The Effect of WebQuests on Grade 11 Reading Comprehension and Student Perceptions of WebQuests

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Abstract

Governments, educators and the public often believe that combining English language with information technology skills is important to be successful (Tuan, 2011). WebQuestsare a framework for learner-centered instruction in teaching English as a foreign language when using Internet resources. This study investigated the effect of WebQuests on Grade 11 reading comprehension in a secondary school in the UAE. It also investigated perceptions of WebQuests as a study tool. A quasi-experimental research design was used with control and experimental groups. In addition, a Likert scale questionnaire examined perceptions of WebQuests. An analysis of co-variance (ANCOVA) and descriptive statistics were used to analyze the data. The results indicated a statistically significant improvement in reading by the experimental group. Additionally, positive attitudes were reported towards WebQuests. Students felt that WebQuests enhanced collaboration, language skills, reading and higher order thinking skills. Finally, recommendations for further studies will also be discussed in this paper.

Keywords: WebQuest, traditional instruction, reading comprehension.

Introduction

In the United Arab Emirates (UAE), English language learning is considered as an essential tool at every level of education as it is a requirement for university entrance, which is one among many reasons for its importance (Al-Mekhlafi, 2004). Thus many students do not acquire the necessary skills and are unable to evaluate information in a critical manner, either when reading online, or from hardcopies (Levine, Ferenz & Revens, 2000). In the context of the UAE, Beatty, Hyland, Hyland and Kelly (2009) have argued that fostering a reading culture, as a pleasurable and useful activity in itself, is something of a challenge. The UAE '2030 Vision' was developed in response to the demands of the UAE government to improve education by encouraging more effective teaching methods (Clarke &Otaky, 2006). In the Emirate of Abu Dhabi, the Abu Dhabi Education Council (ADEC),has introduced approaches to English language teaching and is looking at enriching the learning environment by utilizing technology to meet the needs of learners, educators and organizations (ADEC, 2008).

Alvermann, Phelps & Gillis (2010) have described how online reading environments have the potential to support literacy and encourage students to think critically and be actively involvedin the learning process. One effective, and promising, instructional tool for language learners in such contexts is using WebQuests (March, 2004). Lipscomb (2003) believes that WebQuests engage students in authentic instruction, genuine assessment and inquiry-oriented activities that can help to find solutions through web-based resources. Similarly, Zheng, Stucky, McAlack, Menchana and Stoddart (2005) claim that WebQuests are an effective way to organize chaotic Internet resources and help students gain access to knowledge in a supportive and scaffolded learning environment.

O'Sullivan (2004) argues that the difficulties experienced by Emirati students with reading comprehension are due to the lack of a reading culture in the UAE. He adds that research conducted at the Higher Colleges of Technology (HCT) in the UAE indicated that reading performance was far from satisfactory. To alleviate this problem O'Sullivan believes that teachers should make the maximum use of such school resources as the latesttechnology.

2. Literature Review

2.1 Research on Technology and Reading Comprehension

Digital literacies can improve students' achievement, and there is accumulating evidence that they can be more engaged in reading (Leu, McVerry, O'Byrne, Kiili, Zawilinski, Cacopardo, 2011). Technology can provide teachers with supplementary teaching materials and strategies as well as an abundance of textual and other resources to enhance their teaching (Strangman & Daltong, 2005). According to Luzónand Ruiz-Madrid (2008), online reading competence, "involves different types of skills: technical skills of information elaboration and management, linguistic and semiotic skills, cognitive skills, and metacognitive skills." (p. 28). They further add that itis the ability to understand the pragmatic, discursive and semiotic features of online texts; to harness their affordances so as to interact with them in a variety of ways, and to find relevant information in different semiotic modes within and across texts. In order to use the power of technology to actively engage students with the text WebQuests make a good starting point for many language teachers.

