



# CAREER: Cultivating Teachers' Epistemic Empathy to Promote Responsive Teaching

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## Motivation

Studies have shown that teachers' responsiveness to student ideas and experiences is critical for promoting student agency, disciplinary engagement, and equitable participation. Yet what allows teachers to enact responsive teaching is less clear. This project explores ways to foster responsive teaching by cultivating teachers' **epistemic empathy**—their capacity to tune into and appreciate students' cognitive and emotional experience in constructing, communicating, and critiquing knowledge.

Using a design-based approach, the project team designs and implements educative experiences aimed at cultivating epistemic empathy. The project examines how such empathy may support teachers to be more responsive to students' ideas and experiences in the classroom.

## Why Epistemic Empathy?

Most portrayals of empathy in teacher education conceptualize it as occurring outside of, and separately from, students' epistemic experiences. While important, such conceptualizations may not account for how teachers come to empathize with and support learners' *epistemic* work (Jaber, Southerland, & Dake, 2018).

With its emphasis on epistemic dimensions, epistemic empathy, we argue, is particularly important for understanding teacher responsiveness as it provides teachers a window into students' sense-making experiences and their ways of reasoning and feeling within epistemic activities. Such a window is essential for recognizing, interpreting, and building on the productive seeds in student thinking in ways that honor and support students' disciplinary work.

## Markers of Epistemic Empathy

1. Noticing and valuing learners' epistemic affect
2. Interpreting and explaining (instead of judging) someone else's reasoning and actions
3. Identifying merits in learners' ideas and feelings
4. Anticipating someone else's ideas and feelings by projecting into their situation
5. Expressing curiosity and interest in learners' reasoning
6. Channeling one's personal experiences to connect with someone else's intellectual and emotional experiences

## Cultivating Epistemic Empathy

The team is designing and exploring an assortment of educative experiences to cultivate teachers' epistemic empathy. The suite of experiences include:

Engaging as learners in science & mathematics and reflecting on those experiences

Analyzing videos of student inquiry with guiding prompts

Interacting with students through tutoring and interviews

Interrogating one's own biases and assumptions

## Study 1 - "Well that's how the kids feel!": Epistemic Empathy as a Driver of Responsive Teaching

This analysis examines how engaging in-service elementary and middle school science teachers *as learners* in doing science can serve to foster their *epistemic empathy* for their students and how this may support their responsiveness in the classroom. We draw on data from a year-long blended-online PD program that began with an emphasis on teachers' doing science and progressed to supporting their attention to their students' doing science. By analyzing videos from teachers' classrooms collected throughout the PD, we found that teachers became more stable in attending and responding to their students' thinking. Using evidence from teachers' reflections, we argue that this stability was supported by the teachers' *intellectual and emotional* experiences as learners which served as a basis for their having epistemic empathy for their students.

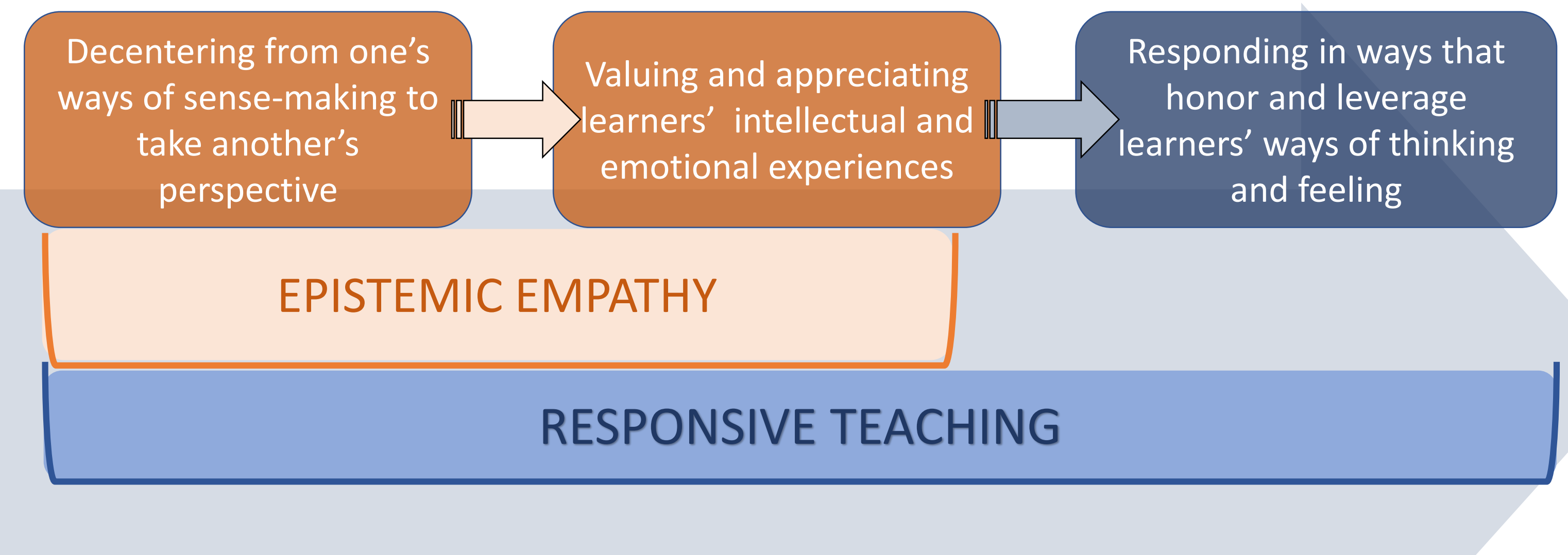
Jaber, L. Z., Dini, V., & Hammer, D. (accepted with major revisions). "Well that's how the kids feel!": Epistemic empathy as a driver for responsive teaching. *Journal of Research in Science Teaching*.



