

Effects Of Webquest Application On Interest And Performance In Level Two Electronic Topics In Secondary Schools

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ABSTRACT

This study was conducted to determine the impact of WebQuest application on interest and performance in the topic of Form Two Electronics in Secondary Schools. WebQuest is a PdP software that emphasizes interaction in the classroom environment. The study design was quasi-experimental using pre and post tests. The study sample was 60 students. Form Two was randomly selected in groups and a total of 30 students in the treatment group and 30 students in the control group. This application, also known as WebQuest-based learning Web, was built using the ADDIE model and certified by three experts. The research instrument consisted of achievement tests for electronic topics and a set of questionnaires. Quantitative data were analyzed descriptively and inferences. Descriptive analysis using frequency, percentage, mean and standard deviation. The inference analysis used was an independent t-test. The results of the independent t-test showed that there was a significant difference between the mean post-test of the treatment group and the mean of the post-test of the control group [$t(58) = 13.18$; $p < 0.05$]. The findings of the questionnaire showed that the respondents in the treatment group strongly agreed ($M = 3.97$; $SP = 0.53$) that WebQuest-based learning web is interesting in terms of interface display and content. In conclusion, the main findings of the study show that WebQuest-based web learning is effective in improving student achievement and interest in electronic topics. Implications, this WebQuest-based learning web can be used by teachers and schools in improving the achievement and interest of form two students in electronic topics.

Keywords: Webquest, High School, Form Two, Life Skills, ADDIE Model.

INTRODUCTION

The education system, through the school system, is an important element for a country in its efforts towards developing society economically, politically, and socially. The school system not only plays a role in providing education to the community alone, but it is also one of the channels to convey to the people about the platform of national struggle that is very concerned with noble values in a multi-racial society in order to achieve unity. Malaysia is a country with a multi-racial, multi-religious, and multi-cultural society where it is known as a plural society. The implementation of the education system carried out must be in accordance with the needs and suitability of Malaysian society (Mior Khairul, 2011).

Education, on the other hand, can balance the socio-economy between races and ethnic groups where it can be seen through employment opportunities, income, and equity holdings (Robiah Sidin, 1994: 8). When this situation is achieved, economic, political, and social stability will be able to develop. Education, according to Plato, is a process of forming individuals of noble character. According to Jean Jacques Rousseau, 1762, education was a continuous process and started from childhood. In this process, all natural abilities are born by themselves according to natural desires and rules (Mok Soon Sang, 2000: xvi). Society and education are moving in tandem because education is the mold of human beings. (Sociohumanika, 2011).

Apart from that, the Eleventh Malaysia Plan (11MP) states that the main goal of the Malaysia Education Development Plan 2013-2025 (Preschool to Post-Secondary Education) is to produce Malaysians who have knowledge, critical thinking skills, leadership skills, language skills, ethics and spirituality as well as national identity for success in the 21st century. In line with the 11MP, the quality of national education will improve if information and communication technology (ICT) is used as it can increase interest and motivation to learn, as well as speed up the learning process.

LITERATURE REVIEW

The importance of ICT (Information and Communications Technology) Webquest in education

The use of ICT (WebQuest) in education has many benefits to the PdP process. Among the benefits of ICT (WebQuest) in education is that ICT is able to increase students' understanding and mastery of lessons, where it provides equal learning opportunities to all students from various backgrounds. Apart from that, ICT can also increase student motivation and enable individualized learning. (Joseph Anjuman, 2013)

According to Jamaludin and Zaidatun, (2003) the use of multimedia software in education must bring benefits to students. Its use has been identified to overcome weaknesses and problems encountered in the normal teaching process in classrooms that are traditionally implemented. It is a stimulus to teachers as well as a tool that can help teachers deliver lessons effectively. There are four benefits of learning by using multimedia software, there are:

