Using WebQuest Strategy in Teaching English for Enhancing Omani Students’ Vocabulary Achievement Level

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Abstract
This study aimed to investigate the effect of WebQuests on improving grade eight Omani students’ vocabulary achievement. Also, it aimed to investigate students' attitudes towards using WebQuests in learning English and the challenges they faced while using it. The study was conducted as a Quasi-experimental design as there were two groups the control group and the experimental group. Both groups were randomly selected from Cycle 2 schools in the Dakhiliya Governorate, Sultanate of Oman. The instruments that were used to collect data for this study were the vocabulary achievement test and students’ attitudes questionnaire. The findings of the study revealed that the implementation of WebQuest in teaching vocabulary was very effective. The experimental group outperformed the control group in the post-test vocabulary scores. Also, it was found that students faced some challenges while learning English through WebQuest such as the complexity of authentic reading, lack of note-taking skills and group-work mis-alignment.

Keywords: WebQuest, Vocabulary achievement, Attitudes

Introduction
WebQuest is a term that consists of two main words: Web and Quest. Each of them has its own definition. Web is the World Wide Web that represents the Internet, and it can be defined more precisely as a complex system of interconnected elements (Samara, 2013). According to the Oxford Dictionary, a quest is a long search for something that is difficult to find (Oxford Dictionary, 2011). According to the first WebQuest designer, Bernie Dodge, WebQuest is an inquiry-oriented activity in which most or all the information used by the learners comes from the Internet. WebQuests are designed to use learners' time well, to focus on using information rather than looking for it and to support learners' thinking and levels of analysis, synthesis, and evaluation. March, WebQuest’s co-designer, revised the WebQuest definition in 2004 and added that WebQuest is a scaffolding learning structure that mainly uses two things: links to essential resources in the World Wide Web and an authentic task to motivate students' investigation of a central, open-ended question. The links and the authentic tasks lead to the development of individual expertise, and participation in a final group process that attempts to transform newly acquired information into a more sophisticated understanding (March, 2004).
When Tuan (2011) investigated the effect of the WebQuest on reading, he described WebQuest as a controlled language-learning environment where learners encounter the real world and the real language. He added that as all the materials used in the WebQuests are authentic, learners deal with the reality of the
new language and this variety of input enriches the atmosphere and creates a kind of challenge, according to Tuan, encourages learners to go deeply in exploring the depth of the topic in their hands. As on her investigation of the effect of WebQuest on lexical richness, Velasco (2012) believed that WebQuest was a supplemental teaching-learning tool that promoted the pedagogical effectiveness of using the web because it provided a context for students; not only to find the information but also to use it to solve problems and do a real-life task. In agreement with Tuan, (2011); Velasco (2012), Al-shumaimerei & Al-masri, (2012) and Lashien, (2023), WebQuest is defined as a design that provides an opportunity for students to exchange real life information and trigger meaningful communication. It requires teamwork among students to work collaboratively using the Internet to search for information and then reproduce it in different forms. In her study of "Making the Web Accessible to Students with Difficulties", Kelly (2000) dealt with WebQuest as a teacher created lesson plan in the form of a simple World Wide Web page with pre-selected Internet links and specific purposes for the students. It was designed to provide students with independent activities (Kelly, 2000). Based on the definitions stated above and many others, WebQuest can be seen as a teaching-learning strategy that has been found to bridge the gap between content literacy and technology literacy through integrating the World Wide Web into classroom activities (Al-Kaf & Al-Mawali, 2022). It brings together the most effective instructional practices in one integrated student activity. So it can be used by teachers as an instructional tool to improve teaching practice or by the learners themselves, as an independent learning tool that satisfies their different learning needs in order to enhance and accelerate their learning as WebQuest methodology may fundamentally change the way students learn and teachers teach.

**Differences between WebQuest and web-based instruction**

WebQuest has emerged as a reaction to the drawbacks of web-based instruction. Although many researchers and educators have applauded the impact of web-based instruction on language learning (A’tehli, 2015) some shortcomings have appeared. Consequently, the idea of WebQuest has appeared. The main advantages that WebQuest lesson have over web-based instructions are the following:

- In WebQuest students browse links previously selected by the teacher and do not serve the Internet searching for related links (March, 2004).
- WebQuest has the advantages of fostering higher level thinking through authentic assignments that emphasise inquiry-based learning (Al-Kaf & Al-Mawali, 2022).
- Students are obliged to complete a task in which a role is allocated to each group member (March, 2004; Dodge, 2001).
- Searching for and sharing information is the beginning in WebQuest based lesson and not the end as web-based instruction (Lashien, 2023).
- Communicative competence is a requirement in WebQuest as it deals with collaborative tasks in nature (laborda, 2009).
- The integration of the four skills especially the interpersonal ones is crucial in WebQuest instruction (Salem, 2022; Al- Sayed, 2013; Kelly, 2000).