The first class, everybody was like, "I don't understand what we're supposed to be doing here." [...] but **it gave us an idea of how the kids- well at first we were all like, "Well I'm not writing that. I feel stupid if I write that." And [the PD facilitators'] point was, "that's how the kids feel."**

So **it was kind of learning through empathy** how to do it and then being able to transfer that to the kids and teach them that it's okay to think that way. [...] And how [the facilitators] explained it was, "**You might feel like that kid who's afraid to raise their hand because they think their answer is wrong.**" So... **they transformed our thinking into the thinking of the kids. Because in essence that's what we were... we became the kids in the classroom.**

## How Epistemic Empathy Supports Responsiveness



## Contributions and Implications

The three studies outlined offer insight into the importance of epistemic empathy as a construct and advance the larger goals of the project by:

- Identifying epistemic empathy as a driver for responsive teaching
- Contributing empirical insights on the development and cultivation of epistemic empathy in teachers
- Highlighting affective and epistemological affordances of particular educative experiences for promoting epistemic empathy
- Motivating further research on the design of teacher education to cultivate epistemic empathy as an aspect of teacher learning

## Questions for Future Inquiry

- How might teachers' epistemic empathy foster learners' sense of belonging, agency, and empathy for each other's experiences and perspectives?
- What tensions might emerge when we conceive of epistemic empathy as an aspect of teacher learning, especially with regards to equity?
- How can we continue to design pedagogies and learning environments that cultivate epistemic empathy as an aspect of teacher *and* student learning?

