Saowanee Bunkaew 2011: The Study of Ability in Learning Mathematics on Conic Section of Mathayomsuksa Four Students Learning by K-W-D-L Technique at Princess Chulabhorn's College Nakhon Si Thammarat School. Master of Education (Teaching Mathematics), Major Field: Teaching Mathematics, Department of Education. Thesis Advisor: Associate Professor Siriporn Thipkong, Ed.D. 172 pages.

The purposes of research were 1) to study students' ability in solving mathematics problems on Conic Section of mathayomsuksa four students learning by K-W-D-L Technique, 2) to study students' mathematics learning achievement on Conic Section of mathayomsuksa four students learning by K-W-D-L Technique, and 3) to study students' opinions related to learning by K-W-D-L Technique on Conic Section.

The population was mathayomsuksa four students at Princess Chulabhorn's College Nakhon Si Thammarat School in the second semester of the academic year 2010. The sample group was 34 mathayomsuksa four students of one classroom by cluster random sampling from 3 classrooms of 105 students at Princess Chulabhorn's College Nakhon Si Thammarat School in the second semester of the academic year 2010. The instruments in data collection consisted of 17 lesson plans on Conic Section, mathematics learning achievement test on Conic Section, the ability test on solving mathematics problems on Conic Section, and students' opinions questionnaire toward learning by K-W-D-L Technique on Conic Section. Percentage, mean, standard deviation, and t-test were used for analyzing data and presented by tables with their corresponding descriptions.

The research findings revealed that 1) the students had abilities in solving mathematics problems on Conic Section all 4 steps: K (what we know), W (what we want), D (what we do), and L (what we learn) with the total average of the "good" level, 2) the mathematics learning achievement after learning was higher than before learning at the .05 level of significance, 3) the mathematics learning achievement after learning was higher than 60% at the .05 level of significance, and 4) almost all students agreed with learning by K-W-D-L Technique on Conic Section.

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