**Types of WebQuests**

Based on some factors such as classroom size, Internet accessibility, and students’ proficiency level, WebQuest is divided into two types: short-term WebQuest and long-term WebQuest. The main differences
between these two types are the period of time webquest takes to be completed and the instructional goal it seeks to be accomplished (March, 2004).

Short-term WebQuest
The main instructional goal of short-term webquest is knowledge acquisition and integration. The purpose of this task is to make students gather relevant information and make sense of it (Popota, 2011). This WebQuest can be accomplished in one to two periods. It might be used as a lead-in lesson to long term WebQuests (Samara, 2013).

Long term WebQuest
Extending and refining knowledge is the instructional goal of long-term WebQuest. In a long-term WebQuest, learners deeply analyse the information provided in the links, transform it in some way, and demonstrate an understanding of the material by creating something that others can respond to either online or offline. This level of WebQuests usually takes between one week and one month in a classroom setting (Ahmed, 2014).

Statement of the Problem
In Oman a very few studies have been conducted to investigate the effectiveness of webquest as an instructional strategy either in English or in other school subjects. However, regarding the effect of different teaching and learning strategies on students’ language development a number of studies have been conducted. In her study of 2002, Al-Harassi conducted a descriptive study to investigate the most popular vocabulary learning strategies from the four main strategies: memory, cognitive, meta-cognitive and social. She reported that many female students used meta-cognitive strategies more than any other strategy. Al-jabri (2008) found that students’ low proficiency level in English was due to the inappropriate strategies used for vocabulary instruction. The main methods used by the participant teachers were miming, writing on board, and book pictures regardless of students’ levels. In response to Al-jabri’s findings, Al hashami's experimental study on grade 9 showed that strategy-based vocabulary instruction was more effective than other conventional methods used in the classroom AL-hashami (2009). Regarding the impact of online teaching Al-Mamari (2007), found that online learners showed greater improvement in language than their in-class counterparts in both reading and writing skills. This corresponds with the findings of Al-Mawali, in her study of web-based learning at grade nine that reported a significant growth in reading comprehension and vocabulary retention in favour of the experimental group in addition to the very positive attitudes of learners towards web-based instruction (2008).

Since the end of the 20th century technology has been the cornerstone of all societies. Nowadays technology has provided different tools to contribute to education and improve tasks in a simple attractive way. Newman (1989) stated that the use of technology in the classroom might be one of the factors that affect learners’ attitudes in a positive way in their learning process. WebQuest is one of the tools that infuses technology and mainly the web into classroom instructions. Also based on the recommendations of many studies conducted in the field of educational technology, many students are in critical need of a learning strategy that stimulates them and creates a great interest towards English learning (Mutia et al., 2023, Salem, 2022; Al-hamdani & Al-Brieki, 2018 and A’thehli, 2016).

These recommendations align with the many basic education’s general aims of enabling students to use a variety of technologies and apply appropriate ones in critical thinking and problem solving related to their daily life (Ministry of Education, 2012). Through these tools students can learn different strategies to help
them acquire different language skills and sub-skills specially vocabulary which is considered an essential aspect when mastering a foreign language (Al-Hamadani & Al-Brieiki, 2018; Schmitt & Schimitt,1995). According to Al-mawali (2008), one of the challenges students faced in accomplishing extensive reading was lack of vocabulary. That finding was also highlighted by Al-Hosni (2014) in her study that was conducted on grade 5 students to investigate the speaking difficulties encountered by young EFL learners. She reported that lack of vocabulary prevented students from being competent in oral communication. She added that students had the ideas in their first language, but they could not utter them as they did not have the suitable words to express their thoughts in English.

Regarding grade eight textbook, EFM (English for Me), most of the vocabulary is presented implicitly with few explicit tasks for teaching vocabulary. This means that many variables need to be taken into consideration when making decisions about designing the most comprehensive teaching strategy in teaching vocabulary. Policy makers therefore can develop a well-structured curriculum so teachers will be able to cater to each level of learners with a suitable learning environment. This can be accomplished through a strategy that integrates the two methods in teaching vocabulary the implicit method and explicit one (Al-Hamadani & Al-brieiki, 2018; Al-jabri, 2008).

