Abstract—This research aims to study the appropriate model of Science teaching for students, academic achievement and to survey students’ attitudes toward using appropriate for students in Mathayomsuksa 3 in Ang-Thong province. The research results were as follows:


2. There is no significant difference between using appropriate model teaching and regular teaching at 0.05 level significant difference.

3. There is a significant difference between before and after teaching using appropriate model of Science teaching at 0.05 level.

4. The satisfaction of students’ attitudes to using the appropriate model of Science teaching for students was in intermediate level.

Keywords—Pedagogy, science teaching model, Ang-Thong province.

I. INTRODUCTION

The evaluation of teaching and learning of science has found that academic achievement is lower than the standard. When being compared with countries, Thai students also have less ability than students in other countries. [1]

The process to solve the problem is to model good teaching which is appropriate to students and the needs of learners. This will give students a positive attitude in science which will result students to learn science and increase student achievement along with the design of learning, must be provided for students. And an environment that fosters students to learn and be encouraged to respond. Furthermore, diversity available to students who have an interest in learning. Besides, the style of teaching to the students and teachers are moving to and interact with each other [2]

Ang-Thong is a small province comprising seven districts. The districts have a distance average between 8 to 10 kilometers. So, the contexts are very similar that seem almost to be no difference between each district. [3]

From the above reasons, the researchers think that it is important to identify and solve the problems by doing a study case to find teaching strategy that is most appropriate for Mathayomsuksa 3 (Grade 9).

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6) Brought the video tape to the teachers who taught Mathayomsuksa 3 for discussing about the teaching style and improved the model of science teaching.
7) Data from 5 to 6 was modified to create a new teaching by a team of researchers and specialists for science teaching.
8) A team of researchers and science teachers who taught Mathayomsuksa 3 discussed again to find the model of appropriate Science teaching in Mathayomsuksa 3.
9) Wrote the model of appropriate Science teaching in Mathayomsuksa 3, teacher role and student role.
10) Pre-test the group of students that would be taught by the appropriate science teaching.
11) One group was taught by the regular science teaching and the other one was taught by the appropriate science teaching model for 4 weeks
12) When completing the course, the research would be conducted as follows:
12.1) Let both groups of students do post-test after the instruction between the regular science teaching and the appropriate science teaching model.
12.2) Measured the attitude toward the science teaching that teach by using the model of appropriate Science teaching in Mathayomsuksa 3.
13) Improved the model of science teaching.
14) Mathayomsuksa 3 discussed again to find the model of appropriate Science teaching in Mathayomsuksa 3.

V. RESULTS

The research result were as follows:

Step 1. Imported into the lessons.
There must be the questions about what teachers were going to teach to let the students focus on what they were studying and think about it. Let the students write down why they taught like that.

Step 2. Assumptions.
Let the students discuss and share their ideas about teacher's questions.

Step 3. An experiment/survey.
Students could check their ideas by the survey or experiment for collecting the information to conclude.

Step 4. To a conclusion.
Give students enough time for discussing about the questions by the reason and conclude the concept

Step 5. To support applications/tasks associated with daily life.
Teacher should create a question about the concept and the knowledge that they had received whether how they would apply in their daily life.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Average</th>
<th>SD</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate model of Science teaching</td>
<td>39</td>
<td>13.69</td>
<td>0.195</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular science teaching</td>
<td>36</td>
<td>12.50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* α = 0.05

Calculated considering the sig was 0.195 which is higher than α with α = 0.05 means that the achievement of the two groups did not differ.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Average</th>
<th>SD</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>39</td>
<td>11.43</td>
<td>3.56</td>
<td>2.189</td>
<td>0.035</td>
</tr>
<tr>
<td>Post-test</td>
<td>39</td>
<td>13.69</td>
<td>4.32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* α = 0.05

Considering the results of the .035 sig was less than α by α = .05 means that the score of the students have a learning difference.

