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**Sepideh Stewart\***, 601 Elm Ave, Norman, OK 73019, and **Jonathan Epstein, Jonathan Troup** and **Aidan Powers**. *Linear Algebra Thinking in the Embodied, Symbolic and Formal Worlds*.

To understand linear algebra concepts, one needs to be familiar with many different modes of thinking. Mathematicians often move between these modes of thinking fluently and expect that students will pick up the main ideas along the way. Yet, a majority of students don't see the need or do not have the desire to perform the move that is so natural to mathematicians. Employing Tall's (2013) three-world model as both a theoretical perspective and a pedagogical tool, we analyzed an instructor journal, two student surveys, and a student interview. Our working hypothesis is that by creating opportunities to move between the worlds, students may be exposed to multiple modes of thinking which results in richer conceptual understanding. The results of the study revealed that a majority of students preferred the symbolic world. Their reasoning for their choices will be discussed. (Received August 04, 2020)