WebQuest is one of the instructional strategies that expose learners explicitly and implicitly to acquire a variety of new words through various reading resources. As WebQuest is usually content-based and the Omani curriculum uses thematic textbooks, the vocabulary gained is automatically recycled by students in different ways. In terms of learning vocabulary Students usually keep a vocabulary notebook that helps them to jot down the new words and illustrate them with pictures. In terms of speaking, during their discussion time in the classroom they ought to contextualise the new words. In terms of weekly quizzes or group activities such as vocabulary games, they revise the newly learned words and retain them in their long-term memory. This various tasks and activities provide the learners with opportunities to practice the newly acquired words and enhances students vocabulary repertoire (Velasco, 2012).

As mentioned earlier although this topic has been widely investigated internationally, to the researcher’s knowledge, it was rarely tackled in the Omani English language teaching field.

Research Questions
This study aimed to answer the following questions:
1. Is there any significant difference in the vocabulary achievement test score between the Pre-test and post test of the experimental and control groups?
2. What are grade eight participant students' attitudes towards using WebQuests in learning English?

Significance of the Study
The findings of the current study are expected to help in various areas:
1. Raising awareness of the impact of technology on teaching English.
2. Producing WebQuest-based lessons based on grade eight textbook.
3. Boosting learners' self-regulation through teaching nine graders how to navigate autonomously using WebQuests.
4. Directing curriculum designers' and developers' attention towards integrating web-based materials in the EFM syllabus (English for Me), especially for this generation.
Research design
The study adapted the Quasi-experimental pre-post-test design. The study sample was divided into two groups: The experimental group that was taught a unit of the textbook using WebQuests and the control group which was taught the same unit using the conventional teaching strategies. The two groups were randomly selected, using simple selected method, from two different cycle two schools. Those two schools were conveniently selected from 25 cycle two schools in A-Dakhiliya Governorate.

Population and Sample
The population of the study consisted of above 3000 grade eight students in the Omani cycle 2 Basic Education schools in AI- Dakhiliyya Governorate in the Sultanate of Oman. The participants were around 70 female Students as the average class-size of governmental schools’ classrooms in the Sultanate of Oman is about 35 students. Their ages are between 13 and 14 years. They usually come from similar social and economic background. Also, the participants were of similar proficiency level in English.

The experimental group was from the researcher teacher’s school which is Wilayyat Bidbid School. That School is a governmental Cycle two Basic Education school (5-9). The group consisted of about 36 students. There were three different academic levels: high-achievers, average, and low-achievers, as most of the classes in the governmental schools are usually mixed-ability classrooms. This group was taught the vocabulary of the one Unit of student textbook using from two to four short-term WebQuests as supplementary materials in addition to student textbook.

The control group was from Zainab bint Qais School. It is in the same wilayyat of the experimental group.

Data Collection
The researcher used two tools to collect data for the study.

• Vocabulary Achievement Test
The vocabulary achievement test was used as a pre-test to guarantee the equivalence of both groups in the vocabulary level. Then it was used as a post-test to measure the development of each group after teaching the target unit of the students textbook.

• Students Attitude Questionnaire
The questionnaire was developed by the researcher based on literature, the content of the implementation and the proficiency level of the students. It was a 3-likert scale questionnaire that included: Agree, neutral and disagree. It was administered at the end of the implementation of the study. It consisted of 12 statements.

Data Analysis
Data was analysed using the statistical package of social sciences (SPSS). Mainly central tendency, discrepancy measures, independent sample t-test, and paired sample t-test were used.
Results

First research question
In order to answer the first research question, is there a significant difference in the vocabulary achievement between the experimental group which was taught vocabulary using WebQuest and the control group which was taught vocabulary using the conventional method?, an independent sample T-test was used to investigate any statistically significant difference in the results of the post-test compared with those of the pre-test as both groups were equivalent in the mean scores of the pre-test.

Mean differences in the post-test vocabulary achievement of the two groups
The results of vocabulary achievement post-test mean scores of both groups indicated that there was a statistically significant difference between the two groups. Table 3 shows the result of the independent sample t-test.

<table>
<thead>
<tr>
<th>Table 1 Independent sample T test of vocabulary scores in the post test of the two groups</th>
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<tbody>
<tr>
<td>Groups</td>
</tr>
<tr>
<td>Experimental</td>
</tr>
<tr>
<td>Control</td>
</tr>
</tbody>
</table>

*Total mean score=25

Based on the data in the table above, the experimental group outperformed the control group. The mean of the experimental group was 9.53 while the mean of the control group was 6.26 t-value =2.12, p= 0.036. This significant difference occurring in the students vocabulary achievement post-test supports the claim that using WebQuest can improve students vocabulary achievement.

