

Origami Mathematics Lessons' Influence on Spatial Skills of College Age Students

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The proposed presentation is a continuation of research presented at 4OSME. The initial research focused on the impact of Origami-mathematics lessons on middle school students' spatial visualization and mathematical abilities (Boakes, 2009a). A one-month study of the influence these lessons had on learning was conducted in 2006. Key to this study was the use of classroom lessons that blended the art of paper folding with concepts and terminology of mathematics. Findings from this research showed that origami-mathematics lessons blended with traditional math instruction were as effective as traditional instruction (Boakes, 2009c).

The continuation of this study has taken place over the past two years in the form of a college-level course. The course, called "The Art & Math of Origami", is a general studies course with a strong mathematics and art element. The course is designed to explore the connections of Origami to art, mathematics, culture, and history. Students regularly practice and hone their Origami skills in the 3 1/2 month long course. Students are asked to complete a number of performance-based assignments as requirements of this course. To continue research done with middle school children, college students' spatial skills were tested at the start and end of the course (similar to those used in the 2006 study). Data gathered and analyzed resulted in highly significant improvements in students' spatial skills (Boakes, 2009b). In this presentation, the researcher will share the organization, structure, and details of this course and research.

Though Origami continues to be an accepted tool for teaching and learning mathematics, there remains a void of research that attempts to quantify the impact Origami has on students' mathematical skills. It is the intent of this researcher to provide the needed evidence to substantiate the claim that Origami is a valuable tool for instruction and learning in mathematics.

References

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- Boakes, N. (2009c). Origami instruction in the middle school mathematics classroom: Its impact on spatial visualization and geometry knowledge of students. *Research in Middle Level Education*, 32(7), p.1-12.