

1086-N1-1249 **Eric D Weber*** (eric.weber@oregonstate.edu), 103 SW Memorial Pl, Weniger Hall 233,
Corvallis, OR 97333. *Two Students' Negotiation of Constructing Surfaces in Space.*

This talk describes two calculus students' ways of thinking about the construction of surfaces in space. There is a great deal of literature that focuses on student thinking about functions, but few studies explore the transitions students make as they begin thinking about functions of two-variables. This transition was the focus of the study. As such, these students participated in a teaching experiment focused on student thinking about two-variable functions and directional derivatives. This talk focuses on two major ideas drawn from the study. First, I describe the development of shape thinking, a new construct used to describe students' association of formulas and graphs. Second, I characterize how the students' interactions and discussions about generalizing from one to two variable functions influenced each of their ways of thinking. I conclude by discussing the implications for researchers and practitioners. (Received September 20, 2012)