Students network integration vs. persistence in introductory physics courses JUSTYNA ZWOLAK, ERIC BREWE, Florida International University — Society is constantly in flux, which demands the continuous development of our educational system to meet new challenges and impart the appropriate knowledge/skills to students. In order to improve student learning, among other things, the way we are teaching has significantly changed over the past few decades. We are moving away from traditional, lecture-based teaching towards more interactive, engagement-based strategies.A current, major challenge for universities is to increase student retention. While students' academic and social integration into an institution seems to be vital for student retention, research on the effect of interpersonal interactions is rare. I use of network analysis to investigate academic and social experiences of students in and beyond the classroom. In particular, there is a compelling case that transformed physics classes, such as Modeling Instruction (MI), promote persistence by the creation of learning communities that support the integration of students into the university. I will discuss recent results on pattern development in networks of MI students interactions throughout the semester, as well as the effect of students' position within the network on their persistence in physics.

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