Studies on reading comprehension and technology, specifically concerned with foreign language learners, are very encouraging. Myonghee (2002) reviewed several relevant empirical studies conducted in both first language (L1) and second language (L2) contexts. He demonstrated that much previous research has supported the idea that technology can facilitate L2 reading comprehension.

Traynor (2003) conducted a study to investigate the effect of the Cornerstone Software Program on reading comprehension among students enrolled in middle school in California, USA. The treatment group used the Cornerstone computer program, while the control group received only traditional reading classes. Results showed that the treatment group significantly outperformed the control group. Similarly, Dreyer & Nel (2003), conducted an L2 study in South Africa which incorporated a strategic reading instruction component as part of a technologically enhanced learning environment. These results also indicated that EFL students who received such instruction showed a statistically significant improvement in their grades on three different reading comprehension exams.

Jones, Staats, Bowling, Bickel, Cunningham and Cadle (2005) conducted a quasi-experimental study examining the impact of Merit Reading Software on middle school student performance. The students in both treatment and control groups read the same texts but the treatment group made use of the software program while the control group performed similar tasks in their textbooks. The researchers concluded that computer-mediated learning canpotentially improve reading comprehension grades on SAT-9.

Similarly, Strangman and Daltong (2005) conducted a literature review on using technology to try to alleviate reading difficulties. They found that computer-mediation was able to either remediate or prevent many reading difficulties in most aspects of the reading process. They concluded that technology can provide teachers with supplementary teaching strategies that also allow them to support individual learning profiles.

Although the literature suggests that the integration of technology into language learning has various advantages for student learning Ushida (2005) claims that not every student can take advantages of such a learning environment and may find it difficult to manage their own learning. García-Valcárcel, Basilotta and López(2014), also suggest that, "(M)ore time spent on preparation, a certain loss of control, the unequal participation of students in the process, or the difficulties found in evaluating the learning process and the results obtained for each student" (p.72) can be considered as obstacles in technology based learning environments.

2.2 The WebQuests

Dodge (1998) defines a WebQuest as an inquiry-based activity in which most, or all, of the information used by the students has been retrieved from the World Wide Web.Successful WebQuests have certain key components: an introduction, a task, sources, a process, evaluation and a conclusion (Dodge, 1997; March, 1998).

1. **The Introduction:** is the motivational stage as it should address student interests, prior knowledge and expectations (Dodge, 1997; Teclehaimanot & Lamb, 2004)
2. **The Task:** aims to give brief instructions and information about what students are expected to know by the end of the WebQuest (Dodge, 1997; Lacina (2007).
3. **The Sources:**are previously selected sources that will guide the students to suitable preselected sites and how to demonstrate what they have learned (Ikpeze & Boyd, 2007)
4. **The Process:**is the step learners go through in order to accomplish the tasks and activities (Zlatkovska, 2010).

5. **The Conclusion:** brings closure and a summary of what has been done (Dodge, 1995, and Teclehaimanot& Lamb, 2004).

2.3 WebQuests and Reading Comprehension

Many researchers believe that by using WebQuests students can overcome their 'text anxiety' about reading in a foreign language – in this case English (Hubbard & Levy, 2006, and Barros &Carvalho, 2007). Tsai (2006) reported that after using WebQuests a significant improvement was evident in reading comprehension performance as compared to the results gained after traditional instruction. Using a WebQuest in the context of second language learning is essentially a task-based learning (TBL) approach (Stoks, 2002). Torres (2005) further emphasizes that the effectiveness of any WebQuest, in terms of language acquisition, often depends on the authenticity of the web-based L2 materials.

Similarly, Barros & Carvalho (2007) investigated the impact of 'ReadingQuest' on student engagement during an extensive reading task. Their results suggested that 'ReadingQuest' was a valuable tool when teaching reading and was more effective than traditional reading approaches. Tuan (2011) also examined the effect of a WebQuest on reading comprehension skills. Of 44 participants the students who used a WebQuest in class made considerably more improvements in terms of reading comprehension than the control group.

