

[Home](#) > [Journal](#) > [Social Sciences & Humanities](#) > [CE](#)
[Indexing](#) | [View Papers](#) | [Aims & Scope](#) | [Editorial Board](#) | [Guideline](#) | [Article Processing Charges](#)
[CE](#) > [Vol.3 No.5, September 2012](#)


Patterning Abilities of First Grade Children: Effects of Dimension and Type

PDF (Size: 41KB) PP. 632-635 DOI: 10.4236/ce.2012.35092

Author(s)

K. Marinka Gadzichowski

ABSTRACT

In the United States children receive instruction on recognizing patterns beginning most often in kindergarten and continuing on through early elementary school years. Although widely accepted and included in curricula, patterning instruction has not been based on empirical research. The current study is the first attempt to determine how the dimension, e.g. color or shape, in which a pattern is displayed impacts children's ability to understand the pattern. This study is also an initial exploration of whether the overall "rule" of the pattern impacted a child's ability to recognize a pattern. Five types of patterns displayed in five different dimensions were presented to 204 first grade children in a completely counterbalanced order. Results indicated that the dimension in which a pattern was displayed made no difference to the children. Patterns with alternating elements were significantly easier than any others, and those with increasing numbers of elements were significantly more difficult. Implications for instruction in patterning were discussed.

KEYWORDS

Patterning; Cognitive Development; Education

Cite this paper

Gadzichowski, K. (2012). Patterning Abilities of First Grade Children: Effects of Dimension and Type. *Creative Education*, 3, 632-635. doi: 10.4236/ce.2012.35092.

References

- [1] Lester Jr., F. K. (2007) Mathematics learning. Second handbook on mathematics teaching and learning (pp. 461-555). Charlotte, NC: Information Age.
- [2] Clements, D. H., & Sarama, J. (2007c). Mathematics. In R. S. New & M. Cochran (Eds.), *Early childhood education: An international encyclopedia* (Vol. 2, pp. 502-509). Westport, CN: Praeger.
- [3] Ducolon, C. K. (2000). Quality literature as a springboard to problem solving. *Teaching Children Mathematics*, 6, 442-446.
- [4] Economopolous, K. (1998). What comes next? The mathematics of patterning in kindergarten. *Teaching Children Mathematics*, 5, 230-233.
- [5] Gadzichowski, K. M., Kidd, J. K., & Pasnak, R. (2010). How odd is that? Poster presented at the meeting of American Psychological Science, Boston, MA.
- [6] Hendricks, C., Trueblood, L., & Pasnak, R. (2006). Effects of teaching patterning to first graders. *Journal of Research in Childhood Education*, 21, 77-87. doi:10.1080/02568540609594580
- [7] Herman, M. L. (1973) Patterning before mathematics in kindergarten, doctoral dissertation, Columbia University, 1972. *Dissertation Abstracts International*, 33, 4060.
- [8] Jarboe, T., & Sadler, S. (2003) It's as easy as 123: Patterns and activities for a creative, balanced math program. Peterborough, NJ: Crystal Springs Books National Councils of Teachers of Mathematics. (1993). *Curriculum and evaluation standards for school mathematics Addenda Series*,

- [Open Special Issues](#)
- [Published Special Issues](#)
- [Special Issues Guideline](#)

[CE Subscription](#)
[Most popular papers in CE](#)
[About CE News](#)
[Frequently Asked Questions](#)
[Recommend to Peers](#)
[Recommend to Library](#)
[Contact Us](#)

Downloads:	166,835
Visits:	375,467

Sponsors >>

[The Conference on Information Technology in Education \(CITE 2012\)](#)

- [9] Papic, M. (2007). Promoting repeating patterns with young children— More than just alternating colors. *Australian Primary Mathematics Classroom*, 12, 8-13.
- [10] Threlfall, J. (1999). Repeating patterns in the early primary years. In A. Orton (Ed.), *Patterns in the teaching and learning of mathematics* (pp. 18-30). London: Cassell.