An asset-based perspective on prospective teacher education

Alison Castro Superfine¹

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The phrase preservice teachers or prospective teachers (PTs) is typically used to refer to individuals who are preparing for their future work as classroom teachers. Many articles argue that teacher education coursework for PTs is critical for developing the knowledge and skills needed by practicing teachers. Such a rationale seems reasonable given that prospective teacher education is designed to prepare PTs for teaching and provide them with opportunities to develop said knowledge and skills. However, by positioning PTs as needing to learn the knowledge and skills that teachers do, we may sometimes inadvertently reinforce a gap between the knowledge and skills of PTs and those of teachers, and position PTs' developing capabilities as lacking or deficient in some way. Instead, might we recognize that through their experiences both within and outside of classrooms, PTs develop intuitions and tacit knowledge (Markauskite & Goodyear, 2014) that can inform and support their ability to learn to teach in teacher education? Can we frame PTs as pedagogically competent, and simultaneously consider ways of building on what PTs bring to teacher education coursework?

To further this argument, I take an example from my own work with colleagues on PT noticing (Bragelman, Amador & Castro Superfine, under review). In this work, we draw a parallel between Louie's (2018) work on noticing mathematical strengths of students from marginalized groups and our own to recognize the often deficit-led perspective regarding PT capabilities. Instead, we position prospective teachers as pedagogically competent with respect to noticing and perceive them as sense-makers who are positioned to further develop expertise in noticing. From this asset-based perspective, research on PT noticing often positions them from a deficit perspective, or as underperforming, in comparison to practicing teachers. This gap-gazing perspective (Gutierrez, 2008) does not acknowledge the experiences, knowledge and skills PTs bring to teacher education. Instead, we consider the everyday practices of noticing that PTs bring to teacher education to characterize their expertise with noticing. We do not claim that PTs are experts at noticing, rather we situate our perspective to recognize and elevate the expertise within noticing that they may bring to teacher education coursework. Such an asset-based perspective positions PTs as pedagogically competent in contrast to reinforcing the knowledge and skills that are likely underdeveloped or even lacking as compared to teachers.

✉ Alison Castro Superfine
amcastro@uic.edu

¹ Chicago, US

The articles in this issue of JMTE well-illustrate ways in which researchers might take an asset-based perspective on PT learning in teacher education coursework. Shaughnessy, DeFino, Pfaff and Blunk (this issue) focus on a recurring problem of practice, namely how to interpret what an incorrect answer from a student might imply about their mathematical understanding to determine how to respond instructionally. As the authors indicate, students' incorrect answers "...can have a range of possible sources and instructional implications," thus challenging deficit-oriented assumptions about students' thinking. Shaughnessy and colleagues explore how PTs elicit the thinking of a student who has made a mistake using a live simulation. Results from their study indicate that most of the participating PTs were more fluent with eliciting procedural aspects of students' thinking than conceptual aspects, yet a majority were able to elicit the first few steps of students' strategies. The authors argue that math teacher educators would "...benefit from knowing what PTs bring with them to teacher education to be able to design the program in ways that anticipate and build on PTs' prior ways of acting and interaction."

Drawing on Weiner's attribution theory (1986), Lipovec and Mesarec (this issue) focus on PTs' reflections on their lesson enactments, and whether and in what ways PTs' predominant locus of control changed over time as part of their teacher education coursework. Weiners' theory suggests that teachers with high degrees of internal (self) locus of control can better control their behavior and affect the behavior of others as compared to teachers with a high degree of external (outside) locus of control. The authors qualitatively analyze PT written reflections on their lesson enactments and focus on whether PTs attributed challenges in their lesson enactments to themselves or some outside source, or attributed student errors/misunderstanding that emerged during the lesson to students. Their results indicate that PTs who exhibited an internal locus of control reflected more often on the importance of student-centered approaches in instruction, and that overall, PTs demonstrated a significant positive change in their locus of control toward an internal locus during their teacher education coursework.

Kalinec-Craig et al. (this issue) argue that teachers need to adopt a strength-based approach to teaching and avoid deficit-models of students and student thinking. According to the authors, noticing and naming students' math strengths is a teaching move that shows students that everyone is a capable generator of math and has ideas to share. The authors explore the extent to which PTs adopted strengths-based language in their noticing statements about students' mathematical thinking, and the evidence PTs use to support their claims in a course assignment. Overall, their results indicate that strength-based language is teachable and learnable by PTs. Kalinec-Craig and colleagues argue that PTs need tangible entry points as they learn to integrate the practice of assigning competence into their instructional routines as they progress through their teacher education coursework, and that such a strength-based practice can be learned by PTs through teaching scenarios.

Finally, Ayalon and Wilkie (this issue) focus on enhancing PTs' assessment literacy practices, with a particular focus on formative assessment practices. They conceptualize peer-assessment processes as an approximation of teachers' formative assessment practice. Peer-assessment is an arrangement wherein learners consider the quality of a product or performance from other equal-status learners. Ayalon and Wilkie explore the cognitive and affective aspects related to PTs assessment literacy development as PTs engage in a multi-phase cycle of peer-assessment in a teacher education course. Their findings suggest that the peer-assessment process enhanced PTs' learning, including increased knowledge about designing rubrics, an awareness of the importance of openness to students' ways of thinking, and increased confidence in designing mathematical task and assessment criteria. One takeaway from their work points to the interconnectedness of cognitive and affective

aspects of PTs' assessment literacy development, an important asset on which math teacher educators might build teacher education coursework.

To be sure, I recognize, and agree that a central purpose underlying prospective teacher education is in fact to provide opportunities for PTs to develop knowledge and skills to prepare them for becoming teachers. What I am suggesting here is a re-framing of how we as researchers might inadvertently portray PTs and their learning as lacking or deficient in some way. And I am hopeful that the articles in this issue of JMTE provide examples of ways in which researchers might take a more asset-based approach to studying PT learning in prospective teacher education.

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