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Development of a Child' s Semiotic Activity with the Help of Psychological Tools: A Vygotsky' s Cultural-Historical Perspective

PDF (Size: 130KB) PP. 424-427 DOI: 10.4236/psych.2012.35060

Author(s)

Jensamut Saengpun, Maitree Inprasitha

ABSTRACT

This research aims to interpret Vygotsky' s theory in development of a child' s semiotic activity in first grade mathematics classroom taught by open approach. This study focuses on investigate how first grade students construct signs and symbols in solving addition problems with the help of psychological tools in a mathematics classroom taught by open approach. The research was carried out in one first grade mathematics classroom including 32 students aged 6 - 7 years old and an internship student who was classroom teacher. Ethnographic methods were employed for collecting and analyzing data through classroom observation with audio-video tape recordings on 17 consecutive lessons on addition, students' written works, field note taking and interviewing the classroom teacher. The result showed that the learning and instructional materials and drawing schematic diagrams and students' language use are psychological tools that play a crucial role in development of first grade students' semiotic activity in solving addition problems. Students used units blocks and base ten blocks to operate addition with two numbers by decomposing and making ten strategies. Then, students drew schematic diagrams as symbol with their words to represent how to add two numbers corresponds to the meaning and the strategies they used.

KEYWORDS

Semiotic Activity; Psychological Tool; Cultural-Historical Perspective; Lesson Study and Open Approach

Cite this paper

 Saengpun, J. & Inprasitha, M. (2012). Development of a Child' s Semiotic Activity with the Help of Psychological Tools: A Vygotsky' s Cultural-Historical Perspective. *Psychology*, 3, 424-427. doi: 10.4236/psych.2012.35060.

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