Pedagogy and Multimedia Integration System Model for Writing

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Abstract: In this new era of information and communication technology, one great mission shows that pedagogy and multimedia integration system model contributes to the development of innovative teaching materials. From that mission, researcher was trying to carry out related research. Thus, this research was conducted to review student’s achievement in essay writing before and after exposed to integration system model. Quasi-experimental method was used to review the mean difference before and after the students was exposed to the system model. The sample is 30 standard five primary students in the Federal Territory, Kuala Lumpur, Malaysia. The sample is an intact group that was determined by the school. The descriptive data are mean and standard deviation, while the inferential data is Paired Samples T Test. The results showed that there was significant difference between pre-test and post-test. As a conclusion, the Ministry of Education, Malaysia has to create a comprehensive pedagogy and multimedia integration system model in the classroom in all states in Malaysia. It aims to activate the information technology implementation in the classroom. In terms of implication, this study can generate innovation in system model for teaching in the classroom too.

Keywords: Pedagogy; multimedia; integration; system model; essay writing

1. INTRODUCTION

The skill of writing was the main focus by a teacher in primary school level. Thus, the skill needed a student to achieve high score in Malay Language subject. In this new era of technology, the system model design is still given a special emphasis by some teachers in primary schools. This is because a large percentage of student achievement depends on the new system model that has been practiced for long time (Abdul Rasid Jamian & Zulkafli Abu Zarin, 2008).

Malay Language subject was selected and used as an instruction in schools since the independence achieved by Malaysia. According to Adenan Ayob and Khairuddin Mohamad (2012), the Malay Language subject is moving in line with the requirements stated in the Razak Report (1956) and Rahman Talib Report (1960). They added that the basis of those report was focused on the efforts of the Ministry of Education (MOE) for a drastic and dynamic changes in teaching materials.
In 1961, the system model of teaching and learning Malay in primary schools has been carried out intensively to upgrade student’s achievement (Adenan Ayob & Khairuddin Mohamad, 2012; Karim, 2012; Rennie, 2013; Anu and Kanthan, 2015; Anwar, 2018). Malay Language subject was a core subjects in public examinations, such as the Primary School Assessment Test or Ujian Penilaian Sekolah Rendah (UPSR).

2. PROBLEM STATEMENT

Several studies on the use of multimedia in system model can help student to structure ideas in concrete answers (Nadzeri Isa, 2001). System model helps the students to be exposed to the teaching material through a vast virtual reference when thinking any answer. Students are also having the opportunities to create a schematic writing. The effect of using the conventional method in teaching materials contributed to the limitation of input for the student to generate ideas in writing essay (Nadzeri Isa, 2001). This is because students were not helping by the structured technique and systematic digital-based material in the learning system (Hashim Othman, 2003).

The significant impact of the limitations inherent the student’s ability to write an essay easily and systematically (Suhaimi Yunus, 2009). From new oriented innovation in integration system, Suhaimi Yunus also said that students are able to get a good writing. According to him, student can think of the writing correctly and consistently. Thus, this study attempts to examine the effect of pedagogy and multimedia integration system model toward essay writing for standard five students. The other cause is the absence of broader access that refers to a virtual writing (Adenan Ayob et al., 2010).

3. OBJECTIVE OF THE STUDY

Three objectives were formulated in this study. The general objective of this study was to investigate the effect of pedagogy and multimedia system model toward student’s essay writing. The specific objectives of this study are to identify:

i. the student’s achievement in essay writing before and after exposed to integration system model; and

ii. significant in student’s essay writing before and after exposed to integration system model.

4. RESEARCH QUESTION

The research questions are formulated in accordance with the objectives above. The research questions as follows:

What are the mean scores of pre-test and post-test for the group?

Is there any significant difference between pre-test and post-test that based on integration system model?

5. CONCEPTUAL FRAMEWORK

For this study, system model conceptual framework was created. It is shown in Figure 1.

6. OPERATIONAL DEFINITION

This study aims on student achievement in integration system model in the pre-test and post-test scores. The pedagogy and multimedia integration model system unites text and graphics element to measure student achievement in Malay Language essay writing.

Therefore, the achievement in this study is operationalized in the form of scores. In
In this study, the pre-test was conducted based on conventional system model. The post-test was carried out after the students exposed to digital-based system model. Comparison between pre-test and post-test score was identified.