The first is that it supports self-learning. In the statement Jamaludin and Zaidatun has stated that the use of multimedia technology in learning can improve self-learning abilities. Apart from that, students can also divide their time, content, and direction of learning at a fast pace because this program provides opportunities and freedom for students to choose their preferred information according to individual abilities. Students also have the opportunity to learn topics that require deep understanding over and over again until comprehension is achieved. Multimedia learning, as one of the learning media that can be used effectively to meet the needs of different students in terms of ability, intellect and learning style. Individual learning is a diverse system and contains flexible learning procedures where students are given the responsibility to plan and implement their learning. The second benefit of learning is to help solve problems faced by teachers in teaching. Multimedia software has opened a new path in the field of education. The features of multimedia software that are more friendly, not tired, and not hurt make it very suitable for students. Learning using multimedia can provide immediate feedback to students. Indirectly, it can provide very positive reinforcement.

Assisting the imagination with abstract things is the third benefit. The media elements found in multimedia-based PdP such as color, music, animation and visuals can add realism in learning through drills, laboratory experiments, simulation games and so on. With this, multimedia elements can explain a complex lesson becomes easy to understand with real examples that can not be explained using text.

Lastly, the pleasure of learning and generating learning thoughts is the fourth benefit of learning. Through the use of multimedia, it is different from regular teaching and learning which shows the teacher reading the text in front while the students listen. The use of multimedia software makes students more fun to learn when the title software used includes animations and certain characters played according to the curriculum theme of the subject. In addition, the use of multimedia is able to produce students who are skilled in thinking, creative and critical. These are the characteristics that the ministry of education expects in providing excellent students.

RESULTS

The extent of this effect was identified by conducting tests on the treatment group. A test was conducted to the treatment group. The treatment group is the group that has been given exposure to PdP traditionally and uses WebQuest. These findings indicate that there is an increase in the overall score than before. Additionally, the increase in scores also indicates that respondents have been attracted and given high concentration with PdP based on WebQuest. Increased marks before and after PdP.

There were differences in results for the treatment and control groups in the tests that were conducted before and after. Nevertheless, significant improvement differences can be seen in the treatment group where, the researcher has used the method of using Webquest in PdP Webquest. Although the difference in improvement can also be seen in PdP but the increase is too significant as we can see in the treatment group. This analysis shows that, PdP using this Webquest gives a positive effect and very encouraging findings.

CONCLUSION

Findings of the Study and Discussion

- i) Webquest Development

This analysis shows that the development of this Webquest provides positive findings. Where, respondents are satisfied with the development of Webquest. Respondents to this analysis stated that they agreed and strongly

agreed with the development of this Webquest. It indirectly states that this Webquest is very convenient and easy to use.

In general, the user interface design (display screen) built by the researcher is consistent, making it easy for users to use this Web-based PdP system - Webquest. In addition, technical problems in the use of this system are to a minimum.

Web-based PdP system - Webquest applies hypermedia elements such as animation, sound, graphics, hypertext, and color which makes the system presentation more interesting. Students have fun throughout the PdP process. The results of this study also found that the Web-based PdP system - Webquest is also said to be user-friendly because it has control buttons that facilitate navigation. In addition, the use of "back" and hypertext buttons are also provided to make it easier for users to navigate anywhere according to their wishes. This navigation facility is supported by (Saunders, 2003) who found that this web-based PdP approach is user friendly and able to attract students because the web meets the needs of learning resources..

Apart from that, the respondents also stated that the overall presentation of Webquest is suitable and interesting for PdP Life Skills subjects. In this Web-Based PdP system - Webquest has some features that are usually rarely applied by other Web-based PdPs. For example, to arouse students' interest and enjoyment, the introductory section can create a situation that directs students to complete a mission. As a reinforcement, additional training is provided in the assignment section. For the assignment section, a PDF file has been prepared that makes it easy for users to print exercises or materials that need to be printed. As an aid, each step to create an assignment is listed in the procedure section. In the evaluation section, the scoring criteria are stated. Users can create assignments or complete projects by reviewing based on those criteria. Mind activity is also available as a reward, in the conclusion section. All the applications available in Webquest that have been developed are able to attract students to the teaching materials presented. The findings of this study are very consistent with the results of the study (Rhynard, 2002). Of all the applications available in Webquest, he has named Webquest as a research guidance activity. In addition, (Weller & Chiavacci, 1999) in their research have reported that with the process and evaluation stage, students will do their assignments step by step and finally the objectives can be achieved. This Webquest also serves as a framework that can be used by teachers for the construction of student-centered learning using the internet.

