

Thesis Title A Compare Learning Achievement and Critical Thinking Ability of Mathayomsuksa 4 Students on the Topic of Momentum and Collisions Using the 7E's Learning Cycle with the KWL Plus Technique and Gallery Walk Technique and a Tradition Instruction

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ABSTRACT

The purposes of this research were to 1) compare learning achievement of mathayomsuksa 4 students on the topic of momentum and collisions before and after learning with the 7E's learning cycle integrated with the KWL Plus technique and Gallery Walk technique. 2) compare learning achievement of mathayomsuksa 4 students on the topic of momentum and collisions using the 7E's learning cycle with the KWL Plus technique and Gallery Walk technique and tradition instruction. 3) compare learning critical thinking ability of mathayomsuksa 4 students on the topic of momentum and collisions before and after learning with the 7E's learning cycle with the KWL Plus technique and Gallery Walk technique. 4) compare learning critical thinking ability of mathayomsuksa 4 students on the topic of momentum and collisions using the 7E's learning cycle with the KWL Plus technique and Gallery Walk technique and a tradition instruction. The samples of this research were mathayomsuksa 4 students in the first semester of the academic year 2014 at Hunkhapittayakom school, Hunkha District, Chai Nat Province selected by purposive sampling and randomly divided into two group. An experiment group contained 28 students learning with the 7E's learning cycle with the KWL Plus technique and Gallery Walk technique. The control group contained 28 students learning using learning with the tradition instruction. The research was randomized control group pretest posttest design. The instruments consisted of lesson plans using the 7E's learning cycle with the KWL Plus technique and Gallery Walk technique, achievement test which the reliability was at of 0.980 and the critical thinking

ability test of which the reliability was at 0.955. Data analysis was conducted using basic statistics and one way ancova for dependent sample.

The research findings were as follows :

1. The learning achievement of mathayomsuksa 4 students on the topic of momentum and collisions after leaning with 7E's learning cycle with the KWL Plus technique and Gallery Walk technique was higher than before learning. The level of statistical significance .05.

2. The learning achievement of mathayomsuksa 4 students on the topic of momentum and collisions using the 7E's learning cycle with the KWL Plus technique and Gallery Walk technique was higher than leaning achievement of students learning with the tradition instruction. The level of statistical significance .05.

3. The learning Critical thinking ability of mathayomsuksa 4 students on the topic of momentum and collisions after leaning with 7E's learning cycle with the KWL Plus technique and Gallery Walk technique was higher than before learning. The level of statistical significance .05.

4. The learning Critical thinking ability of students at four of mathayomsuksa 4 students on the topic of momentum and collisions using the 7E's learning cycle with the KWL Plus technique and Gallery Walk technique was higher than leaning achievement of students learning with the tradition instruction. The level of statistical significance .05.