

## ABSTRACT

### ACKNOWLEDGEMENTS

The Impact of Modes of Representation on which was  
Technical and Vocational Students' Performance of Spatial Tasks

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This study investigated the impact of three modes of representation on technical and vocational students' performance of spatial tasks. A qualitative case study design, involving grounded theory procedures, was used to study six students as they interacted with spatial tasks presented with concrete objects, computers, and paper. The constant comparison technique was used to identify several categories, together with sub-categories. Further reflection on the phenomena suggested by the categories established accompanying conditions, strategies, and consequences. Propositions were derived from these findings that concern the effect of modes on learners' capacity to reflect; their intrinsic satisfaction; their inclination to devise learning aids; their problem solving strategies; their level of persistence, and their disposition to social interaction. The theory generated in this study is based on these six propositions.

**Keywords:** Modes of representation; spatial ability; grounded theory.