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Mathematics Learning and Teaching in Japanese Preschool: Providing Appropriate Foundations for an Elementary Schooler's Mathematics Learning

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ABSTRACT

Increasingly, it has become recognized that young children's mathematical knowledge is fundamental to their mathematics learning at school. Consistent with this claim, the mathematical knowledge of at-risk students (e.g., students from low-income families) is lower than that of those without risk, even at school entry. Similarly, Asian children have been shown to perform better at mathematics than their counterparts in many other countries, both at school and preschool level. This suggests that Asian children are better prepared for mathematics when entering schools than children in other countries. Children's mathematical learning at school benefits largely from appropriate pre-school education. This article proposes an alternative and potentially effective way to support young children's mathematical learning without relying on systematic teaching, by introducing Japanese preschool math activities as an example. The studies indicate that Japanese preschool teachers effectively facilitate young children's mathematics learning by frequently embedding mathematics in everyday activities. I consider that, for embedded mathematical activities to function effectively, a teacher must be sensitive to the children's current state of mathematical development. In addition, a teacher needs to be flexible in embedding appropriate levels of mathematics in response to children's spontaneous mathematical interests in a variety of activities.

Keywords:
Young children, mathematical activity, teachers, preschool education

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