

# DEVELOPMENT MATHEMATICS LEARNING ACHIEVEMENT OF GRADE 5 STUDENTS, DEMONSTRATION SCHOOL OF SUAN SUNANDHA RAJABHAT UNIVERSITY BY USING PISZAA TEACHING MODEL.

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## ABSTRACT

The purpose of this research was to 1) compare the achievement before and after learning of Prathom Suksa 5 students. 2) study the opinions in Mathematics Teaching and Learning Management by using the PISZAA teaching model in Mathematics of Prathom Suksa 5 students. The sample group used in the study was Prathom Suksa 5/1 students, Suan Sunandha Rajabhat University Demonstration School, Bangkok, amount 30 students. Specific selection method. The experimental plan was One Group Pretest - Posttest Design. The research instruments were

1) Plan for learning about measurement, 2) Test of learning about measurement, 3) Comments on teaching and learning using the PISZAA teaching model. This research collected quantitative data, analyzed data by using percentage, mean, standard deviation, and Dependent t-test.

The research found that

1) The learning achievement on the measurement of Prathom Suksa 5 students who taught by using the PISZAA teaching model after learning was higher than before learning.

2) The opinions in the Teaching and Learning Management by using the PISZAA teaching model in mathematics of Prathom Suksa 5 students were at a high level.

**Keywords:** PISZAA teaching model, Mathematics, Learning achievement

## INTRODUCTION

Modern teaching and learning should give importance to focusing on students' skills. In the 21<sup>st</sup> century, which is considered an important skill for future living, including 3 R 8C Reading, able to read. (W) Riteting is writable, (A) Rithmatic is skilled in the calculation. 1) Critical thinking and problem solving is analytical skills, critical thinking and problem solving. 2) Creativity and innovation are creative thinking and innovative thinking. 3) Cross-cultural understanding Is an understanding of cultural differences and cross-cultural processes. 4) Collaboration teamwork and leadership are cooperation, teamwork, and leadership. 5) Communication information and media literacy are skilled in communication and media literacy. 6) Computing and IT literacy, namely computer skills and technological literacy. 7) Career and learning skills which are career skills and learning. 8) Compassion is compassionate, virtuous, and disciplined. Teachers' teaching and learning should, therefore, be modified in the form of teaching and learning activities, which will help the learners develop their skills. In the 21<sup>st</sup> century, teachers should teach an essential part, after which learners can apply knowledge, which is based on Teacher Learn More, by changing methods from the "knowledge" to "skills" [8]. The learner will have the skills necessary to sustain life or not, it must be the duty of the teacher, to create a learning experience through practical

activities, so that the learners have the skills from Teaching and learning activities, which encourage learners to gain direct experience, combine knowledge in each science, apply to work, and apply to maintain life. The 21<sup>st</sup> century skills 21, the One of the most important skills is computer, information and communication technology. (Computing and ICT Literacy), therefore plays a very important role in student learning.

From the learning management in mathematics learning of Prathom Suksa 5 students, found that students still lack the interest and enthusiasm to study as they should, the average academic achievement is relatively low, t The teacher studied the teaching and learning styles in order to change the behavior of the learners and saw the importance of learning and interest that is appropriate for the learners' age who are interested in the media technologies, and the importance of learning through actual practice, which is consistent with the ideas of John Dewey who said that "Learning by doing" (a student-centered learning). To prepare students for the integration of technology in learning activities in mathematics, because technology is considered a tool in learning and keeping up with the times, as well as the age of the students are very interested in the technology, making learning mathematics is not boring anymore. The process of incorporating technology in mathematics learning for learners to have direct experience.

## **OBJECTIVES**

1) Compare the achievement before and after learning about the measurement of Prathom Suksa 5 students.

2) Study the opinions in the Teaching and Learning Management by using the PISZAA teaching model in mathematics of Prathom Suksa 5 students.

### **Population and sample groups**

1) Population: The population used in the research is Prathom Suksa 5 students, Suan Sunandha Rajabhat University Demonstration School, the academic year 2018, amount 85 students.

2) Sample group: The sample group used in this study was Prathom Suksa 5 students, Suan Sunandha Rajabhat University Demonstration School, the Academic Year 2018, Room 5/1, consisting of 30 students, derived from the Purposive Sampling.

### **Variables studied**

1) Independent variable: include the Teaching and Learning Management by using the PISZAA teaching model.

2) Dependent variable: include

2.1) Learning achievement in measurement

2.2) The opinions in the Teaching and Learning Management by using the PISZAA teaching model.

### **Research instruments**

1) 5 learning management plans on measurement, 2 hours each, by using the PISZAA teaching and learning model in the implementation of learning management plans.