<table>
<thead>
<tr>
<th>No.</th>
<th>passage</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Teaching styles are integrated.</td>
<td>3.789</td>
<td>0.66</td>
</tr>
<tr>
<td>2</td>
<td>Teaching model encourages experimentation.</td>
<td>3.763</td>
<td>0.75</td>
</tr>
<tr>
<td>3</td>
<td>The model of teaching makes the lesson interesting</td>
<td>3.552</td>
<td>0.83</td>
</tr>
<tr>
<td>4</td>
<td>Teaching model supports students' thinking.</td>
<td>3.868</td>
<td>0.81</td>
</tr>
<tr>
<td>5</td>
<td>Teaching styles makes student join activities together.</td>
<td>3.789</td>
<td>0.81</td>
</tr>
<tr>
<td>6</td>
<td>Teaching styles make the lesson less stressful.</td>
<td>4.184</td>
<td>0.95</td>
</tr>
<tr>
<td>7</td>
<td>The model of teaching is to learn and to play.</td>
<td>4.315</td>
<td>0.87</td>
</tr>
<tr>
<td>8</td>
<td>The model of teaching makes the students want to learn Science.</td>
<td>3.789</td>
<td>0.84</td>
</tr>
<tr>
<td>9</td>
<td>The model of teaching makes the students take notes.</td>
<td>3.71</td>
<td>0.93</td>
</tr>
<tr>
<td>10</td>
<td>The model of teaching makes students feel that the learning concerns with their daily life.</td>
<td>4.289</td>
<td>0.73</td>
</tr>
</tbody>
</table>

The average value. 3.7895 0.66

These are the opinions of students' attitudes toward Science teaching model for Mathayomsuksa 3 was in intermediate level. But considering all that is, the model of teaching was to learn and to play, The model of teaching made students feel that the learning concerns with their daily life, the model of teaching made the lesson less stressful, the model of teaching supported students' thinking in high level.

VI. DISCUSS

There are five basic styles for the Science teaching given by the principles from the Institute for the Promotion of Teaching Science which was published. But the science teaching that is appropriate for Mathayomsuksa3 students in Ang-Thong province has the different details which are experience. The different ideas of the teachers in this area. Moreover, paying
attention to students’ role and students’ thinking makes
students become part of the activities and have the interest in
the lesson for all the time.

When compare their academic achievement between using
appropriate model of Science teaching and regular teaching,
two groups did not differ.

Because the period which was used for the research was
not enough for student to learn. Changing the behavior of
learning takes a long time. But there are some troubles about
the limit of the school that cannot release enough time for
students to learn. Moreover, the content was an abstract so that
cannot be seen the difference. The average score of the
students who were taught by the model of appropriate science
teaching tended to be higher than the average of students who
were taught by the regular teaching. Furthermore, the teacher
didn’t have the degree of education and have a little teaching
experience.

The students’ attitudes toward Science teaching model for
Mathayomsuksa 3 was in intermediate level. It might be
because the time was too short to teach. But considering all
that is, the model of teaching was to learn and to play. The
model of teaching made students feel that the learning
concerns with their daily life, the model of teaching made the
lesson less stressful, the model of teaching supported students’
thinking in high level.

Positive attitudes of students and awareness are importance
to enable the students to obtain of a higher academic
achievement. The predictions and expectations, based on the
concept of Bloom said that “Those with high academic
achievement will have improve the positive attitude. On the
other hand, positive attitude will improve academic
achievement.” [4] Moreover, It is also consistent with the
research of John W. Butter Massage, L. William Linz and Roy
A. Drake that studied the relationship between attitudes
toward chemistry and chemistry achievement with university
students. The sample consisted of 103 male students who
studied chemistry at the Institute of Management Maine
Maritime. It was found that Attitude toward chemistry,
Attitude toward the teaching method. And the attitudes related
to the achievement of chemistry statistically significant at the
.05 level.[5] Mohammed Suliman Abdulrahman Al-Ruwashid
studied the effect of lectures and laboratory instruction
includes lectures on chemistry achievement and attitudes
toward science of secondary school, Saudi Arabia showed that
the attitude toward science was related to the achievement of
Chemistry statistically significant at the .05 level.[6]

VII. SUGGESTIONS

1) Should apply this model to teach students to use at least
one semester and notice the students’ learning behavior in
order to examine and confirm the model of appropriate
Science teaching.

2) Should assess the result of this model by observing
students’ behavior to make an improvement.

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