PDP Post Teaching Summary

The Akamai Light activity was taught during the 2017 Akamai PREP course, which is a 4-day intensive course that geared the 29 Akamai undergraduate interns in various STEM fields up for their 7-week internship. The main content goal of our inquiry activity was that learners will demonstrate an understanding of Snell's Law of Refraction by explaining a real world phenomena. We specifically wanted learners to be able to articulate that refraction at a material interface is dependent on incidence angle, media, and wavelength. The learners had to design and carry out investigations and use the evidence that they gathered in their investigations to explain their phenomena. Learners also engaged in the practice of designing and carrying out investigations. The specific dimensions that we wanted our learners to engage in were: discovering variables that are most relevant to the scientific question, planning procedures that will allow relevant measurements to be made with tools/technology at hand, and anticipating sources of error and calling it out during the design.

Akamai Light was designed such that each individual belonged to a single, overarching group which had an explicit purpose of describing a particular natural phenomena. Throughout the course of the entire experience, each student consistently referred back to their phenomena: It influenced the questions they asked, it colored the way that they chose to design their investigations, and in general it provided them with a single point of reference to which they could return to help guide their experience. In essence, the students formed a group identity based off of their inquiry, which helped them to have a sense of continuity throughout the day and provided a guiding center that they could follow.

The final assessment of the learners was for them to explain their phenomenon to a small group, with each person in the group being from different Phenomena teams. This enabled each individual in the group to demonstrate their understanding of their phenomena to their peers, explain their experimental process, and relate their phenomena to their understanding of Snell's Law.