7. LITERATURE REVIEW

7.1. Innovative Curriculum

Innovative curriculum in the 21st century was drawn up by the Ministry of Education. It is important to highlight the country's education landscape (Curriculum Development Division, Ministry of Education, Malaysia, 2008). Student who had entered primary school in 2000 have begun to face the virtual world in 2020.

What is integration system model in information technology to be used and practiced? It is confidence that in 2020, the basis of an teaching materials in the information technology will become the new norm in the teachers and students community (Adenan Ayob et al., 2010). Therefore, student effort to achieve success in their studies by applying a technological-based system is the best way to support a wide diffusion of knowledge.

Upon an advances in information technology and communication-based on the existence of smart schools, responsible authorities have to reconsider the appropriateness of teaching materials to be practiced, especially for the Malay Language as a core subject in primary schools. These developments have also forced the curriculum department to examine a new system model of teaching practiced in the classroom.

Malay Language is the subject that is considered difficult by most students. They consider that to obtain the best scores requires knowledge and skills in writing. This is because in in system model, there are some specification guidelines that to be practiced by a teacher (Adenan Ayob & Khairuddin Mohamad, 2012).

7.2. Previous Studies

Nadzeri Isa (2001) conducted a study on the impact of digital material of student achievement in writing. Nadzeri Isa also explains that the digital system model that based on graphic design suited to help student’s revision on writing. This method is considered to emphasize focus towards any topic in writing.

Yarbrough (2001) showed the student achievement in digital vocabulary that based virtual material. In his study, a group of students who were exposed to that material can manage to think brilliantly in writing, compared to the group of students doing conventional material.

Computers are one of the leading technology-based tools. The ability to use computer-based system model in information technology in teaching is associated with digital and virtual functions (Noor Azliza & Lilia, 2002). Suitability of use of computer-based materials in information technology also can encourage student’s thinking in writing.

Mayer (2003) found that during the teaching process in conducting student’s writing scripts, there's new experience for teachers to become a critical appraisal in detecting the strengths and weaknesses. Parveen and Rajesh (2011) also conducted a study on language material that based on multimedia for standard two students. The results of their study showed that students were able to intensify writing freely. Student who has paid an attention can focus on critical writing. It also shows that the academic changes have occurred within a short period.

Computers help teachers to improve student’s achievement, either in terms of test. Another goal is to reduce the burden of teachers in teaching practiced that based on digital system model, and enabling writing systematically to take place in line with the aspirations of the national education curriculum (Adenan Ayob & Khairuddin Mohamad, 2012).
8. METHODOLOGY

Quasi-experimental method was used in this study that based on the quantitative design. The reason for choosing the research design is because the method was measured and determined the subject as an intact group. This reason is relevant to Cook and Campbell (1979) opinion.

The real sample for this research is 30 standard five students in one of the school in Federal Territory, Kuala Lumpur. The procedure that the samples were selected is according to one group of sample in research design and statistic as mentioned and advised by Cook and Campbell (1979). The samples were selected based on basic criteria. The criteria are the same stream in national schools and the average in age.

8.1. Research Instrument

8.1.1. Pre-test and Post-test

In this research, the instruments used are pre-test and post-test. These instruments used to identify student’s achievement in writing respectively, before and after they exposed to system model. One Malay Language teacher was appointed by the researcher as a panel for marking answering scripts. For this study, the formulation of the items was referred to the national syllabus.

8.1.2. Instruments Validity

Both instruments were being used in the final examination for standard five in 2015. This is to show that the instruments were standard and already published as mentioned by Cook and Campbell (1979).

8.1.3. System Model Validity

For the portal, the validity was justified by two Malay Language teachers who are expert in their education niche. The observed validity is content and construct.

8.1.4. Data Collection Procedure

The data was collected from the pre-test and post-test. It was accumulated through specific material implementation that involved assistant teacher who was acted as trained invigilator and expert examiner. To conduct the data collection, certain period was given in the study. The pre-test is conducted before the student being exposed to the system model. Next, six weeks after the pre-test, the students were exposed to the system model for post-test. The pre-test was given using manual oriented system model. The implementation of collecting data is similar to the maturity effect as stated by Cook and Campbell (1979).

8.1.5. Data Analysis

The analysis of quantitative data in this study is guided from the research questions. Analysis was performed on descriptive and inferential data by SPSS Version 20. Inferential data was analyzed that based on Paired Sample T Test.

9. FINDING

9.1. Respondent Demographic

The total respondents are 30 students with 20 female students and 10 male students.

Q1. What are the mean scores of pre-test and post-test for the group of students?

Mean scores of pre-test and post-test were identified. The mean score and standard deviation are shown in Table 1.

