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# Undergraduate Students Perception of Using Webquest

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**Abstract:** Students' perceptions of the type of learning environment are important to study, because it can be translated into class success. The purpose of this study was to investigate the attitudes of students towards WebQuest learning that they had carried out. The respondents were 65 students of the fifth semester education technology department who took network technology courses. Longer term WebQuest is used by students for seven weeks for learning. The task that must be completed is designing and planning a computer network at school. The perception of WebQuest was examined with the Likert scale and the data were analyzed descriptively statistically. The results show that students have a positive attitude towards learning WebQuest even though there are still some problems that occur during implementation.
**Keywords:** WebQuest, undergraduate student, perception.

## INTRODUCTION

Technology provides an opportunity for us to become a developed society in the last three decades. The use of computers in the education sector found a way to improve the quality of learning. The emergence of the Internet makes computers not only limited to providing the knowledge they have or what they have. The Internet provides the vast and extensive resources of the World Wide Web, which can be used as a tool to improve student learning through research, planning, design and development by teachers and students. But the web sites on the Internet are not structurally structured, so they can confuse students.

This was reported by Trotter who was cited by MacGregor and Lou [1] that there was no impact on having Internet access at school on student achievement scores. This implementation of presentation to web assets alone is not adequate to enhance student learning.

WebQuest can be an alternative student learning activity in order to utilize the abundant resources on the Internet. The use of the web for structured activities is one way to harness the potential of learning the Internet in the context of a safe and meaningful learning environment. WebQuest is a structured web activity that presents problems for students to solve in collaborative settings. learning activities are inquiry oriented, where students are given assignments or problems and do the search process on the links provided. Lipscomb [2] believes that WebQuest encourages students in authentic learning, original assessment and inquiry-oriented activities that can help to find solutions through web resources. Similar to Zheng, Stucky, McAlack, Menchana and Stoddart [3] claiming that WebQuest is an effective way to organize chaotic Internet resources and help students gain access to knowledge in a supportive and scaffolded learning environment.

WebQuest was first created by Bernie Dodge who was assisted by Tom March in 1995 at San Diego State University. WebQuest can be classified as web-based learning. WebQuest is a web-based learning strategy that gives students the opportunity to solve problems or tasks contained in them. An appropriate strategy for anyone interested in using the Internet to help students get meaningful learning in a safe and dynamic way. According to March [4] a genuine webquest is a scaffolded learning structure that utilizes connections to fundamental assets on the World Wide Web and a credible assignment to the learner examination of an open-ended inquiry, improvement of individual aptitude and cooperation in a gathering procedure that changes recently obtained data into a more advanced comprehension. Thus the Internet is only used as a provider of information for students analysis, synthesis and evaluation in order to complete their tasks through the links provided.

WebQuest design can be easily planned to achieve specific learning goals in a specific duration of time as stated in the details. Detailed WebQuest as delivered by Dodge [5] there are levels and attributes attached to the WebQuest design. The two levels of WebQuest that must be distinguished from one another are short term and longer term. Short term WebQuest

takes three class periods with the aim of learning is to acquire and integrate knowledge. While the longer term WebQuest the learning objectives broaden and enhance knowledge with a time between one week to one month in classroom settings. Six critical attributes which are the basic elements of WebQuest are introduction, task, sources, a process, evaluation and a conclusion. An introduction contains to prepare students with background information and set the stages. Doable and interesting are a task that must be complete. To complete the task the student interacts with a set of information sources as anchors pointing to information on the World Wide Web. The process contain clearly describes step to accomplishing the task and activities. The direction of the most proficient method to sort out the data is obtained or rubric evaluation form. A conclusion that conveys to the journey, reminds the students about what they realized, and maybe urges them to broaden the experience into different spaces. Three non-critical attributes may be embedded into WebQuest design, but are essential to shape and focus on the WebQuest activity during implementation. Group activities, motivational elements and interdisciplinary approaches are non critical attributes. To develop WebQuest, there are five guiding principles for quality, namely FOCUS [6]. Find great sites, Orchestrate your learners and resources, Challenge your learner to think, Use the medium, Scaffold high expectations is the sentence that composes the word FOCUS. Quality WebQuest needs to be developed by paying attention and considering several things, namely the suitability of development and other characteristics of students such as gender, age, race, language, and religion as presented by Irafahmi [7].