Many researchers have recommended the use of WebQuests for teaching English as a second language. This is because they can be designed to: Promote autonomous learning and foster literacy, improve reading comprehension, help in acquiring knowledge, develop communication skills, promote effective use of time, provide motivation to learn, and increase cooperation (Luzón, 2002; Lipscomb, 2003; Torres, 2005; Koenraad &Westhoff, 2003&Luzón, 2007, and Prapinwong, 2008).

2.4 Student Perception of the Utility of WebQuests

Studies such as those by Lara & Reparaz, (2005); Leite, McNulty & Brooks, (2005);Noording, Samed, &Razali, (2008); Prapinwong & Puthikanon, (2008), and Sanem & Cumali, (2010) suggest that taking into account students' attitudes is extremely important when designing language tasks. According to Lara &Reparaz (2005) students perceived WebQuest tasks and scenarios as being real world experiences. Likewise, Leite et al. (2005) concluded that teachers and students both found WebQuests to be interesting and enjoyable. In a similar vein, Noording et al. (2008) surveyed a group of Malaysian students who were learning by using WebQuests. Their results indicated that the students found WebQuest tasks to be meaningful, authentic, motivating and supportive of both cooperative learning and higher order thinking skills.

Prapinwong and Puthikanon (2008) examined student perceptions of WebQuests on a college level reading course in Thailand. Their results revealed mixed opinions towards the WebQuest approach. Some students had generally positive opinions of these tasks, while others found that reading mediated through WebQuests was an overwhelming experience that left them feeling frustrated. On the other hand, Sanemand Cumali (2010) developed a learner perception scale which suggested that students were highly motivated by the use of WebQuests.

3. Theoretical Framework – Social Constructivism

Amongst the many educational and technology-based tools available WebQuests have emerged as a suitable and powerful means for teaching whilst remaining true to the principles of a socio-constructivist approach to education (Dodge, 1997;Vidoni& Maddux, 2003, and March, 2010). This principle is grounded in the belief that knowledge is constructed through social interaction and is a result of social processes (Simina& Hamel, 2005), and it is a shared, rather than an individual, experience (Prawatt&Floden, 1994).Pressley, Mohan, Raphael &Fingeret(2007) have suggested that the most effective scaffolds are a combination of explicit modeling, explanation and guided practice. Thus, social constructivism has been used as the theoretical framework underpinning the explanation of the results emerging from this study into WebQuests.

4. Methodology – Research Design

A quasi-experimental design, using both a treatment and a control group, was implemented in this study.

4.1 Research Questions

Two key research questions were addressed:

1. Is there a significant difference in the reading comprehension scores of students who were taught using WebQuests, as compared to the grades of students who were taught in a more traditional teaching and learning environment and manner (i.e. without WebQuests)?
2. How do Grade 11 students perceive WebQuests in the English language classroom?

4.2 Participants, Context and Sampling

This study focused on Grade 11 students at one of ADEC's cycle 3 schools in AlAincity. The participants were female Emirati students who all shared a similar cultural background and for whom Arabic is their first language. Each class had a total of 28 student's agedfrom 16 to 17 years old. These students had been exposed to a formal English language education since primary school. Therefore, they had at least ten years of studying English before they reached Grade 11. Both groups were taught by the same teacher. There were two computer laboratories, equipped with 30 computers each, with a high-speed Internet connection. The experimental group was taught in the computer laboratories and used the designated WebQuest, while the control group was taught in anormal classroom.

4.3 Instruments

Pre-/ Post-Test

Based on ADEC's Grade 11 reading comprehension indicators, a reading comprehension pre-test and post-test was developed to measure reading comprehension. This test was a mixed format assessment tool with ten multiple-choice and two short-answer questions. The short-answer questions were rated by an ADEC rubric used for short and extended reading questions.

