Students’ Epistemic Frames and Their Interpretation of Lectures in advanced mathematics

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Abstract: In this talk, I will present a comparative case study of two students with different epistemological frames watching the same real analysis lectures. I will show the general point that students with different epistemological frames can interpret the same lecture in radically different ways. I will also identify epistemological frames that are useful or counterproductive for understanding a lecture on how the rational numbers are constructed from the integers. These results illustrate how different students’ interpretations of a lecture are not inherently tied to the lecture, but rather depend on the student and that student’s perspective on mathematics. Thus, improving student learning may depend on more than improving the quality of the lectures, but also changing student’s beliefs and orientations about mathematics and mathematics learning.

Victoria is a doctoral student at Rutgers university. She is currently interested in taking a larger sample of undergraduate mathematics majors to identify students’ epistemological frames about mathematics and mathematics learning as part of her dissertation work.