The purpose of this study is to investigate students' perceptions during learning using WebQuest. Students' perceptions of the type of learning environment are important to investigate because their opinions about class activities can be translated into success in class [8]. Same as a previous study [9-12] taking into account students attitude is extremely important. This study involved students who used WebQuest as a teaching tool in the technology course. This has never been done before, so this research should be carried out with respect to perceived during the learning is done.

## METHODS

WebQuest activity is carried out in different classes with the same lecturer for 7 weeks. The task presented in WebQuest is to design computer networks in schools according to the needs analysis that has been submitted in the Task menu. Students who carry out this activity are the fifth semester students as many as 65 people who are divided into two classes in the Education Technology Department of the State University of Malang. Each class consists of 6 groups and one group consists of 5-6 people, so there are 12 groups. After completing the activity, students fill out the response instrument. The instrument is a questionnaire consisting of 21 questions using the Likert scale (Strongly Agree (5), Moderately Agree (4), have No Opinion (3), Moderately Disagree (2), or Strongly Disagree (1)). This was done to investigate student attitudes towards WebQuest as a tool for teaching. The three categories questionnaire that have an impact on undergraduate student: developing work in gatherings, advantages of Web services in the help of higher order thinking skills, comparing traditional teaching environments and the WebQuest improved educating and learning settings. To analyse the quiz item for student responses after carrying out WebQuest learning using descriptive statistics.

## RESULTS

For the needs of this research the WebQuest address used is http://zunal.com/webquest.php?w=387544 WebQuest consists of seven pages according to the standard pages provided by Zunal and required by the site manager to be filled with content. These seven pages consist of welcome, introduction, tasks, process, evaluation, conclusion and teacher page pages, although they exceed the components suggested by Dodge [5] but do not reduce or exceed the essence of WebQuest. The website was completed on August 30, 2018 and began to be used in early September 2018. Until November 2018 visitors reached around 5816 or almost 1939 visitors per month or 65 visitors per day. Thus it can be interpreted that every WebQuest day is visited by all students who take lectures.

Entries in table 1 reveals there are three categories of responses from respondents, namely group work, high-level thinking skills and general perceptions. These categories can represent the perceptions of students who learn by using WebQuest. This perception is built on the experiences of students during the learning.

The category of team work obtained a mean score of 4.00 with a standard deviation of 0.71 through three quizzes. Enhance my capacity to work in the mean gatherings score was 4.29 with a standard deviation of 4.29. Turn into a free student mean score was 4.05 with a standard deviation of 0.67. My learning pace in my mean score control was 3.64 with a standard deviation of 0.83.

Six-point quiz for the category of high-level thinking skills with its main statement: WebQuest's build up my capacity. Compare things, mean score was 4.05 with a standard deviation of 0.65. Organize data was 4.20 with a standard deviation of 0.54. Summarize data was 4.12 with a standard deviation of 0.67. Evaluate data was 4.06 with a standard deviation of 0.63. Synthesize data was 3.89 with a standard deviation of 0.59. Become superior problem solver was 3.94 with a standard deviation of 0.72. Average Overall

mean higher score order thinking skills 4.04 with a standard deviation of 0.63.

Average overall mean score general perception category was 3.68 with a standard deviation of 0.81. Main statement from this category was to help my learning I favour. The instructor to use course books rather than Web Questions was 2.68 with a standard deviation of 0.97. The instructor to utilize handbook rather than Web Questions was 2.80 with a standard deviation of 1.09. I like learning in class rather than WebQuest was 3.36 with a standard deviation of 0.92. WebQuest take additional time than traditional instruction was 2.61 with a standard deviation of 0.98. WebQuest's make me more mindful 3.88 with a standard deviation of 0.83. I might want to use WebQuest's later on was 3.85 with a standard deviation of 0.69. The WebQuest accompanying clear guidelines are 4.09 with a standard deviation of 0.80. WebQuest's are a pleasant method to learn content was 4.02 with a standard deviation of 0.62. WebQuest are easy to explore was 4.28 with a standard deviation of 0.74. The WebQuest is able to effectively start and promote learning or collaborative work was 4.02 with a standard deviation of 0.69. WebQuest helps me learn about the different websites or less reliable references 4.20 with a standard deviation of 0.75. WebQuest helps our team to finish task was 4.34 with a standard deviation of 0.62.

