and answer the questions for the students." Julianna echoed something similar, saying

> I think that I am a good listener, but I also know that there are certain occasions more often than not that I am only listening to a particular question. So, I want to work more on not having that preconceived thought but rather listening to all of their thoughts and then going off of there.

Both Julianna and Hannah recognized that they were falling into a typical teacher trap (Cazden, 2001), wherein they were subconsciously predetermining the response they wanted to hear and moving forward with pursuing that answer regardless of what the students were truly attempting to convey. In their exit tickets, multiple PSTs noted that they missed opportunities to dig deeper into their student's understandings based on being too eager to move the conversation forward.

The avatar students are designed to exhibit different characteristics and personalities, and Mursion^{TM} even designs learning profiles for them (Dalinger et al., 2020). One of the avatar students was named Emily, and she is identified as an "exceptional learner," or a student with some learning difficulties who receives special education services. One PST, Chelsea, felt that this avatar experience allowed her to see why listening was so important when working with students like Emily. She explained, "I believe teachers should really work and improve their listening skills. To really understand Emily, we would have to make thorough connections and really listen to her." Through engaging Emily in eliciting during the avatar experience, Chelsea really saw the benefit of close listening and not presuming certain understandings or misunderstandings. Chelsea's statement gets to the heart of why eliciting is important: to understand the thoughts of all students, and not just those who can quickly respond in a way that the teacher perceives to be correct.

Discussion

The findings from the modules are encouraging, particularly given that eliciting student thinking is a challenging skill that most teachers do not acquire readily (Michaels & O'Connor, 2015). Creating rich discussions where all students – and their ideas – are valued and considered requires repeated and intentional practice to do consistently and well (Lampert et al., 2013; Schutz &

Danielson, 2019), and these modules were a first step in achieving that aim. One of the most encouraging findings that emerged was the recognition that all students bring different backgrounds and knowledge, which impacts how they participate in conversations. Within this recognition, PSTs realized how it is their responsibility, as the teacher, to cultivate student participation. It seemed that the avatar rehearsal and corresponding decomposition was a particularly powerful tool, as it allowed PSTs to see varying personalities, and to evaluate and consider their own responses and how that positioned the student within the discussion. It is clear, however, that the PSTs still needed practice in making sure that all students were consistently included and their thoughts probed in a productive and supportive manner. This is similar to findings by Moody and Finkelstein (2024), who determined that PSTs who engaged in a five-week module on eliciting with diverse learners still struggled with creating a supportive environment that includes all students, and in particular were challenged to include multilingual learners in the discussion in a meaningful way. Other research suggests that training, whether it be professional development or preservice coursework, cannot be a "one-stop-shop," and must instead involve multiple opportunities to hone this skill, as it is too complex to be mastered immediately (Cohen et al., 2020).

Another promising finding relates to the importance of listening as a teacher. Listening is a rarely touched topic in education; it is both understudied in universities and professional development, and under-practiced in classrooms (Greenhalgh-Spencer, 2022; Murdoch et al., 2020). This is a huge issue, as listening has a tremendous impact on the quality of supports students receive throughout the day and has a major impact on the quality of any classroom discussion (Greenhalgh-Spencer, 2022; Murdoch et al., 2020). Teachers, however, often focus on how to get students to listen to them, and not the other way around. Deep listening means paying attention, not just to utterances, but to the whole child: their actions, expressions, and demeanor (Greenhalgh-Spencer, 2022; Murdoch et al., 2020). Deep listening also means creating an environment where all ideas are seriously considered (Greenhalgh-Spencer, 2022; Murdoch et al., 2020). While it may seem simple, deep listening needs to be explicitly taught (Greenhalgh-Spencer, 2022; Murdoch et al., 2020). The PSTs in the present study demonstrated some strong understandings about why they needed to talk less and listen more, but there is still room for improvement in this area.

Finally, it seems that the PSTs in this study were aware that implicit bias could impact their interactions with students, but they did not apply this understanding to their specific actions within the role-play scenarios or the avatar rehearsal. For example, many PSTs failed to include the avatars in the conversation who were non-native speakers of English or only did so in a shallow way (such as asking for "yes" or "no" responses). This indicates a base-level understanding of implicit bias, but without deeper knowledge. To overcome this, PSTs should be given the opportunity to dig into their own backgrounds and beliefs, and to challenge those against how they respond to students that may have different perspectives. One idea is to use critical reflection before, during, and after an avatar scenario, to target specific aspects of bias. Through this, they can examine their own beliefs against their practices, considering how they originated (Rice,

2022). They should also engage in other practice-based opportunities to deconstruct seemingly innocuous classroom interactions for instances of bias; the work of Deborah Ball (2018) is instrumental in supporting this.

 As a result of these findings, some changes to the modules will be implemented. First and foremost, the length of time spent on the topic of eliciting in group discussions, using third-turn moves, will be doubled. In the present pilot study, the PSTs only had two weeks in which to learn the skill of eliciting before moving on. This was clearly not enough time for the PSTs to feel confident in their practice. In the future, work specifically centered around eliciting skill-building will occur over a six-week period in one semester, and paired with a classroom field experience. These six weeks will focus on building relationships with students, using knowledge of students to practice eliciting, and then eliciting within group discussions. Two Mursion™ scenarios will be designed to bookend the experience, with the first focusing on relationship-building with the avatars, and the second on eliciting with those avatars based on knowledge of their interests and personal histories. The unit will conclude with a field-based read aloud, where each PST records their discussions around the book and decomposes it for their eliciting practices. These changes will reflect the findings of the present study, wherein PSTs needed more time to get to practice skills like listening to their students and cultivating participation across students.

The module redesign will include a second semester unit, also with six lessons. These will focus on eliciting as an equitable practice, such as strategies to support multilingual learners in conversation, as well as reluctant learners, students who seem unfocused, students in special education, and so on. This semester will include a heavy focus on an examination of personal bias and extensive reflection on practice to further support PSTs in understanding how this impacts classroom discussions. The overall goal is to ensure that PSTs feel comfortable in recognizing the strengths of all students and involving all learners in a discussion. In this unit in particular, the focus will be on listening, aimed to promote the idea that conversations can take multiple, perhaps unanticipated, directions but still result in learning, as long as the teacher is listening to understand and demonstrating care for the students in the discussion. Chung (2022) suggests that training should focus on questions that allow children to linger in thought and thus express themselves in varying ways. As such, the revised modules will include the use of wordless picture books, whose meaning is intentionally malleable and open to interpretation. It is the hope that these books will allow PSTs, and their avatar students, to dwell on its meaning without preconceived notions (Chung, 2022). These books will also provide a much-needed avenue for PSTs to build upon the thoughts of multilingual learners and special education students without the burden of text-based evidence.

Eliciting is an absolutely critical skill that impacts all students, across all grade levels, and in all fields. Despite this, it is an understudied area in colleges of education and teacher professional development (Grosser-Clarkson & Neel, 2020). Other researchers and teacher educators should consider how to support the skill of listening within their work, emphasizing that the idea of caring

about *how* students think is more important than getting a "correct" response. In short, we need to shift from listening for specific answers to listening to students (Shaughnessy & Borst, 2018). The findings from the present study indicate that even a simple four-week module rooted in PBTE can lay the foundation for this preparation. Teacher educators can use these modules, and the corresponding implications, as a way to jumpstart talking about eliciting in their coursework. Hopefully, in the future, high quality eliciting that includes deep listening will become a standard practice in all classrooms.

Data Disclosure Statement

The author reports there are no competing interests to declare.

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