Questionnaire

A five point Likert scale questionnaire (i.e. where 5=strongly agree; 4=agree; 3=not sure; 2=disagree, and 1=strongly disagree) consisting of 36 items was developed to investigate the treatment group's attitudes towards WebQuests as a tool for teaching English language reading. The questionnaire covered five categories that have a direct influence on EFL students: effectiveness of WebQuests in developing group work, benefits of WebQuests in support of higher order thinking skills, the advantages of WebQuests in enhancing the four major skills of listening, the efficacy of WebQuests in developing reading comprehension, and comparing a traditional English language teaching environment and a WebQuest enhanced teaching and learning context.

4.4 Instrument Validity and Reliability

Face validity for both the pre- and post-test instruments was established by consulting a variety of relevant professionals. This included four native English-speaking teachers (NESTs)at the school, two Consultant Partnership Teachers (CPTs).They verified that the test items adequately covered the subject content and were also consistent with ADEC's reading comprehension indicators.

Additionally, both face and content validity were examined carefully for the questionnaire instrument. The questionnaire was reviewed by three professors in the Education Department at the United Arab Emirates University (UAEU) and by two native English speaking CPTs to determine how relevant the questions were to the subject.

The reliability of both the pre-test and post-test scored0.675 when verified through the Statistics Package for Social Sciences (SPSS) program. The reading for the questionnaire was 0.688. Both results were higher than the significance indicator of .50. Therefore, it is fair to say that the SPSS values for the respective instruments were acceptable in terms of being able to make significant assumptions based on the eventual results (Mackey & Gass, 2005).

4.5 Data Collection and Analysis

Two forms of analysis were used with the SPSS program. First, descriptive statistics were used to analyze the questionnaire items (i.e. student perceptions of WebQuests). Then an ANCOVA was employed to analyze the pre- and post-test scores in order to investigate any statistically significant differences between the experimental/ treatment group and the control group.

4.6 Procedures

The treatment group received four classes per week of WebQuest activities and another four of more traditional instruction. The control group simply received eight lessons of traditional teaching and learning approaches. Both treatment and control groups did a pre-test one week before the classes began.

However, only the treatment group used the WebQuestactivities which were exploited alongside traditional reading instruction under the guidance of their teacher. Table 1 (below) shows both the treatment and control group procedures.

Table 1: Procedures

Procedure	Control Group	Treatment Group
Reading comprehension pre-test	Reading comprehension pre-test one week before classes	Reading comprehension pre-test one week before WebQuest mediated classes
Setting, materials and treatment	• Traditional classroom instruction • Handouts similar to the treatment group • Six weeks of classes	• Researcher designed WebQuests used in computer laboratory • Handouts similar to the control group • Hyperlinked texts • Students complete WebQuests activities in pairs • Students are trained in basic computer competence prior to WebQuest mediated instruction Six weeks of classes
Teachers' roles	• Taught by researcher with teacher as facilitator	Taught by researcher with teacher as facilitator
Reading comprehension post-test	Reading comprehension post-test	Reading comprehension post-test
Questionnaire	No questionnaire	Five-point Likert attitude questionnaire

4.7 WebQuest Development

This project aims to adapt WebQueststo cater specifically to second language acquisition requirements (Koenraad, 2002). The researcher/ designer used MS FrontPage/SharePoint Designer to develop a WebQuest (see Figure 1 below).The 'Next Sherlock Holmes' text, designed for the Grade 11 level was presented to the students. It focuses on inquiry type skills, analysis of text and logical reasoning in order to reach a conclusion. This WebQuest's main activity was a project-based task where the students were challenged to investigate about the mystery raised in the WebQuest.

The researcher first conducted an analysis of student needs and then developed, implemented and evaluated a suitably designed WebQuest by referring to the results of the pre-and post-tests.

4.7.1 Implementation

The treatment group was taught using WebQuest technology and instruction, while the control group received a more traditional approach to reading with handouts and group work activities. Both groups were taught during a six week period in the first half of the second semester.

