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Teachers' Perceptions of Web Quest as Effective Teaching Tool

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Abstract

Web Quest used as an instructional tool as one of e-learning applications in education; has attracted the attention of scholars and post graduates students in Jordan. Web Quest known within students textbooks as a resource of information that learners have to reach for writing the content published at the site, While Web Quest underlying principles, components and a way of navigation that make it as an instructional tool designed for individualized and group learning, thus it is not perceived as a methodological tool in practice. Current study is based on Jwaifell & Al-Atyat [10] paper and aimed at identifying teachers' perceptions of Web Quest as effective teaching tool after experiencing designing Web Quest within a course of Portfolio and Graduation Project about designing instructionally a published Web Quest.

Keywords: e-learning; Web Quest; Instructional Design; Teachers Perceptions; in-service training.

1. Introduction

The process of teaching and learning as a communication interface require using interaction through different means such as oral and concrete messages, while the interaction can be done by new technologies and resources such as internet technologies and tools.

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Web Quest is one of the internet applications that attracted educators as a new phenomenon which motivates students in learning process [8]. Al-Hussein Bin Talal University adapted in-service teachers program of Information Technology in education for acquiring them skills needed to help them develop their career and methodologies used in teaching.

The program include courses of e-learning, instructional technology, teaching and learning strategies, designing WebPages, instructional design, programming languages and portfolio and graduation project, which reflect the whole skills they gained through the duration of the diploma.

Recently, there has been a main focus among scholars and researcher; especially thesis and dissertations in the Jordanian universities beside the Arab Scholars on studying Web Quest and its impact on learning [1, 2, 3]. Teachers perceptions about using Web Quest still undefined in Jordan, while it is ample in other countries either teachers perception or its impact on learners [9,12,5,13,6] and other studies which add a tremendous knowledge about teachers and higher education students perceptions of Web Quest. In the contrary there is a lack of research about Jordanian teachers. The previous study that this one based on was conducted by Jwaifell & Al-Atyat [10] that identified the teachers' perceptions of Web Quest whom participated in portfolio and graduate project with respect to perceptions domains: Constructivists Problem Solving, Social Interaction, and Scaffolded Learning. Thus this study explores the items that measuring those domains.

2. Web Quest Definition and Components

Web Quest is a way to inquire knowledge by introducing it through the web in an inquiry activity, as Dodge [8] emphasized that it is an activity in a form of inquiry where the learners interact with some or all the information from resources on the internet. Web Quest can be in a short term either a longer term, while the short term is designed for one to three class periods, neither the longer term which can take place between one week and a month within class room settings.

Components of Web Quest either short or longer term, contains 6 components: Introduction, Task, Information Sources, Process, Guidance and Conclusion. Those components can be identified:

1. Introduction: Where topic can be presented in a short statement or paragraph [4].

2. Task: Students can be informed what they are expected to achieve after completing the Web Quest.

3. Process: Detailed information can be given to students about how they can compete their mission with directions [7].

4. Resources: Resources and Process can be combined in one page or at a one procedure as one component of the Web Quest. The Author of the Web Quest has to present the resources and hyperlinks needed to navigate to information, but it is not in necessity to contain merely online resources [11].

5. Evaluation: Author can present the rubric of how the student can be evaluated.

6. Conclusion: A paragraph can be added which contain what have been learned and a higher objective can be added.

3. Methodology

The purpose of this study was to investigate teachers' perception of Web Quests. . Thus, the research question of this study was: What are the perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?

The design of the study is a descriptive study, thus the researcher conducted the survey through a measurement tool as a mean of collecting data of teachers' perception of using Web Quest.

3.1 Participants and Context

The participants of the study consisted of the 40 student who registered for portfolio and graduate project course in the 8 weeks summer semester 2013/2014 at Al-Hussein Bin Talal University located in the southern of Jordan. The participants enrolled in higher diploma after Bachelor level as in-service training program, where Ministry of Education in Jordan sent teachers to hold the Diploma. All the participants were experienced Designing Web Quest within the course by using a Web Quest tutorial guide in creating and designing a Web Quest at https://sites.google.com/site.

3.2 Instruments and Procedures

The researcher used the Web Quest Questionnaire for Teachers (WQFT) developed by [13] which was constructed on four theoretical constructs: critical thinking, knowledge application, social skills and scaffolded learning [12, p. 299). The WQFT was translated into Arabic Language and reviewed by four referees who hold PhD in Instructional Technology to insure its validity. The instrument reported a high reliability with Cronbach's alpha of 0.87, which were close to English version 0.88. The instrument consisted of 20 items with a 5-point Likert scale: strongly disagree=1, disagree=2, natural=3, agree=4 and strongly agree=5.

