The development of an activity-based learning model using educational mobile application to enhance discipline of elementary school students

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Abstract

The purpose of this research is to develop the activity-based learning model using educational mobile application to enhance discipline of elementary school students. The model was developed based on the review of literature and the experts’ interview. Then, it was tested by 30 elementary school students, followed by the approval from the experts. Data analysis indicated that there was statistical difference between pre and post test scores at .05 level of significant. The results of this study showed that the model should consist of five components along with the four steps as detailed in the article.

1. Introduction

A study of the moral problems of children and youth need to be revised and developed rapidly. Research has found promoting moral effective. Case Study of Children and Youth Department of Religious Affairs Ministry of Culture Thailand. Search found that before and after the development of moral discipline, with an average minimum. The teaching and instilling moral past, especially in the elementary grades is unsuccessful, as the lectures that focus on rote learning make to the students was not interested in boring lessons. The moral teaching methods a successful, should be used activities was proposed by Jitradab (1987), so that the moral content easy to understand and the students participate in the learning process. Activity-Based Learning is a practical experience method to learners for students analyze and learn from the activity (Learning by doing). In addition, Activity-Based Learning can also be

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integrated with the use of Mobile devices with an educational application in Mobile devices are learning that stimulates the students to analyze. In applications consist of Learning Object (LO) and Animation Cartoon. Learning Object (LO) helps learners understand and have the opportunity to choose and decide the sequence of presentation of content and promotes the learning (IPST, 2010). Animation Cartoon can explain complex and difficult to understand so much easier, stimulate the interest of the learners to become more moral lesson, and can be used as an explanation or teaching activities (Laowansiri, 1989).

A study of the problems and related research found, using an educational application consist of Learning Object (LO) and Animation Cartoon are suitable to be used with Activity-Based Learning, using Mobile devices are the tools used in the activities promote to students to practice real action. The researchers are interested in development of an activity-based learning model using educational mobile application to enhance discipline of elementary school students.

2. Methodology

This research is divided into 3 phases which are (1) Develop an activity-based learning model using educational mobile application to enhance discipline of elementary school students, (2) Try out an activity-based learning model using educational mobile application to enhance discipline of elementary school students, and (3) Propose activity-based learning model using educational mobile application to enhance discipline of elementary school students.

2.1 Phase 1: Develop an activity-based learning model using educational mobile application to enhance discipline of elementary school students.

The study in this phase includes the study of theories and research on the Activity-Based Learning (ABL), Educational Mobile Application, Discipline, to be used as guidelines in determining learning processes and components of the model. The model will be designed after the reviewing of document, then an interview will be conducted to get an opinion towards the model from eight experts.

2.2 Phase 2: Try out an activity-based learning model using educational mobile application to enhance discipline of elementary school students.

The subjects in model experiment were 30 students from the elementary school students. The research instruments consisted of educational application, and a lesson plan. The data gathering instruments consisted of disciplinary situation test, behavioral self-assessment forms, an observation form, and student’s satisfaction towards the model test questionnaire. The data were analyzed using mean, standard deviation, and t-test dependent.

2.3 Phase 3: Propose activity-based learning model using educational mobile application to enhance discipline of elementary school students.

In this phase is the result of a study of the use of the model, then improve and proposed will be conducted to get the certification of the model from five experts.

3. Results

3.1 Phase 1: Results of the develop an activity-based learning model using educational mobile application to enhance discipline of elementary school students.

From the study on the related document, it was found that the Activity-Based Learning (ABL) has four main activities (Warotamawit, 1987; Kammance, 2002; Maneengam, 2004; NCSALL, 2006; Lakshmi, 2007; Lualamai, 2009) and the experts were asked to criticize Activity-Based Learning (ABL) learning process to use for the model.
The results indicated that the learning process of the model consisted of four steps as follows:

1) **Motivation and experience:** Stimulate the interest of the learners before the lesson by watching Animation Cartoon

2) **Knowledge and practice:** The students study from Learning Objects (LO) and work together as organized activities.

3) **Feedback:** The students analyze situations and things incurred while attending the activities and present their work from a mobile device.

4) **Evaluation:** The students do behavioral self-assessment forms after the learning activities.

From the study on the related document and opinion of the expert, found that the component of the model consisted of five components as follow:

1) **Instructional media for educational mobile application:** Teaching materials are presented in the form of Animation Cartoon and Learning Objects (LO) to educate and stimulate the interest of the learners.