In phase one the topic was introduced to both groups by watching a film about Sherlock Holmes. The students discussed the movie in groups and made a concept map of the characteristics of a detective that they had gleaned from viewing the movie. These concept maps were later discussed as a whole class activity.

In the computer laboratories student pairs from the treatment group worked on the topic for about six hours every week. The teacher's role was to give instructions and guidance in reading and writing for information gathering purposes. After each activity there was a period of revision during which the students, and then the teacher, evaluated their work. On occasions students resumed the information search stage in order to gather additional information in order to revise their work. The students were required to present their work to others in the form of a mystery story that they retold and solved.

4.7.2 Validity of the WebQuests Developed

The WebQuest designed for this study was evaluated by two professionals and two CPTs in order to determine if the WebQuest matched ADEC's objectives and indicators. In addition, the material was also evaluated by two Integrated Computer Technology (ICT) teachers to establish consistency in the design and ease of use.

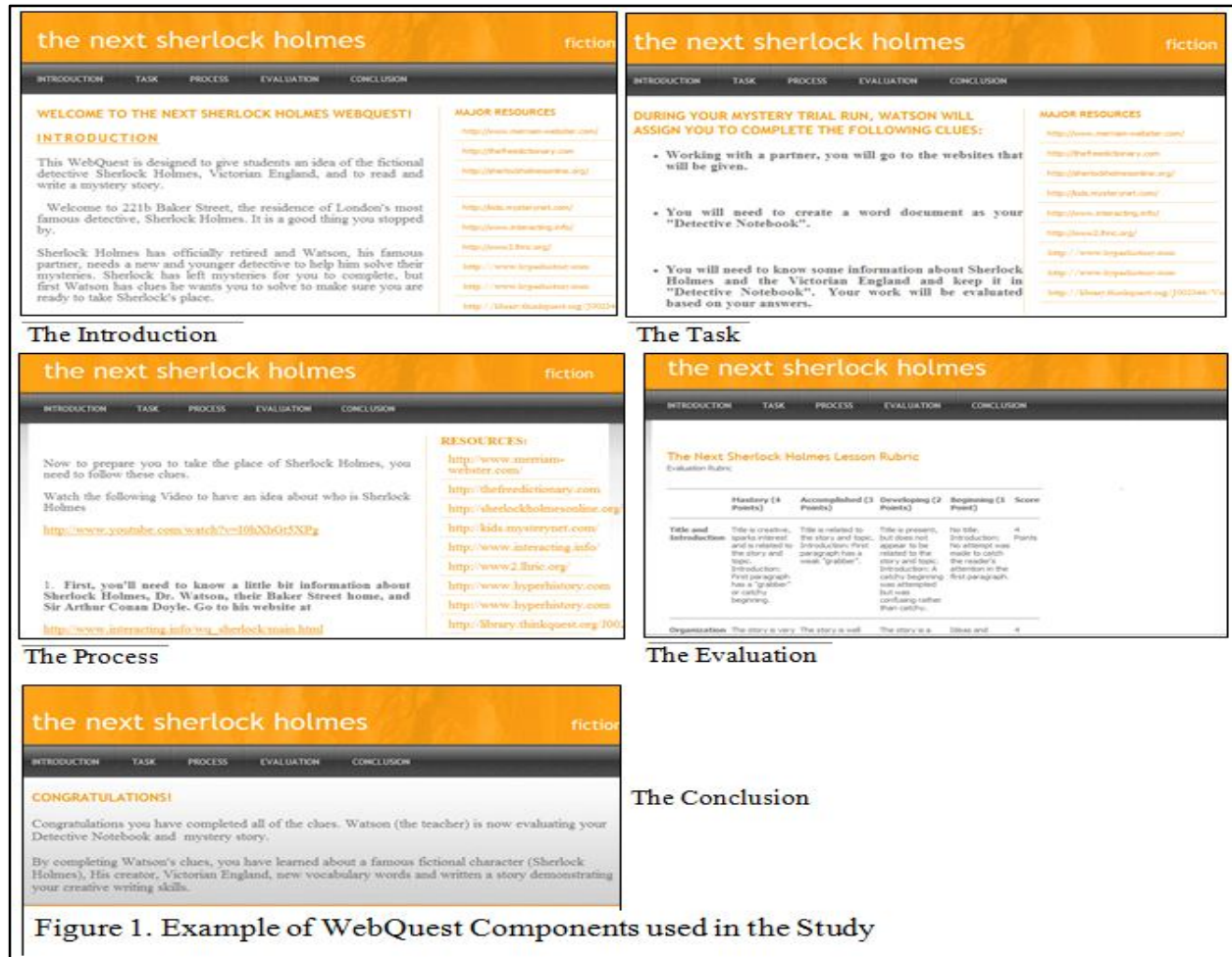**Figure 1: An Example WebQuest – The Next Sherlock Holmes**

