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Preparing teachers for ambitious *and* culturally responsive science teaching

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Communities, schools and classrooms across North America are becoming more ethnically, racially, and linguistically diverse, particularly in urban areas. Against this backdrop, underrepresentation of certain groups in science continues. Much attention has been devoted to multicultural education and the preparation of teachers for student diversity. In science education, much research has focused on classrooms as cultural spaces and the need for teachers to value and build upon students' everyday science knowledge and ways of sense-making. However it remains unclear how best to prepare science teachers for this kind of culturally responsive teaching. In attempting to envision how to prepare science teachers with cross-cultural competency, we can draw from a parallel line of research on preparing teachers for *ambitious science instruction*. In ambitious science instruction, students solve authentic problems and generate evidence and models to develop explanations of scientific phenomenon, an approach that necessitates great attention to students' thinking and sense-making, thus making it applicable to cultural relevance aims. In addition, this line of research on teacher preparation has developed specific tools and engages teachers in cycles of reflection and rehearsal as they develop instructional skills. While not addressing cross-cultural teaching specifically, this research provides insights into specific ways through which to prepare teachers for culturally responsive practices. In my presentation, I will report on efforts to join these two areas of research, that is, to combine ideas about multicultural science teacher preparation with what has been learned about how to develop ambitious science instruction. This research suggests a new model for urban science teacher preparation—one that focuses on developing specific teaching practices that elicit and build on student thinking, and doing so through cycles of individual and collective planning, rehearsal, review, and reflection. In this way, a defined set of science-specific, ambitious *and* culturally responsive instructional practices can be articulated and taught during science teacher preparation.