

Teachers' Perceptions of Using Web Quest in Teaching

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Abstract

This study aimed at identifying teachers' perceptions of Web Quest in teaching tool after experiencing designing Web Quest for instructional Purposes within a course of Portfolio and Graduation Project about designing instructionally a published Web Quest and to identify teachers perceptions of Web Quest as a constructivist problem solving, social interaction and sacffolded learning in applying this type of e-learning in practice. While Web Quest used as an instructional tool as one of e-learning applications in education; has attracted the attention of scholars 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.

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

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. Web Quest is one of the internet applications that attracted educators as a new phenomenon which motivates students in learning process (Dodge, 1997). 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 researchers; especially thesis and dissertations in the Jordanian universities beside the Arab Scholars on studying Web Quest and its impact on learning (Abu-Taweeleh, 2014; Al shumaimeri, 2012; Alhileh and Nofal, 2008). 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 such as the work of Gokalp (2011) Zheng, Perez, Williamson and Flygare (2007) Brown and Zahner (2006) Zheng, Stuck, McAlack and Stoddart (2005) and Butler and Strickland (2004) 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.

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 (1997) 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:

- Introduction: Where topic can be presented in a short statement or paragraph (Brooks and Byles, 2000)

- Task: Students can be informed what they are expected to achieve after completing the Web Quest.
- Process: A detailed information can be given to students about how they can compete their mission with directions (Chatel and Nodell, 2002)
- 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 (Vidoni and Maddux, 2002)
- Evaluation: Author can present the rubric of how the student can be evaluated.
- Conclusion: A paragraph can be added which contain what have been learned and a higher objective can be added.

3. Methodology

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

3.1 Research Questions

The purpose of this study was to investigate teachers' perception of Web Quests. . Thus, the research questions of this study were:

- What are the perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?
- What are the Constructivists Problem Solving perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?
- What are the Social Interaction perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?
- What are the Scaffolded Learning perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?

3.2 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.

3.3Instruments and Procedures

The researchers used the Web Quest Questionnaire for Teachers (WQFT) developed by Zheng et al (2005) which was constructed on four theoretical constructs: critical thinking, knowledge application, social skills and scaffolded learning (Zheng, Perez, Williamson and Flygares. 2007, 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 of 20 items with a 5-point Likert scale: strongly disagree=1, disagree=2, natural=3, agree=4 and strongly agree=5. The items were divided onto three constructs of teachers' perception: 1. Constructional Problem Solving, 2. Social Interaction and 3. Scaffolded Learning, shown in Table 1.

Table 1. Items Related to Perception Construct

Perception Construct	Items
Constructivist Problem Solving	In Web Quest learning learners are able to examine the problem from multiple lenses
	Web Quest learning facilitates learners to arrive at a conclusion by assembling the various evidences though reasoning
	Learners are able to propose a solution with more than one approach
	Learners are able to solve the problem with more than one solution
	Web Quest enable learners to effectively use the information to solve problems
	In a Web Quest learning environment, the knowledge gained from one problem solving situation can be transferred to another situation
	The task oriented nature of the Web Quest makes it clear what is to be learned
	In a Web Quest learning environment, learners are able to pull knowledge from different fields to solve problems
	The structure nature of Web Quest facilitates retrieval of prior knowledge to new learning
	In Web Quest learning learners are able to develop the ability to challenge each other's point of view
Social Interaction	Collaboration among learners in Web Quest learning promotes positive interdependence
	Web Quest learning promotes accountability among learners
	Learners gain a better understanding of each other's point of view in a Web Quest
	Web Quest promotes interaction among learners
	Learners develop better interpersonal and small group skills in a Web Quest learning
	Scaffolding in Web Quest learning facilitates the understanding of the subject content
Scaffolded Learning	Scaffolding organizes the way for new learning
	Scaffolding enables learners to focus on problems
	In a Web Quest learning environment, scaffolding enables learners to connect between
	In a Web Quest learning environment, scaffolding enables learners to better understanding how to achieve their goals

Procedures of the study were:

- Validating the WQFT Arabic version.
- Measuring participants' perceptions before using the Web Quest tutorial.
- Giving them the opportunity to experience designing and creating a Web Quest.
- 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 2. 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 Questions

To answer the questions of this study, 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 Perception Constructivists:

Table 3. Teachers' responses (N=40)

Perception Constructivists	Perception Before		Perception After	
	Mean	SD	Mean	SD
Constructivist Problem Solving	2.3750	.45548	3.7750	.27040
Social Interaction	2.6667	.40298	4.1250	.37884
Scaffolded Learning	2.5650	.58509	3.8250	.33949
Total	2.5100	.38200	3.8925	.27539

Results of Question 1: What are the perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?

To answer the first question of this study, the 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 WebQues positivley

Results of Question 2: What are the Constructivists Problem Solving perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?

, 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 (17.939). 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 WebQues positivley according to Constructivists Problem Solving.

Results of Question 3: What are the Social Interaction perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?

, 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 (16.139). 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 WebQues positivley according to Social Interaction.

Results of Question 4: What are the Scaffolded Learning perceptions of teachers that participated in portfolio and graduate project after experiencing designing and creating a Web Quest?

, 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 (11.597). 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 WebQues positivley according to Scaffolded Learning.

5. Conclusion

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.

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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