Mean differences in the pre-test and post-test of the experimental group
The above claim can be statically supported by calculating the growth in the mean scores of the experimental group from pre-test to post-test using paired sample t-test then comparing it to the mean scores of the development of the control group students’ scores.

<table>
<thead>
<tr>
<th>Table 2 Paired sample t-test result of the pre-test and post-test of the experimental group</th>
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<tbody>
<tr>
<td>Experimental Group</td>
</tr>
<tr>
<td>Pre-test</td>
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<tr>
<td>Post-test</td>
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</tbody>
</table>

*Total mean score=25

Table 2 indicates that the experimental group improved significantly from the pre-test to the post-test in their vocabulary achievement t = 3.427, p=3 =.022.

Means differences in the pre-test and post-test of the control group

<table>
<thead>
<tr>
<th>Table 3 Paired sample t-test result of the pre-test and post-test of the Control group</th>
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</thead>
<tbody>
<tr>
<td>Control Group</td>
</tr>
<tr>
<td>Pre-test</td>
</tr>
<tr>
<td>Post-test</td>
</tr>
</tbody>
</table>

*Total mean score=25

Table 3 shows that the improvement from the pre-test to the post-test in the control group was not significant statistically as t= 1.449 and p =0.158.
Although it is noticeable in the two tables above that the experimental group has made significant improvement from the pre-test to the post-test, that improvement was slight in comparison to the total score of the pre-test which was out of 25. Scoring 9 only as the mean score in the experimental group can be assigned to many reasons. First the researcher prepared two WebQuests each one with one main task. Although the provided links were the same for all the students, the final output of each group was different specially when the groups were of different abilities. So, they had approached the tasks differently. That variety of the output might have made each group learn at different size and type of vocabulary. The process had a noticeable effect on the range of scores students gained. Thus, while two students got the full mark, and some students got in the 20s, some others scored lower than three out of 25.

Second, the first five questions in the test were not based on the final exam specification prepared by the Ministry of Education. Those new types of questions challenged students’ ability. However, if it had been based on the final exam specification, it might have been easier for them as they are used to answering the same types of questions for many years.

The third reason is that the researcher intended to make the vocabulary test challenging as she had had high expectations of students’ improvement in vocabulary after completing two long-term WebQuests. Regardless of the low mean scores of the experimental group in the post-test, the statistically significant difference in the means from the pre-test to the post-test could be attributed to the implementation of the two WebQuests. The students exerted noticeable effort to read the authentic materials in the links provided in the resources section.

This result is supported by Salem (2022), Al-shumaimari & Al-masri (2012) and tuan (2011), when they reported that WebQuests play a great role in improving students’ motivation, reading comprehension and enhancing their vocabulary level. This is also supported by the view of nation (2002, p. 267), “reading has long been seen as a major source of vocabulary growth” (cited in Ahmed, 2014). The claim of the effectiveness of WebQuest on improving vocabulary achievement of EFL learners can be supported by the elements of WebQuest design. WebQuests designers usually use attractive animations and vivid sounds to make it more attractive for teachers and students. Accordingly, as it was found in A’thehli (2015), associating the new vocabulary with pictures and sounds plays a great role in motivating students to learn as well as it helps them retain the newly learned words.

Moreover, since students in cycle 2 kept vocabulary notebooks to record the new words, that could have facilitated the retention of the newly learned words. In their notebooks, they wrote the words illustrating them with some descriptions and pictures which according to Fowle (2002) could have developed autonomous learning. Based on teachers’ observation during class, student kept on opening their notebooks to look for appropriate words to be used in the final product. During their final presentation, student speech was rich with new words. This result corresponded with many other studies that proved the effectiveness of WebQuests on improving student speaking skills such as Lashien (2022) in his study that investigated the effectiveness of WebQuest learning activities in developing mass communication students ESP Oral communication skills. Laporda (2009) stated that WebQuest leads to the improvement of linguistic skills such as fluency, professional vocabulary, and the capacity to work using the foreign language.

**Second research question: students’ attitudes towards WebQuest**

To answer the second research question, “what are grade eight students’ attitudes towards using WebQuest in learning English? A questionnaire was conducted at the end of the study with the experimental group.
Part one of the questionnaire, which was a collection of 12 structured statements, was allocated to answering this question. The results were analysed quantitatively using the SPSS especially means and standard deviation. The table below shows the means and standard deviations of students’ responses to the questionnaire statements.