ii) Interest

As stated by (Noraini, 2008), interest has to do with attitude. When a person is interested in something then he will be positive about it. This will produce something meaningful and effective. It is evident from the questionnaires that have been distributed to treatment students, where the results obtained are very encouraging. Students are very interested in Webquest software where students have fun and do not get bored of PdP sessions.

In addition, the results of this study show that respondents agree that the Webquest application in the teaching and learning process has created a more effective and entertaining learning. With the results of the study, it is hoped that the use of multimedia-based Webquest software can be expanded in the teaching of lecturers and student learning. The use of new methods in the PdP process such as Webquest is still not widespread because teachers are accustomed to the conventional method of textbook use. With the development of this software will be a driver towards the production of more Webquest software in the future in an effort to overcome the shortage of interactive software, especially for Life Skills Subjects

iii) Achievement

The findings of this study show that interest has a significant relationship with student performance. This study is supported by (Hadiyah, 1997) found that students who perform well in the subject of History are students who have an interest in the subject. The relationship between interest and achievement for this study is at a high level. This means that students' interests need to be nurtured from time to time in the PdP process. Methods and diversity of PdP strategies need to be done by teachers to create a fun and not boring learning environment. It is hoped that with the implementation of PdP through Webquest, students will have more fun. As a result, learning becomes more meaningful. Interactive learning through Webquest that has been developed in this school can be used optimally to encourage the involvement of students with students or students with teachers actively in each activity and discussion in the forum space. However, the topics discussed should be relevant to their learning process. This is an added value in the PdP process.

Discussion

Based on the findings of the study that has been conducted, the researcher feels the need for further research to strengthen and deepen the field of study. In this study, the researcher only focused on one district. For future

research it is proposed that respondents be represented by all schools that offer Integrated Living Skills in Malaysia. In this way, the findings are more comprehensive and the findings of the study can be used by the Curriculum Development Center, Technical Unit of the State Education Department and all schools that offer Integrated Living Skills subjects for the purpose of improving the quality of teaching and learning can be fully utilized by students.

Apart from that, in this study, the respondents only consisted of Form Two students and only focused on the topic "Electronics" only. Therefore, it is recommended that future research be focused on Form I and Form III students as well as focus on the whole topic in the subject of Life Skills in the future. Questionnaires are also recommended to cover aspects of problems faced by students in more detail so that we can identify and solve them using more effective methods.

Although there are studies conducted on the use of Webquest in PdP, it is only focused on other subjects such as ICT and Islamic Education and so on. Therefore, researchers have taken this opportunity to conduct a study on the use of Webquest in the subject of Life Skills.

Next, teachers, especially those who teach Life Skills subjects need to be prepared to follow the dynamic changes in PdP currents. They need to always be innovative and creative in diversifying the methods of Development and Evaluation of Teaching and Learning Materials to improve their teaching professionalism skills. In general, to successfully use Webquest in the field of education, all parties directly involved such as the Ministry of Education Malaysia, Department of Education, School Administrators and Teachers, as well as those indirectly involved such as parents must work together and work hard to overcome barriers- obstacles that arise in efforts to make the use of Webquest successful in education.

There is no denying that school administrators have an influence on the successful implementation of the use of Webquest in schools. Their roles include the purchase of tools and materials, the preparation of timetables, the determination of student majors, the involvement of students in associations, the support of subject-related activities and so on. In this regard, a study should also be conducted on all school administrators to obtain views and identify problems in the management of this subject from the perspective of school administrators.

Whatever research is to be conducted it needs to lead towards a more thorough, robust and comprehensive planning of this subject to fulfill the aspirations of the country to elevate our nation to the pinnacle of success and glory.

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