In Table 1, the pre-test score of group was 51.80 (SD = 8.03). The post-test scores were 78.07 (SD = 5.51).

Q2. Is there any significant difference in pre-test and post-test for the group?

The researcher attempted to explore whether there are significant difference between pre-test and post-test. Paired Samples T Test was used for inferential
data analysis. Table 2 shows the difference.

The second factor is encouraging students to interact and communicate with the outside world. This is because the use of a computer-based model in information technology can help students to apply the innovative structure of writing that based on digital resources and virtual. In reality, students are able to exploit the resources to suit the requirements of syllabus (Parveen & Rajesh, 2011).

The findings also are constituent to Piaget's theory. Student’s achievement increases when the material is systematic in nature. Performance increases when student has the opportunity to gain any access through stimulation process that focused on interactive-based model (Adenan Ayob et al., 2010).

Adenan Ayob et al. (2010) argue that the virtual writing reflected better thinking for student to write. According to them, student can easily understand the concept and meaning with intuitive process when exposed to an interactive model.

Student achievement was increased after using an innovative system model in information technology is also closely related to the practical and systematic tools (Adenan Ayob et al., 2010). This facility can shape the student’s skill to absorb a broad response that based on interactive multimedia elements (Parveen & Rajesh, 2011). The digital-based system model proved to help student to improve achievement in Malay Language writing. This finding can be attributed to the advantages of digital-based materials system in the classroom. Among them, the pedagogy and multimedia integration (digital-based) system model has many advantages in online multimedia display, accessibility and dissemination of global information. In other example, with the ease of online access, student was able to gain an access to structure new thinking ability in learning (Parveen & Rajesh, 2011).

10. IMPLICATION AND RECOMMENDATION

Student achievement essay writing was increased after using a computer-based system model in information technology is also closely related to the practical and systematic tools (Adenan Ayob et al., 2010). This facility can shape the student’s skill to absorb a broad response that based on interactive multimedia elements (Parveen & Rajesh, 2011). The digital-based system model proved to help student to improve achievement in Malay Language writing. This finding can be attributed to the advantages of digital-based materials system in the classroom. Among them, the pedagogy and multimedia integration (digital-based) system model has many advantages in online multimedia display, accessibility and dissemination of global information. In other example, with the ease of online access, student was able to gain an access to structure new thinking ability (Parveen & Rajesh, 2011).

11. CONCLUSION

In order to expand the method of system model and in the classroom, teachers' expertise in the field of computer and information technology is needed. With this in mind, the ministry should provide the opportunity for teachers to enhance their knowledge in the field of computer and information technology through intensive courses.

REFERENCE

Journal Article

Figure 1 shows the integration system model theoretical framework for this study. The framework consists of digital

Table 2 above shows the mean score in pre-test, 51.80 (SD = 8.03). For the post-test, 78.07 (SD = 5.51). The results found that there is a significant difference between pre-test and post-test. The tests showed that, t (29) = -1.13, p <0.05.

9. DISCUSSION

9.1. Difference in Score Mean
The results showed that there is a significant difference in the mean scores. Results based on the analysis of data through Paired Sample T Test. It shows a
significant difference in pre-test and post-test.

The results of this study also support Noor Azliza and Lilia opinion (2002) that revealed teaching material that based on system model shows capability of providing virtual environments, interactive, and has a potential to stimulate creative and critical thinking, thus earning good achievement in writing.

According to Mayer (2003), there are two factors that the use of system model in information technology is considered as a means of encouraging student’s ability to write essay. The first factor is the existence of competitiveness in thinking.


Thesis


About the authors

Adenan Ayob is a senior lecturer at Sultan Idris Education University, Perak, Malaysia. He is also a course coordinator for Computer Assisted Language Learning (CALL). He was also involved as a curriculum developer for teaching using interactive multimedia in the classroom. He has taught CALL courses for over 15 years.

### Table 1. Mean score and standard deviation (SD) of pre-test and post-test.

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>51.80</td>
<td>8.03</td>
</tr>
</tbody>
</table>
Post     78.07     5.51

TABLE 2. The difference between pre-test and post-test for the group.

(n=30)

<table>
<thead>
<tr>
<th>Test</th>
<th>Min</th>
<th>SD</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>51.80</td>
<td>8.03</td>
<td>-1.13</td>
<td>0.00**</td>
</tr>
<tr>
<td>Post</td>
<td>78.07</td>
<td>5.51</td>
<td></td>
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</table>

**p < .05