

**Title** : The Study Relation between Spatial Abilities and the Mathematical Abilities of Pratomsuksa 6 Students at Banmakhaeng School, Meuang District, Udon Thani Province

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## **ABSTRACT**

The purposes of this study were 1) to study the Spatial Abilities and the Mathematical Abilities. 2) To study the relation between Spatial Abilities and Mathematical Abilities. 3) To study the idea of finding solutions of students with different level in Spatial abilities. The sample were 130 Pratomsuksa 6 students who study in 2 semester of the academic year 2016 of Banmakhaeng School, Meuang District, Makhaeng Sub-district, Udon Thani Province. The research instruments were test of Spatial Abilities and test of Mathematical Abilities. Both tests were made up of multiple choices questions and there were 15 marks allocated for each test. Statistics were present as percentage value, mean value and standard deviation. Analyze data using Pearson correlation. Data were presented as descriptive analysis.

The results found as follows; 1) Pratomsuksa 6 students' overall Spatial Abilities was found at moderate level. Spatial Abilities can be divided into 3 sections: High level which is Spatial Visualization, Moderate level which is Spatial Orientation, and Spatial Relation. Pratomsuksa 6 students' overall Mathematical Abilities was found at moderate level Mathematical Abilities can be also divided into 3 sections: High level which is Calculation Skills, Moderate level which is Problem Solving, and Reasoning. 2) The Spatial Abilities correlated positively with High level Mathematical Abilities in at the .01 level of statistical significance. 3) Students with high level Spatial Abilities can calculate, give

reasons and solve the problems correctly. Students with moderate level Spatial Abilities can sometimes give reasons and sometimes miscalculate. Students with low Level Spatial Abilities have lots of misconceptions in how to find the answers. When solving the problems, the answers are mostly not correct.

**Keywords** : Spatial Abilities and Mathematical Abilities