2) **Learning activities:** The learning activities provide students the practical using of mobile devices as a tool for the activity and presentation of group work.

3) **Communications:** The discussion between learners and the group activities together. The communication between the learners has two forms: (1) Synchronous Discussions and (2) Asynchronous Discussions using mobile devices as a tool for the activity.

4) **Mobile devices:** Used to support the teaching learning activities, communications, and evaluation.

5) **Evaluation:** An evaluation by the students after the learning activities using behavioral self-assessment forms and evaluation by the instructor during the learning activities using observation form.

3.2 **Phase 2: Results to try out an activity-based learning model using educational mobile application to enhance discipline of elementary school students.**

The discipline of elementary school students scores of the data were analyzed using mean, standard deviation, and t-test dependent, were summarized in Table 1.

**Table 1:** The discipline of elementary school students scores of the data were analyzed using mean, standard deviation, and t-test dependent.

<table>
<thead>
<tr>
<th>The discipline of elementary school students scores</th>
<th>Mean (X)</th>
<th>standard deviation (S.D.)</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>15.80</td>
<td>1.648</td>
<td>11.799</td>
<td>000.*</td>
</tr>
<tr>
<td>Post-test</td>
<td>18.63</td>
<td>1.217</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 1, the experimental result indicated that the subjects had disciplinary post-test mean scores higher than pre-test mean scores at .05 level of significance.

3.3 **Phase 3: Results to Propose activity-based learning model using educational mobile application to enhance discipline of elementary school students.**

The evaluation scores of the proposed and certified model from five experts, were summarized in table 2.
Table 2: Experts’ evaluation scores of the proposed and certified model

<table>
<thead>
<tr>
<th></th>
<th>Mean (X)</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Principle and Reason</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>2. Objectives of the model of learning</td>
<td>4.80</td>
<td>Most Suitable</td>
</tr>
<tr>
<td><strong>Model and Description</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The diagram shows the model of learning</td>
<td>4.40</td>
<td>Very Suitable</td>
</tr>
<tr>
<td>4. Components the model of learning</td>
<td>4.40</td>
<td>Very Suitable</td>
</tr>
<tr>
<td>4.1 Instructional media for educational mobile application</td>
<td>4.40</td>
<td>Very Suitable</td>
</tr>
<tr>
<td>4.2 Learning activities</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>4.3 Communications</td>
<td>4.40</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>4.4 Mobile devices</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>4.5 Evaluation</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>5. Learning process the model of learning</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>5.1 Motivation and experience</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>5.2 Knowledge and practice</td>
<td>4.80</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>5.3 Feedback</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>5.4 Evaluation</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td>6. The model of learning are suitable for adoption to enhance discipline of elementary school students.</td>
<td>4.40</td>
<td>Very Suitable</td>
</tr>
<tr>
<td>7. Overview the model of learning are suitable for adoption to practice in real life situations.</td>
<td>4.60</td>
<td>Most Suitable</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4.57</td>
<td>Most Suitable</td>
</tr>
</tbody>
</table>

Note: 4.5 - 5.0 = Most Suitable, 3.5 - 4.49 = Very Suitable, 2.5 - 3.49 = Suitable, 1.5 - 2.49 = Less Suitable, 1.0 - 1.49 = Not Suitable

From Table 2, the proposed and certified model from five experts score was at a “Most Suitable” level, which indicated that most of the experts strongly agreed with using educational mobile application and Activity-Based Learning to enhance discipline of elementary school students, and the experts believed this proposed model can be used in a real context. The illustration of the proposed model is shown in Appendix A.

**Acknowledgements**

The researchers would like to thank The 90th Anniversary of Chulalongkorn University Fund (Ratchadaphiseksomphot Endowment Fund) and Chulalongkorn Conference Grant for funding this research.

**References**


Appendix A. The Illustration of the proposed model
Components the model of learning

- Instructional media for educational mobile application
- Learning activities
- Communications
- Mobile devices
- Evaluation

Activities and Tools

- Animation Cartoon
- Learning Objects (LO)
- Practice
- Present their work from a mobile device
- Synchronous Discussions
- Asynchronous Discussions
- Behavioral self-assessment forms
- Observation form
- Mobile device