2) Test of measurement

3) Questionnaire for opinions in the Teaching and Learning Management by using the PISZAA teaching model.

## RESEARCH METHOD

The research on the use of PISZAA teaching model in the teaching and learning management of mathematical subjects in order to develop the learning achievement of Prathom Suksa 5 students. The researcher specified the details as follows:

Step 1: The development of teaching and learning model innovation.

1) Study information about concepts, theories, and related research, in order to study concepts, theories that will be delivered to enhance skills of elementary school students, including the theory of action.

2) Create the teaching and learning management model according to the PISZAA MODEL procedure as follows:

Step 1 P: Prepare is the preparation. In this step, the teacher must prepare the contents required in each subject, according to the indicators in each unit of study, in order to learn to create accurate knowledge.

Step 2 I: Integrated is the process of integrating knowledge and science on individual differences in order to build a new knowledge base by having students brainstorm groups, exchange knowledge with each other.

Step 3 S: Search is the process of searching for information from various sources such as searching for information from the Internet, documents etc.

Step 4 Z: Zenith is the best data decision-making process for the job, through the information retrieval process, and is decided by the members within the group concurrently planning.

Step 5 A: Action is a process of action, in accordance with the plan, to demonstrate behaviors that indicate their ability according to their potential, with each person performing the tasks that the members pass in the planning group.

Step 6 A: Assessment is the evaluation process, presenting the work for judging according to objective evaluation criteria.

1) Assess the quality of the teaching and learning management model by 3 experts.

2) Improve the teaching and learning management model according to the recommendations Of experts.

Step 2: Study of the effectiveness of the PISZAA MODEL teaching method

1) Compare the achievement before and after learning about the measurement of Prathom Suksa 5 students.

2) Study the opinions in the Teaching and Learning Management by using the PISZAA teaching model in mathematics of Prathom Suksa 5 students.

## RESULTS

The researcher conducted a summary of the research results according to the research objectives as follows:

1) The results of using the PISZAA MODEL to organize teaching and learning activities in course M 15101 on the angle, is a learning management that focuses on implementation, with the instructor designing learning activities that focus on the implementation of the plan learning. It was found that the learning achievement measured from the test of the angle of the students had the Mean ( $\bar{X}$ ) before learning was 11.5, the standard deviation was 4.81 and the Mean ( $\bar{X}$ ) after learning was 19.07, the standard deviation was 3.31, which found that the academic achievement after the PISZAA Teaching Model has the Mean ( $\bar{X}$ ) as in the table.

**Table 1:** Analysis results of learning achievement before and after teaching.

	Full score	$\bar{X}$	S.D.	T - test
Before teaching	30	11.50	4.81	7.00
After teaching	30	19.07	3.31	

2) The results of questioning about the teaching and learning by using the PISZAA teaching model in mathematics of Prathom Suksa 5 students found that the mean ( $\bar{X}$ ) was 4.5, the standard deviation (SD) was 0.82, overall is in the high level as in the table.

**Table 2:** Mean, Standard Deviation, opinions in the Teaching and Learning Management by using the PISZAA Teaching Model in Mathematics of Prathom Suksa 5 Students

Amount N	Mean $\bar{X}$	Standard Deviation (S.D.)	Level
30	4.5	0.82	High

From the table, it is found that the mean of the test on learning outcomes of measurement of students in experimental group after learning was equal to 19.7, standard deviation equal to 3.31, higher than before learning, which has the mean equal to 11.50, standard deviation was equal to 4.81 with statistical significance at the level of 0.5, which showed that when students learned with the PISZAA teaching model, students have higher learning outcomes in measurement.

## DISCUSSION

From the research, the use of PISZAA teaching model in teaching and learning mathematics, Prathom Suksa 5, which is because the teaching and learning management by focusing on the students to take action, search for knowledge by themselves, decide to choose the way to practice by themselves [6] use modern tools to help promote and develop students' knowledge, with the teacher to be the stimulus [3] to create an atmosphere, to be a supporter to learners interested, which is in accordance with Nutchanan Kaewchaicharoenkit [2] Including the use of technology media in organizing teaching and learning activities in the classroom and outside of the classroom, making learning effective increase (Rattapol Pradabwet. 2017), resulting in higher learning achievement.

## SUGGESTIONS

1) Adopting the PISZAA teaching model of the teaching and learning management, the teacher must prepare an activity plan and should have a sample for the students to understand.

2) Adopting the PISZAA teaching model in teaching and learning management, the teacher should act as a facilitator for the learners and give the students the opportunity to learn together and show their full potential.

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