## Select Work that Informs this Project

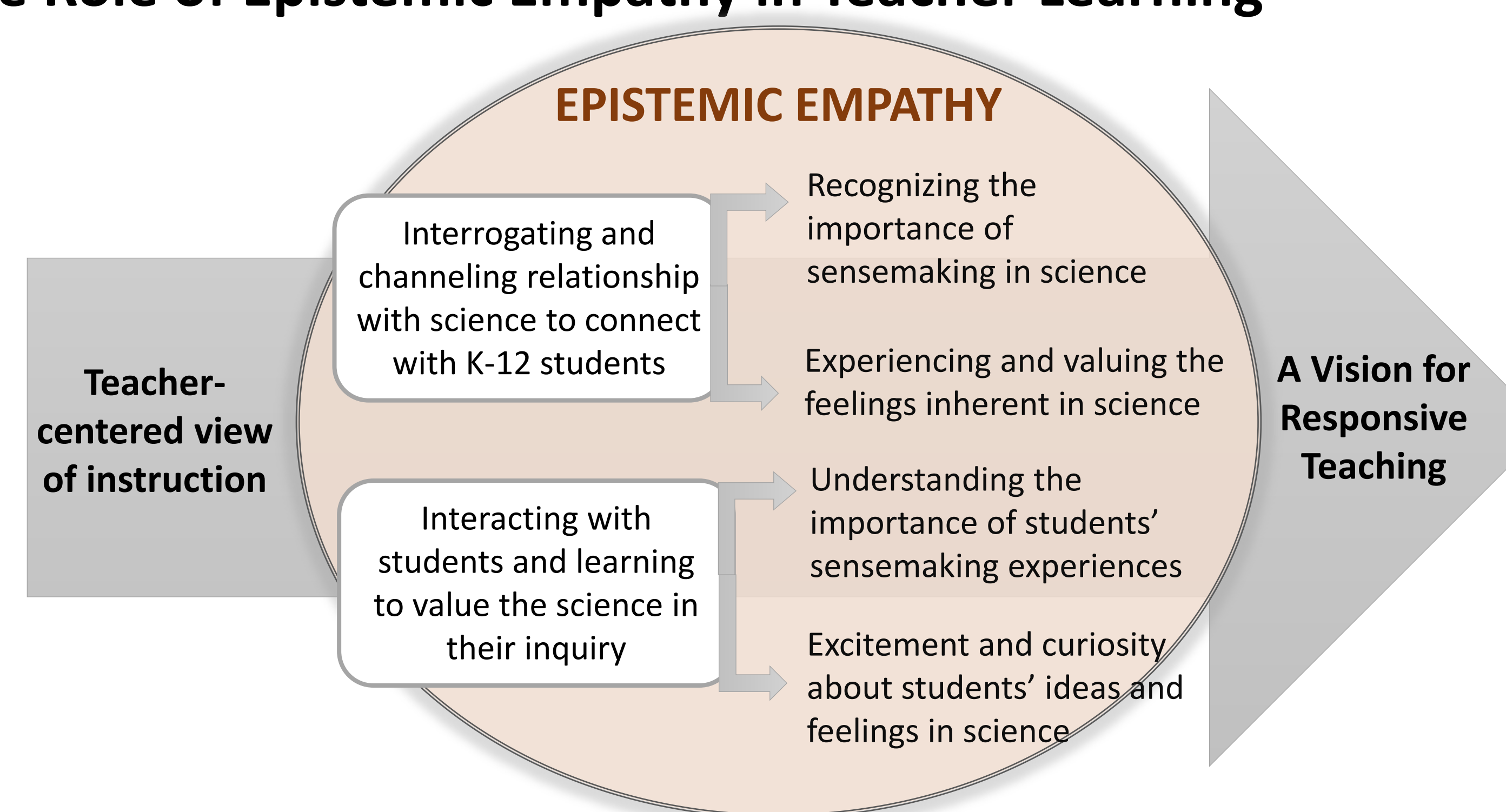
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## Study 2 – "He got a glimpse of the joys of understanding": The Role of Epistemic Empathy in Teacher Learning

This analysis traces the learning journey of one preservice science teacher, Keith, who after having expressed strong skepticism about responsive teaching at the beginning of an early teacher education course, came to value this approach and took it up in his instruction. We examine the shift in Keith's views on teaching and show that *epistemic empathy* was central to Keith's learning. The analysis identifies key affective and epistemological dynamics in Keith's interactions with K-12 student inquiry and in his own relationship with science, in particular the joys he experienced in figuring things out, that fostered his empathy for students. Keith's epistemic empathy, we show, eased his worries about students arriving at correct answers, shifting his attention toward supporting students' sensemaking and nurturing their personal relationships with the discipline.

Jaber, L. Z., (accepted). "He got a glimpse of the joys of understanding!": The role of epistemic empathy in teacher learning. *The Journal of the Learning Sciences*.



## Study 3 – Examining the Role of Epistemic Empathy in Responsive Teaching

Drawing on multiple sources of data from a STEM teacher education preparation program, this analysis aims to empirically examine whether and how preservice teachers' epistemic empathy aligned with their enactment of responsive teaching practices in the classroom. The findings serve as a proof of concept regarding this association: we found that those preservice teachers who displayed epistemic empathy more consistently were more adept at taking up and pursuing student contributions in their teaching. These findings contribute to teacher education by providing empirical insights into the nature of the association between epistemic empathy and teachers' responsiveness and by highlighting the need for learning experiences that cultivate epistemic empathy as a target for teacher learner in order to support their enactment of responsive teaching.

Jaber, L. Z., Davidson, S. G., & Metcalf, A. (in preparation)

Association between epistemic empathy (EE) and responsive teaching (RT)