Procedures of the study were:

1. Validating the WQFT Arabic version.

2. Measuring participants' perceptions before using the Web Quest tutorial.

3. Giving them the opportunity to experience designing and creating a Web Quest.

4. Re-measuring their perceptions after completing their own Web Quests sites.

4. Results and Findings

The participants did design and create their own Web Quest sites that they asked to accomplish. All the teachers'

sites can be found at http://jwaifell.weebly.com/portfolio.html. The following table shows samples of teachers Web Quest sites:

Table 1: Teachers Web Quest Sites

Discipline	URL
Mathematics	https://sites.google.com/site/waedmathe
	https://sites.google.com/site/studemath
Islamic Religion	https://sites.google.com/site/sabahrhlat
	https://sites.google.com/site/morefaali
Geography	https://sites.google.com/site/sarakasasbh
Arabic Language	https://sites.google.com/site/teacherarabk
	https://sites.google.com/site/manalabufara
	https://sites.google.com/site/indexqades
English Language	https://sites.google.com/site/lifestyleataqaba
Science	https://sites.google.com/site/rainxrain122356567
Communication Skills	https://sites.google.com/site/raniaalom
Computer Science	https://sites.google.com/site/Web Questmaaccaee

4.1 Results of the Study Question

To answer the question of this study: What are the perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest? The teachers where asked if Web Quest can be helpful tool for both teachers and students. Means and standard deviations are calculated, where Correlated-means T test where used at $\alpha \leq 0.05$ to determine teachers' perception whether reflecting their perception before/after experiencing Web Quest. Table 2 shows teachers responses means and standard deviations for each item:

Table 2: Teachers' responses (N=40)

Items	Perception Before		Perception After	
	Mean	SD	Mean	SD
In Web Quest learning learners are able to examine the problem from multiple lenses	2.8750	.88252	3.4500	.63851
In Web Quest learning learners are able to develop the ability to challenge each other's point of view	3.0000	.98710	3.4500	.55238
Web Quest learning facilitates learners to arrive at a conclusion by assembling the various evidences though reasoning	2.7500	.89872	3.1250	.33493

Learners are able to propose a solution with more than one approach	2.6750	1.07148	4.6250	.70484
Learners are able to solve the problem with more than one solution	2.2250	.97369	4.3750	.80662
Web Quest enable learners to effectively use the information to solve problems	3.0250	.86194	4.5250	.78406
In a Web Quest learning environment, the knowledge gained from one problem solving situation can be transferred to another situation	2.1500	1.09895	3.4500	.63851
The task oriented nature of the Web Quest makes it clear what is to be learned	2.2750	1.08575	3.4250	.50064
In a Web Quest learning environment, learners are able to pull knowledge from different fields to solve problems	2.1250	1.18078	3.4000	.63246
The structure nature of Web Quest facilitates retrieval of prior knowledge to new learning	1.2750	.59861	3.6000	.77790
Collaboration among learners in Web Quest learners promotes positive interdependence	2.2750	.59861	4.0750	.82858
Web Quest learning promotes accountability among learners	2.4500	.84580	4.6250	.66747
Learners gain a better understanding of each other's point of view in a Web Quest learning environment	2.4000	.81019	4.6250	.66747
Web Quest promotes interaction among learners	2.8750	.88252	4.5250	.78406
Learners develop better interpersonal and small group skills in a Web Quest learning environment	3.0000	.98710	3.4500	.63851
Scaffolding in Web Quest learning facilitates the understanding of the subject content	2.7500	.89872	3.4250	.50064
Scaffolding organizes the way for new learning	2.6750	1.07148	3.4000	.63246
Scaffolding enables learners to focus on problems	2.2250	.97369	3.6000	.77790
In a Web Quest learning environment, scaffolding enables learners to connect between their learning activities and goals	3.0250	.86194	4.0750	.82858
In a Web Quest learning environment, scaffolding enables learners to better understanding how to achieve their goals	2.1500	1.09895	4.6250	.66747
Total	2.5100	.38200	3.8925	.27539

Out of Table 2, The less means of Participants responses was: The structure nature of Web Quest facilitates retrieval of prior knowledge to new learning, where M=1.2750 and SD=0.59681, this result can be reflected to absence of Web Quest concept structure and nature, where it can contribute to retrieve students prior knowledge, Participants find Web Quest as a tool of introducing new knowledge not as an instructional environment, but after experiencing designing and creating Web Quest, Participants perceptions changed with into agree and strongly agree at this Item. The Participants also identified the impotency of Web Quest even

they are knowing a little about it, that it can:1) Web Quest enable learners to effectively use the information to solve problems and 2) In a Web Quest learning environment, scaffolding enables learners to connect between their learning activities and goals where both of the items have M=3.0250 SD=0.81694, this result pointes at the prior knowledge of the participants about the Internet as a source of knowledge and a communication tool.

At total of participants responses, the prior perception mean 2.51 with SD=0.382 under the crucial score 3 which related to the natural response, which reflect participants perceptions about Web Quest in a negative manner, while their perceptions after experiencing Web Quest mean=3.8925 with SD=0.27539 above the crucial score 3. To examine the observed means, Correlated-means T test where used; the absolute value of the critical t-Value (± 2.042) is less than the absolute value of the obtained t-Value (20.049). Therefore, we have a statistically significant difference between the two means and we can confirm that the perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest have been influenced by experiencing designing and creating a Web Quest positively

5. Conclusions

Teachers may fail in using new technologies without have knowledge about the benefits of it, but when they have the opportunity to experience those technologies, they will change their perceptions about the concept itself. The results of the study revealed the importance of training teachers pre/in service can influence their perceptions and will lead to use new technologies. Ministry of Education in Jordan has made great efforts to develop teachers skills especially after using Learning Management System which it called EduWave, but teachers are still need applicable workshops in helping them to understand that technologies are not a prestige nor it will add more efforts to their heavy load, rather than assistant tool which can change their role in teaching. The study reveals how teachers perceived Web Quest in details after experiencing designing and producing their own Web Quests online.

6. Recommendations

Identifying teachers' perceptions is the key for further studies to expand and investigate teachers practice in schools after experiencing Web Quest and investigating the relations between teachers' perceptions and the change of their pedagogical practice.

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