

Abstract Submitted
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Comparison of the effect of 2-D vs. 3-D on student comprehension in a lab on phases of the moon¹ XIMENA CID, RAMON LOPEZ, UT Arlington — We are investigating the pedagogical effects of visual representations on student comprehension in astronomy. Previous work indicates an increase in a student's cognitive load when mentally manipulating three-dimensional images. In astronomy, student difficulties with mentally manipulating 3-D images while retaining related material may be connected with spatial intelligence issues. To investigate this, we conducted a lab (15 sections) on phases of the moon during the fall 2008 semester using the introductory astronomy classes. Half of the labs were taught with full stereo visuals using a portable Astro Wall system; the other half of the labs were conducted with identical visuals rendered in 2-D. We assessed student comprehension using the Lunar Phases Concept Inventory. We will present data that show the effect that 2-D and 3-D representations have on student comprehension.

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