### Table 4 Means and Standard Deviation of the Experimental Group’s Attitudes towards using WebQuests

<table>
<thead>
<tr>
<th>Statements</th>
<th>*mean</th>
<th>set deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The links in the WebQuest were useful.</td>
<td>2.93</td>
<td>.25</td>
</tr>
<tr>
<td>In general, I like learning English through WebQuests.</td>
<td>2.83</td>
<td>.46</td>
</tr>
<tr>
<td>I wrote some new words in my vocabulary notebook while I was using WebQuest.</td>
<td>2.73</td>
<td>.52</td>
</tr>
<tr>
<td>I have learned nothing through this WebQuest.</td>
<td>2.73</td>
<td>.58</td>
</tr>
<tr>
<td>Through this web-based lessons my vocabulary has increased.</td>
<td>2.73</td>
<td>.58</td>
</tr>
<tr>
<td>Learning with WebQuest was interesting.</td>
<td>2.63</td>
<td>.61</td>
</tr>
<tr>
<td>My group members were helpful.</td>
<td>2.60</td>
<td>.72</td>
</tr>
<tr>
<td>The WebQuest strategy has motivated me to read more than before.</td>
<td>2.65</td>
<td>.67</td>
</tr>
<tr>
<td>Learning with web quest is better than learning through textbooks.</td>
<td>2.46</td>
<td>.77</td>
</tr>
<tr>
<td><strong>Learning with WebQuest took me long time to understand it.</strong></td>
<td>2.43</td>
<td>.67</td>
</tr>
<tr>
<td>I prefer that students choose the topics for the projects rather than being chosen by the teacher.</td>
<td>2.33</td>
<td>.71</td>
</tr>
<tr>
<td>My family helped me in my WebQuest project.</td>
<td>2.26</td>
<td>.91</td>
</tr>
<tr>
<td>Grand Mean</td>
<td>2.60</td>
<td></td>
</tr>
</tbody>
</table>

*Total mean score=3

**Negative statement Reverse-coded

The total mean value of the attitudinal statements score was 2.60, which is considered a high value. It indicated that students held highly positive attitudes towards using WebQuest. Table 4 shows that the highest mean score was recorded for the statement, “the links in the WebQuests were useful”. That means the students were interested in going through the authentic materials such as reading texts and watching videos. According to A’tethehli (2015), Velasco (2012) and Al-Belushi (2012), pictures, sounds and animations had a great effect on students learning of foreign languages. In addition to that authentic reading passages challenges students mental ability when encountering some new words that make them search for the meaning directly from the Internet. This process makes their learning meaningful and thrilling, “meaningful input creates meaningful learning” (Krashen, 1982). The second highest statement was, “In general I like learning English through WebQuests”. This result aligned with similar findings many of many studies that investigated students’ perception towards using WebQuest in learning English. Tuan (2011) found that students held positive attitudes towards using WebQuests, “WebQuest appeared as a suitable integrated way to immerse students in a real profession in which to carry out a whole project involving technology” (p. 671) similarly the findings of (Orozco) 2011 showed that there was a positive impact of the WebQuest strategy on the writing and oral skills in English. He added that WebQuest was an interesting and motivating strategy and it triggered students’ collaborative work.
The lowest means were scored for the two negative statements. The lowest one for the statement that says, “I have learned nothing through these WebQuests”. It emphasised that WebQuests have played a significant role in enhancing students’ vocabulary acquisition. The second lowest statement was, “Learning with WebQuest took me along time to understand it. This might indicate that students have found WebQuest an accessible strategy with clear details in each included section.

Conclusion
This study aimed to investigate the impact of using WebQuests to enhance vocabulary achievement level of 8th graders Omani students. Also, it aimed to investigate students’ perceptions towards using WebQuests in learning English. The findings of the study revealed that WebQuests plays a significant role in enhancing students’ vocabulary achievement level and helping them enjoy learning English by relating it to their daily life. According to the analysis of the results of the vocabulary achievement test, the experimental group outperformed the control group as there was a statistically significant difference between the two groups in the vocabulary post-test scores. That result could be attributed to the implementation of WebQuest learning strategy as it made students’ learning meaningful and vivid. According to the results of the students’ attitude questionnaire, Omani students held highly positive attitudes towards using WebQuests in learning English specially vocabulary. Therefore, it's recommended that WebQuests is integrated in the Omani English language teaching textbooks.

References


