

## The Influence of 3D Printing Course on Middle School Students' Spatial Thinking Ability

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**Abstract :** As a common thinking ability, spatial thinking ability plays an increasingly important role in the information age. The key to cultivating students' spatial thinking ability is to cultivate students' ability to process and transform graphics. The 3D printing course enables students to constantly touch the rotation and movement of objects during the modeling process and to understand spatial graphics from different views. To this end, this article combines the classic PSVT: R test to explore the impact of 3D printing courses on the spatial thinking ability of middle school students. The results of the study found that: (1) Through the study of the 3D printing course, the students' spatial ability test scores have been significantly improved, which indirectly reflects the improvement of the spatial thinking ability level. (2) The student's spatial thinking ability test results are influenced by the parent's occupation.

**Keywords :** 3D printing, middle school students, spatial thinking ability, influence

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