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An alarming number of K-12 students in New Mexico perform at 'basic' and 'below basic' levels in math and science. One way to address this problem is to ensure that our children's teachers have a deep knowledge of the math and science content they are supposed to teach. In addition, teachers must also have strong models of how this content can be effectively taught for student understanding. This task falls not only on scholars in the College of Education, but also on scholars in other colleges who teach the math and science courses where pre-service teachers learn the math and science content they will take with them into their classrooms. An example of how to provide pre-service teachers with the content and pedagogy they will need is modeled by the Physics by Inquiry classes at NMSU. The curriculum used in these classes is based on 20 years of research in physics education, and the instructional strategies modeled for students are aligned with current 'best practices' in math/science education. This paper will present a rationale for these types of classes at NMSU, student feedback, and some of the challenges associated with offering this type of class. The goal is that the scholarly community at NMSU will commit to and form more partnerships across college lines to make sure that our teachers are adequately prepared to teach STEM courses to New Mexico's children.