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**George F. Sweeney\*** ([georgefsweeney@gmail.com](mailto:georgefsweeney@gmail.com)). *Getting Back Home: Student Meaning-Making in Linear Algebra.*

The use of applications and realistic problems to introduce mathematical concepts is not new. However, the question of what gets learned from the problem situation to new and different problems that engage with similar mathematical material is still an issue widely discussed amongst mathematics educators. This study arises from an introductory linear algebra class at a southwestern research university, where students were introduced to an experientially real setting that served to give students an entry point into the basics of the system of vectors and vector equations. As members of the class worked on new problems stemming from the setting, they presented and discussed their conjectures and related those ideas to formal mathematics. During and after the presentation of this sequence, I conducted a series of focus group interviews to understand what meanings the classroom community developed for vectors and vector equations. In this talk, I show the ways that students utilized the language and imagery of the setting even in linear algebra problems not directly tied to the scenario. I demonstrate that these meanings reflected the shared experience of the members of this classroom as they strived to work within the setting and extend it to formal settings. (Received September 22, 2010)