**Table-1: Perceived usage by category**

| | Mean | SD |
|---|---|---|
| *Team work* | | |
| Enhance my capacity to work in gatherings | 4.29 | 0.65 |
| Turn into a free student | 4.05 | 0.67 |
| My own learning pace in my control | 3.64 | 0.83 |
| Total | 4.00 | 0.71 |
| *Higher Order Thinking Skill* | | |
| WebQuest's build up my capacity to Compare things | 4.05 | 0.65 |
| WebQuest's build up my capacity to Organize data | 4.20 | 0.54 |
| WebQuest's build up my capacity to Summarize data | 4.12 | 0.67 |
| WebQuest's build up my capacity to Evaluate data. | 4.06 | 0.63 |
| WebQuest's build up my capacity to Synthesize data. | 3.89 | 0.59 |
| WebQuest's build up my capacity to Become a superior problem solver | 3.94 | 0.72 |
| Total | 4.04 | 0.63 |
| *To Help my learning I favour* | | |
| The instructor to utilize course books rather than WebQuest | 2.68 | 0.97 |
| The instructor to utilize handbook rather than WebQuest | 2.80 | 1.09 |
| I like learning in class rather than WebQuest | 3.36 | 0.92 |
| WebQuest's take additional time than traditional instruction | 2.61 | 0.98 |
| WebQuest's make me more mindful | 3.88 | 0.83 |
| I might want to utilize WebQuest later on. | 3.85 | 0.69 |
| WebQuest's accompany clear errand guidelines. | 4.09 | 0.80 |
| WebQuest's are a pleasant method to learn content | 4.02 | 0.62 |
| WebQuest are easy to explore | 4.28 | 0.74 |
| WebQuest is able to effectively start and promote learning or collaborative work | 4.02 | 0.69 |
| WebQuest helps me learn to distinguish trusted websites or other less reliable references | 4.20 | 0.75 |
| WebQuest helps our team to finish task | 4.34 | 0.62 |
| Total | 3.68 | 0.81 |

## DISCUSSION

The high number of accesses to the WebQuest page in the past three months shows that students are enthusiastic in their learning even though it is not known which pages are most accessed. The category of team work shows that the WebQuest learning strategy gets a positive response regarding the team work environment. The findings of several studies [2, 13, 14] reported the same thing, namely WebQuest was able to improve cooperative learning. This is also supported by items that get the highest mean score, Enhanced my capacity to work in gatherings. While the lowest mean score in this category is the quiz item My own learning pace in my control.

Categories of high-level thinking Based on these responses, WebQuest is able to encourage students to compare, organize, conclude, evaluate and synthesize information. These results are consistent with those obtained by previous studies [13, 15, 16]. Although it can be seen from the perception conveyed that the higher the level of thinking needed, the lower the mean score obtained. This indicate that students feel less confident when giving a response that leads to higher order thinking skill.

General perception is the lowest category among the two other categories, because the problems faced by students during learning make them frustrated. Although overall it is still positive about the learning it does. This is in line with the previous research [2] which applied WebQuest to motivate students to enjoy the learning process. The lowest score is 2.61, which is on the WebQuest item, take additional time than traditional instruction. This shows that the respondents almost split into two, namely the perception that WebQuest needs more time with WebQuest takes less time. For items I like learning in class rather than WebQuest received a positive response, it does not mean that the WebQuest is not in demand but students are still not familiar with the learning process and the problems that occur while using it. This is contrary to the WebQuest helps our team to finish task items obtain the highest mean score in this category, which is 4.34 with a standard deviation of 0.62. This shows that with the design of learning that is implemented into the right WebQuest, it can help students in completing the tasks given.

The problems faced by students while using WebQuest were revealed in open questions that were delivered after the quiz item analysis. In general, students said that there were several problems, namely some broken links, the availability of Internet access for independent learning and the words or sentences used in the material were not easily understood. These problems make students frustrated in completing their tasks so that it also influences the filling of their perceptions questionnaire.

Overall, the three categories contributed positively to the application of WebQuest learning. This can be shown in the mean score which is 3.83 with a standard deviation of 0.75. Based on the midpoint of the response is 2.5, the mean score is <2.5 is considered disagree and any mean score is> 2.5 is considered agreed [17]. Thus the total mean score shows that students are motivated by using WebQuest and overall agree with their use.

## CONCLUSION

In general, students give a positive response to learning by using WebQuest. Students believe that WebQuest is able to help them improve their work skills in groups, think high, help in completing tasks. This result is consistent with previous research. Student activities to WebQuest also tend to be positive where every day all students access WebQuest at least once. Although some problems arise, students are frustrated and give unexpected responses. This is a note for anyone who will apply learning using WebQuest.

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