Analysis on the Effects of using Active Learning Training Module (ALTM) on the Level of Achievement among Student Teachers in Teacher Education Curriculum

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Abstract: This study aims to explore the effect of using Active Learning Training Module (ALTM) on the achievement of a professional education course among student teachers in teacher education curriculum. The module used in the learning of Education Development in Malaysia: Philosophy and Policy (KPF3012) course was built up based on Analysis, Design, Development, Implementation and Evaluation model (ADDIE). A quantitative study was carried out using ex-post facto method where it was carried out by analyzing 1,613 students’ achievement for the course base on final exam result. Final Exam Question for KPF3012 Semester 2 Session 2017/2018 was used as an instrument for data acquisition. The collected data was then analyzed using percentage and one-way ANOVA. The results show that, the use of ALTM has successfully promote high students’ level of achievement; that is 46.5% of the students had achieved excellent level. The findings also show that the level of the students’ achievements had no significant difference (F=5.549, p=0.00) based on programs of studies. As for conclusion, ALTM has a good effect on students’ achievement in the learning of KPF3012 and has no significant bias to students based on study program. Therefore the use of the module by students in the learning of KPF3012 is suggested in the future semesters.

Keywords: Module, students' achievement

1. Introduction

In general, teachers should have firm criterions relevance with their task and responsibility in human development from the aspects of physical, mental and spiritual. For that purpose, basically teacher education program requires careful blending of both theory and practice in its curriculum. Students need to constantly equip themselves with necessary knowledge, skills and values for the building of their competencies as beginning teachers (Ikhsan Othman, Abdul Talib Mohammed Hashim, Azli Ariffin, Zaini Abdullah, Abu Bakar Yusof, 2019). For the sake of the said purpose, teacher trainees have to go through as much learning experiences as possible such as through lecture, laboratory work, workshop, conference, distance learning, online learning, and also through modular learning.

As far as modular learning is concerned, the use of module requires an inquiry-based approach to guide students toward achieving learning outcomes. Modular learning provides opportunities for students to learn things in a variety of ways and allows each student to choose the media and the most appropriate and effective way for them to understand its content. The main purpose of modular learning is to enable students to continue their learning process at their own capability and pace. This concept of learning is important based on the realization that the success of the students are not at the same level and they do not have the same level of readiness at the same time. Modular learning also enables students to choose the most effective way of learning for themselves to make learning more effective. Previous studies found that the use of modules in teaching and learning has a positive impact on academic achievement. (Sadia Sadiq & Shazia Zamir, 2014). This study will determine the effects of using active learning training module (ALTM) on the level of achievement among students in teacher education curriculum.

2. Background of Study

In teacher education curriculum, professional education courses (PEC) have to be taken by all teacher trainees. Among six courses in PEC, KPF3012 is one the courses. In learning KPF3012, the lectures in charge have various ways to to be followed by their students in which modular learning is one of the ways. In the modular learning of KPF3012, the students are provided with a learning module named Active Learning Training Module (ALTM). The module was built up based on Analysis, Design, Development, Implementation and Evaluation model (ADDIE). The five-phase of ADDIE model proposed by (Meyer, 1998; Moon, 2002 & Rosset, 1987). Each phase has to be followed to produce a quality module. The module has unique characteristics such as simple, versatile and practical. ALTM used in this research consist of thirteen units of learning base on topics found in the syllabus of KPF3012. This study is on the effect of using ALTM in the
learning of KPF3012 among teacher trainees. That is whether the use of ALTM can promote good effect to the students’ achievement in KPF3012; and whether the effect has no bias base on students program of study.

3. Objectives

The objectives of this study as focus for this discussion is first to identify the level of achievement amongst students as the effect of using ALTM in the learning of professional education course KPF3012. The second objective is to identify whether there is any significant difference in the achievement among the students base on program of study.

4. Research Questions

The related research questions are stipulated below:

a). What is the level of achievement amongst students as the effect of using ALTM in the learning of professional education course KPF3012?

b). Is there any significant difference in the achievement among the students base on program of study?

5. Methodology

This study was conducted using the ex-post facto method by taking the final examination results for the course KPF3012 as the data. Samples of the study are 1,613 students in the second semester of Session 2017/18 who had completed the course with the used of ALTM in their learning of KPF3012. All the students were form six programs of study namely Chemistry, Biology, Early Childhood Education, Guidance and Counselling, Home Economy and Mathematics. The use of ALTM by the students was for the period of a semester (14 weeks) before they sat their final exam in the 15th week.

