Pre-service elementary teachers often enter college with a variety of beliefs about mathematics that inhibit learning and obscure the discipline. Given that each of these future teachers will be charged with shaping the formative mathematical experiences of hundreds of children, it is critical to address and shift these non-availing beliefs. In this talk we will examine an IBL elementary mathematics content course designed to challenge non-availing beliefs in pre-service teachers through their mathematical inquiry. (Received September 26, 2018)