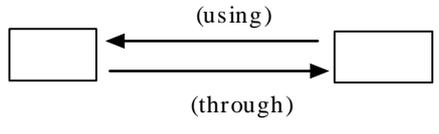


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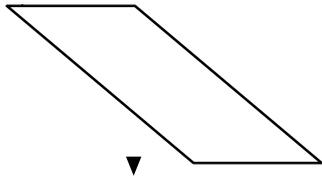
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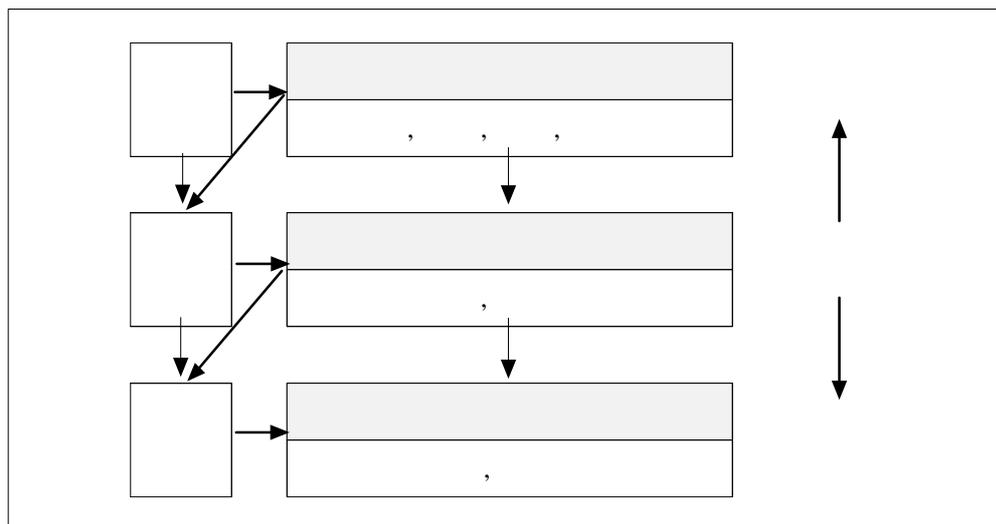
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ABSTRACT

Study on Evaluation Factor related to Thinking Skills and Strategies based on Mathematical Thinking Process

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Developing mathematical thinking skills is one of the most important goals of school mathematics. In particular, recent performance based assessment has been focused on the teaching and learning environment in school, emphasizing students' self construction of their learning and its process. Because of this reason, people related to mathematics education including math teachers are taught to recognize the fact that the degree of students' acquisition of mathematical thinking skills and strategies(for example, inductive and deductive thinking, critical thinking, creative thinking) should be estimated formally in math class. However, because of the lack of an evaluation

tool for estimating the degree of their thinking skills, efforts at estimating student's degree of mathematics thinking skills and strategy acquisition failed. Therefore, in this paper, mathematical thinking was studied, and based on the result of the study, mathematical thinking process model was developed according to three types of mathematical thinking - fundamental thinking skill, developing thinking skill, and advanced thinking strategies. Finally, based on the model, evaluation factors related to essential thinking skills such as analogy, deductive thinking, generalization, creative thinking requested in the situation of solving mathematical problems were developed.

Key words : Mathematical thinking, Evaluation factors