Final Exam Question for KPF3012 Semester 2 Session 2017/2018 was used as an instrument for data acquisition. The scores for the final examination were collected. The collected data were then analyzed using descriptive statistics (frequency and percentage) to represent the level of achievement. Further analysis using one-way ANOVA were also done to identify whether there is any significant difference in the achievement between students base on program of study.

6. Findings

In this article, there are two stipulated research questions. Findings of this study are presented base on research questions as stipulated above.

What is the level of achievement amongst students who used ALTM in the learning of professional education course KPF3012?

Analysis was done regarding with the level of achievement amongst 1,613 students who used ALTM in learning of KPF3012. The result of the analysis is shown in Table 1.

<table>
<thead>
<tr>
<th>Grade</th>
<th>f</th>
<th>%</th>
<th>%</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>272</td>
<td>16.9</td>
<td>46.5</td>
<td>Excellence Grade</td>
</tr>
<tr>
<td>A-</td>
<td>477</td>
<td>29.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>553</td>
<td>34.3</td>
<td>47.8</td>
<td>Good Grade</td>
</tr>
<tr>
<td>B</td>
<td>218</td>
<td>13.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>81</td>
<td>5.0</td>
<td>5.7</td>
<td>Moderate</td>
</tr>
<tr>
<td>C+</td>
<td>10</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,613</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

From Table 1 it is shown that 46.5% of the students achieved excellent grades (A and A-). Another 47.8% of the students achieved Good Grades (B + and B) and 5.7% of the students achieved Moderate Grade (B-, C + and C). Therefore, it can be conclude that the level of achievement amongst students who used ALTM in learning of KPF3012 is good grade and excellence grade.
Is there any significant difference in the achievement among the students based on program of study

Analysis between students' achievement based on program of study is shown in Table 2.

The analysis found that six programs showed Excellence Grade (A and A-). The programs are Chemistry (85.7%), Biology (78.5%), Early Childhood Education (66.4%), Guidance and Counseling (61.3%), Home Economy (54.5%) and Mathematics (51.5%).

Table 2. Students' Achievement Based on Program of Study

<table>
<thead>
<tr>
<th>Program of Study</th>
<th>Excellence Grade (%)</th>
<th>Good Grade &amp; Moderate Grade (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>85.7</td>
<td>14.3</td>
</tr>
<tr>
<td>Biology</td>
<td>78.5</td>
<td>21.5</td>
</tr>
<tr>
<td>Early Childhood Education</td>
<td>66.4</td>
<td>33.6</td>
</tr>
<tr>
<td>Guidance and Counselling</td>
<td>61.3</td>
<td>38.7</td>
</tr>
<tr>
<td>Home Economic</td>
<td>54.5</td>
<td>45.5</td>
</tr>
<tr>
<td>Mathematics</td>
<td>51.5</td>
<td>48.5</td>
</tr>
</tbody>
</table>

Table 3 shows the finding from one way analysis of variance (ANOVA). From the analysis, it shows that there is no significance difference between the students' achievement based on the program of study. The F statistic is 5.549 and is highly statistically significant with p=0.000 (p<0.05). It gives sign that any student from any program of study can use ALTM in the learning of KPF3012 friendly and without bias.

7. Summary of Findings

The results of the study on the use of ALTM show positive effects on the level of students' grades in the learning of KPF3012. Amongst 1,613 students involved as the sample of this study, 46.5% of them achieved excellence grades (Grades A and A-), 47.8% and good grades (Grades B+ and B); which is considered as higher percentage. Only 5.7% achieved moderate (Grades B-, C+ and C).

The findings also show that the use of ALTM is students friendly as it has no significant bias on students based on program of study. That is no matter any student from any program, they can get the benefit of ALTM.

8. Discussion

The findings of this study implies that the use of the learning modules is capable of providing better learning process towards better academic achievement. It is in alignment with the findings of a study carried out by Sadia Sadiq & Shazia Zamir (2014); that is the use of modules in teaching and learning has positive impact on students' academic achievement. Therefore the use of the module by students in the learning of KPF3012 is suggested in the future semesters by lectures in charge in the learning for fruitful result. Ideas also can be drawn from here that modular learning can potentially contribute good impact on students learning performance and the quality of the graduates.

Other studies on another cohorts of students are recommended to be conducted to get clearer picture to be noted and to get consistency of the findings. Furthermore, this study was conducted only in a selected teacher training university. Further similar or equivalent studies are still needed such as studies from other teacher training institutions for comparison of the findings.

9. Acknowledgements

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References