Figure 1. Example of WebQuest Components used in the Study

5. Results and Discussion

This study was designed to measure whether WebQuests had any appreciable impact on students' reading comprehension, and additionally what the students thought about these technology-mediated activities. In order to do so the two research questions were addressed.

Question 1

In order to answer research question one, the researcher first looked at the descriptive statistics generated by the pre- and post-tests (see Table 2).

Table 2: Descriptive Statistics

Group	N	Pre-test Mean	Pre-test SD	Post-test Mean	Post-Test SD
Treatment	28	11.00	4.7	22.7	2.4
Control	28	12.2	4.7	19.3	2.6

The initial data analysis revealed an increase in the mean scores for reading comprehension. The treatment group had a pre-test score of 11.00 (SD=4.7) and a post-test score of 22.7 (SD=2.4). Although a substantial increase is apparent (from 11.00 to 22.7), the variance of the respective scores also decreased from 4.7 to 2.4. The control group, mean while, recorded a pre-test score of 12.2 (SD=4.7) and a post-test result of 19.3 (SD=2.6). The respective variance also decreased from 4.7 to 2.6. Generally speaking, the results in Table 2 shows that the two groups both performed better in the post-test than in the pre-test in terms of mean scores. This initial result is not surprising but in order to find out whether this difference is statistically significant (sig. =0.05) it was necessary to run an ANCOVA from the SPSS package (see Table 3).

Table 3: ANCOVA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	170.098[a]	2	85.049	13.460	.000
Intercept	3214.310	1	3214.310	508.708	.000
Pre-test	2.080	1	2.080	.329	.569
Group	170.052	1	170.052	26.913	.000
Error	334.885	53	6.319		
Total	25159.000	56			
Corrected Total	504.982	55			

The initial data analysis (Table 3) shows a statistically significance difference in the average scores of the treatment and control groups in their reading comprehension. The F value was 26.9, which is significant at the 0.01 level. This indicates that the use of WebQuests resulted in a significant difference in reading comprehension as compared to more traditional instructional techniques.

This supports the idea that students will improve their reading comprehension thanks to an increase in motivation and constructivist style learning when using WebQuests. This is mentioned in the literature in studies such as those by Stakhnevich, 2002; McNabb, Hassel & Steiner, 2002; Tsai, 2006; Barros and Carvalho, 2007, and Tuan, 2011, where they have all supported the concept of online instruction to deliver EFL instruction.

This significant difference can be attributed to several factors. Firstly, students in the treatment group have employed more cooperative learning strategies which promotes communication and the exchange of information and shared experiences. Secondly, they may have developed their higher order thinking skills in order to cope with the challenges of the task types they have faced. Also, it could be posited that a technologically enhanced environment increases motivation as students enjoy using the varied resources available on the Internet. Finally, they may well have benefited from contextualized language as WebQuests offer the opportunity to deal with real life language in an authentic context. Such an interpretation is supported by the studies of Levine et al., (2000) and Snider & Foster (2001). These studies argued that WebQuests and/ or web-based learning environments were beneficial to EFL learners when it came to improving reading comprehension.

