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September 2023

# The Investigation of Non-STEM Undergraduate Students' Geometric Cognition Development within an Embodied Cognition Lens

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## Citation of this paper:

Lin, Chen, "The Investigation of Non-STEM Undergraduate Students' Geometric Cognition Development within an Embodied Cognition Lens" (2023). *Inspiring Minds – A Digital Collection of Western's Graduate Research, Scholarship and Creative Activity*. 412.  
<https://ir.lib.uwo.ca/inspiringminds/412>

**Title:** The Investigation of Non-STEM Undergraduate Students' Geometric Cognition Development within an Embodied Cognition Lens

**Abstract:** According to Lakoff & Núñez (2000), the mind does not operate separately in the process of building mathematics concepts. Incorporating the human body and the material surroundings into mathematics learning may help the development of students' mathematical minds, which is consistent with the theory of embodied cognition asserting that cognition rests on the close interaction between the human body and mind, also coupled with the environment. To seek the possibility of applying this theory to mathematics education, this study examines non-STEM undergraduate students' geometric cognition development as they took part in a geometry course that integrated the arts and the dance. The data comes from a study that was conducted at a university in New York, mainly including videos of students' classroom interactions, and student submissions of select assignments. This study can inform educators of embodied approaches in further mathematics education.

**Keywords:** Embodied Cognition, Mathematics Education, Geometry, Cognition Development, Interdisciplinary Education.