

The Construction of Limit Proofs in Free, Open, Online, Help Forums

Abstract: Free, open, online, help forums are found on public websites and allow students to post queries from their course assignments that can be responded to asynchronously by anonymous others. Several of these forums are tailored to helping students with mathematics assignments from various courses, and Calculus, in particular, is a heavily trafficked area. Students use the forums when they have reached an impasse, either in constructing or understanding a solution to an exercise that they have encountered, or to seek verification of their own reasoning. The queries posted by students include both computational tasks as well as proof constructions. In this project, we examine threads on limit proofs for single-variable functions from two popular online forums. Our goal is twofold: to characterize the help students are receiving as they wrestle with using the formal definition of limit, and to compare the construction of proof to other tasks in online forums.

Keywords: computer-mediated discourse; limits; online help; student understanding of proof