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Cultivating Ethical Reasoning in Physics: Emerging Themes from Student Reflections about the Thirty Meter Telescope Controversy[1]
ALEXANDER VASQUEZ, BRIANNE GUTMANN, DANIEL BARRINGER, ALICE OLMSTEAD, Texas State University — It is important for physics students to develop ethics knowledge, yet this is rarely taught in physics classes. We are addressing this limitation in our physics classes at Texas State University. Here, we focus on teaching about the ethics of building the Thirty Meter Telescope (TMT) in Hawaii for an observational astrophysics class. We developed resources for students to make informed decisions about this complex issue. The unit encompasses an introduction of the TMT, a local perspective in San Marcos, a history of Hawaii, and perspectives about the TMT relative to formal ethical frameworks. We will present data from this unit in Spring 2020, including written reflections and video analysis from conversations during class. Our preliminary analysis of students' written work indicates that students experienced an increased understanding of the complexity of the issue, increased empathy with the protesters, and a desire for a compromise. Based on this and our ongoing video analysis, we will highlight what worked well in our design and what could be improved in order to support the community of physics educators and education researchers in teaching about ethics in physics classes.

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