Question 2

In order to deal with research question two we can look first at the descriptive statistics which showed mainly positive results. The overall mean score for all the items was4.0 which indicates that students were motivated by using WebQuests in their English language classroom. Passey et al., (2004) claim that any mean above 2.5 on a five point scale suggests overall agreement with the statement.

If we look at Table 4 (below), the overall mean score for the collaborative work category was 4.2, while for higher order thinking skills it was 4.1. A language skill was scored at 4.2 while reading comprehension gave a mean of 4.0495. The final category recorded a mean score of 3.2 in terms of the treatment group's generally positive perception of WebQuests as compared to traditional instruction. In fact, this indicates that students had very positive views of WebQuests. According to Lipscomb (2003), and Snider and Foster (2001) one of the most important contributions that WebQuests make to the learning situation is in promoting positive attitudes towards learning.

Such results are in line with the studies of Lara and Reparaz, (2005); Leite et al. (2005); Lainema&Nurmi, (2006); Noording et al., (2008); Prapinwong and Puthikanon, (2008), and Sanemand Cumali, (2010). These studies reported that using WebQuests in language learning provided students with better language learning experiences, an anxiety-free learner-centric environment, greater control of their own learning and an increase in the motivation to explore and discover new information.

Looking in more detail we can see that the three items in the group work category recorded an average overall score of 4.3 with a standard deviation of 0.44. This indicates a high positive response in terms of the group work environment. This corresponds with the findings of a number of studies (Felix, 2002; Vidoni& Maddux, 2002; Lipscomb, 2003, and Lacina, 2007) whohave reported that the use of WebQuest instructional strategies can improve cooperative learning and foster a richer language learning experience.

In terms of higher order thinking skills the average mean score for all six items was 4.1 with a standard deviation of 0.51. Students reported that the use of WebQuests encouraged them to compare, organize, summarize, evaluate and synthesize information. This is consistent with the results gleaned by Vidoni & Maddux, 2002; McNabb et al, 2002; Tsai, 2006, and Barros & Carvalho, 2007.

When investigating the language skills category the results indicate a positive attitude towards WebQuest-mediated learning as it helps to develop all four language skills. The combined mean score for these items was 4.2 with a standard deviation of 0.4. This corresponds well with similar studies by Koenraad, 2002; Felix, 2002; Luzon, 2002; Siminaand Hamel, 2005, and Hubbard and Levy, 2006. These studies suggest that WebQuests can help to develop literacy.

Similarly, the reading comprehension questions (13 items) suggested that students thought they had developed their reading comprehension skills through the use of WebQuests. The total mean score for all the items in this category was 4.0 with a standard deviation of 0.3. This is similar to the results of Stakhevich, 2002; McNabb et al, 2002; Tsai, 2006; Barros and Carvalho, 2007, and Tuan, 2011. Their studies support WebQuest environments as being beneficial in terms of developing second language reading comprehension skills.

Finally, the 9 items asking about the students' general perceptions indicated an enthusiastic response towards WebQuests. Students said that they hoped to use these materials and approaches in the future. The mean score for all nine items together was 3.2 with a standard deviation of 0.34. This corresponds well with related studies that show that the application of modern technology such as WebQuests can motivate students to enjoy studying and develop a positive attitude towards learning a foreign language (see Chapelle, 2001, and Lipscomb, 2003).

Table 4: The Mean and Standard Deviation of Student Responses to Questionnaire Items sorted by Category

Item	Mean	SD
Group Work: Working on WebQuests helps me to:		
Improve my ability to work in groups.	4.11	.567
Become an independent learner.	4.04	.567
Have control of my own learning pace.	4.61	.685
Total.	4.25	.44096
Higher Order Thinking Skills: WebQuests develop my ability to:		
Compare things.	3.61	.786
Organize information.	4.29	.713
Summarize information.	4.54	.693
Evaluate information.	4.14	.891
Synthesize information.	3.57	.742
Become a better problem solver.	4.36	.731
Total.	4.08	.50614
Language Skills: In a WebQuest environment I can practice:		
Listening skills.	3.50	.839
Speaking skills.	4.21	.686
Reading skills.	4.57	.573
Writing skills.	4.39	.629
Total.	4.17	.36039
Reading Comprehension Skills: WebQuests help me:		
Identify the main idea of a text through using visuals.	4.32	.548
Identify the main idea of an article due to its simplified structure.	4.21	.630
Grasp the gist of reading material.	3.75	.844
Pay attention to grammar.	3.82	.819
Analyze sentence structures.	3.75	1.110
Use online dictionaries.	4.32	.772
Guess the meaning of new words.	4.25	.701
Use my own words for answers.	4.39	.567

Give my opinion/ point of view.	4.25	.585
Interpret the writer's intentions.	3.14	.932
Use skimming skills.	4.04	.838
Use scanning skills.	4.18	.819
Use prior knowledge to inform reading choices.	4.21	.876
Total.	4.05	.33772
General Perception: To assist English learning I prefer:		
The teacher to use textbooks instead of WebQuests.	1.75	1.236
The teacher to use handouts instead of WebQuests.	1.75	.887
Traditional classrooms instead of WebQuests.	2.04	.999
WebQuests take more time than traditional instruction.	1.96	.962
WebQuests make me more attentive.	3.89	.629
I would like to use WebQuests in the future.	4.29	.854
WebQuests come with clear task instructions.	4.46	.576
WebQuests are an enjoyable way to learn content.	4.29	.535
WebQuests are easy to navigate.	4.43	.634
Total.	3.21	.34442

In summary, the students who used WebQuests reported a generally positive attitude towards WebQuests which they believed were helping them to improve their group working skills, their higher order thinking skills, language skills and reading comprehension. This result is consistent with the work of Vidoniand Maddux (2002) who found that engaging students in WebQuest sub-tasks encouraged them to engage with higher levels of thinking. Similarly, Lacina (2007) found that WebQuests allowed students to work cooperatively in order to exchange information. Leite, et al. (2005) concluded that teachers and students found WebQuests interesting and enjoyable and that they appreciated the variety of authentic tasks. Finally, many students also said that they would welcome the chance to work on language-based WebQuests in the future. Online reading comprehension is not simply an individual process but rather a collaborative and social practice that improves students' higher order thinking skills because it extends far beyond simply communicating a solution to a problem (Leu, et. al, 2011).

6. Limitations

The limitations for this study include the following: the treatment group was limited as it was restricted to only one class, and this study dealt only with female students.

6.1 Implications and Recommendations

The results of this study strongly suggest that integrating WebQuests into English language teaching can increase reading comprehension performance. In addition, WebQuest users had a very positive attitude towards these tools in terms of improving their English reading comprehension. Therefore, a number of implications and recommendations can be drawn.

Further research and investigation on reading comprehension is required across the whole of the UAE. Similar studies across a variety of Emirati secondary schools are recommended. Research on the impact of WebQuests on other English skills, such as writing and grammar, is also required.

Further research is needed to explore what types of scaffolding are beneficial in the English language classroom. We should further investigate the effect of collaborative learning on reading comprehension in Emirati schools. A WebQuest-based instructional environment should be researched and considered as a supplement to traditional teaching and learning situations.

A more in depth analysis of student perceptions could shed light on the role of both teachers and learners and how they interact in a WebQuest-based learning environment. This could include observation and focus group interviews. More research is recommended to determine whether there is a correlation between student perceptions and their reading comprehension performance/ ability. Qualitative, observational research could be conducted to further examine learning processesin a WebQuest-based learning environment.

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