Integrating WebQuests into ESL Classrooms to Reinforce Students' Vocabulary and Reading Comprehension

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ABSTRACT

This study examines the impact of WebQuests on the vocabulary and reading skills of ESL students in Saudi Arabia's technical colleges. The primary objectives of the study are to determine whether WebQuests can improve the vocabulary and reading skills of ESL learners and to explore their perceptions regarding the use and impact of WebQuests on their academic performances. An experimental method was used to explore WebQuests' impact by exposing the experimental group to 3 WebQuests over 3 weeks. The participants included 78 students from the Technical College of Girls in Buraydah (39 in each group). The experimental group received the traditional teaching method along with WebQuests as an additional tool, while the control group only received the traditional teaching method. A post-test was conducted to compare the performance of both groups and determine if there were significant differences resulting from the treatment. After the treatment, the data, elicited using a questionnaire completed by the experimental group, was analyzed to reveal their perceptions regarding WebQuests' implantations. The results of the experiment underscore that no significant differences were observed between the experimental group and the control group concerning their post-tests. This demonstrates that WebQuests have a limited influence on students' vocabulary and reading skills. On the other hand, the questionnaire indicated that learners expressed a favorable opinion towards WebQuests, considering them easy and effective for improving vocabulary and reading skills.

Key words: WebQuests, ESL Classrooms, Vocabulary, Reading Comprehension

INTRODUCTION

Technology has revolutionized the way we teach and learn, making education more accessible, engaging, and effective. It enables educators to develop innovative and engaging learning experiences for students, offering the potential to personalize learning and allowing students to learn at their own pace and in their own style. Furthermore, technology equips teachers with data-driven insights into student progress and performance.

However, educators must stay current on the latest tools and trends and critically evaluate the impact of technology on learning and achievement. Similarly, researchers should continuously seek new outcomes, thoughts, and results. Among these technological trends is WebQuest, a pedagogical tool that empowers students to explore and gather information about a topic using Web-based resources (Alshumaimeri & Bamanger, 2013).

WebQuest was developed in the late 1990s by Bernie Dodge (Kurt, 2021). It is a technology-enhanced instructional strategy that utilizes the Internet and other digital resources to engage students in active, inquiry-based learning.

WebQuest aims to provide learners with a structured and guided online learning experience that promotes learners' achievements, critical thinking skills, problem-solving skills, and collaboration (Ahmed, 2016).

WebQuests involve students in tackling real-world problems or tasks that require the use of the internet for research, analysis, and synthesis of information, culminating in creating a final product or solution. These engaging activities not only foster the development of digital literacy and 21st-century skills but also deepen students' understanding of the subject matter (Megala & Madhumathi, 2016). In this way, WebQuests offer a powerful and engaging impact on teaching and learning across various subjects, grade levels, and skills.

WebQuests provide students with authentic context to engage with the language, making them a highly effective tool for ESL and EFL learners. Through WebQuests, students read and listen to different materials and then compose their own, allowing them to explore and practice the target language meaningfully (Almasri et al., 2011). WebQuests' activities can be adapted to suit various proficiency levels and can be used to teach a range of language skills, including reading, writing, listening, and speaking.

The emergence of online learning has sparked a renewed interest in WebQuests as an authentic, scaffolded, and inquiry-based activity (Kurt, 2021). The value of online learning has drawn the researcher's attention to investigating the effects of implementing WebQuests in ESL classrooms on students' achievements. This study aims to narrow the investigation of WebQuests' impact on students' vocabulary acquisition and reading comprehension.

Reading comprehension is a crucial component of reading skills, encompassing the ability to recognize written texts and comprehend their content. Hashemi (2021) has defined it as the process of understanding and creating meaning through interaction with written language. Sowell (2018) emphasized that reading comprehension is a process by which meaning is constructed through the interaction between the reader's existing knowledge, the content of the text, and the act of reading itself.

However, learning vocabulary plays a vital role in reading comprehension. It is an essential skill in any language learning. It is closely linked to speaking, writing, and listening skills. "They are separate yet bound together with an inseparable bond" (Sadiku, 2015, p. 29). Binhomran and Altalhab (2021) ensured that "… Although reading is one of the four basic skills that language learners need to master, it is nearly impossible to acquire those skills without a satisfactory amount of vocabulary".

Along with vocabulary knowledge, which is consistently acknowledged as a critical factor in reading comprehension models, Qasem et al. (2023) have asserted that broadening the knowledge of words provides boundless opportunities to access information, especially regarding a second or foreign language. A strong vocabulary is essential for comprehending language. Using similar cognitive processes in language and text comprehension further emphasizes the fundamental role of vocabulary in understanding written material (Joshi, 2005; Nation, 2005, as cited in Clemens et al., 2016).

English is taught as a second language in schools across Saudi Arabia, starting from the primary level and continuing through secondary and tertiary education. The curriculum includes English language courses that focus on developing students' reading, writing, listening, and speaking skills. However, many statistics demonstrate the low proficiency levels among Saudi students in ESL classrooms, especially in vocabulary and reading skills. Therefore, many researchers have prioritized investigating the challenges that hinder English language improvement, with particular attention given to vocabulary acquisition and reading comprehension.

Such obstacles can arise due to many factors, including ineffective teaching methods, limited resources, inadequate teacher preparation (Al-Qahtani, 2016), and a lack of materials and tools. The paper by Al-Qahtani (2016) revealed that most Saudi EFL students lack the essential reading habits in both L1 and L2. Saudi university learners encounter limited vocabulary, insufficient exposure to extensive reading, and other problems (Nezami, 2012, as cited in Al-Qahtani, 2016).

According to the IELTS website (2022), statistics indicate that Saudi candidates got the lowest mean score in reading skills on the general test, with a score of 4.3. In the academic test, their score of 5.5 is considered low compared to the lowest mean score of 5.0 achieved by Omani candidates and the highest mean of 7.5 attained by Italian candidates. These statistics provide evidence of the reading challenges faced by Saudi learners in ESL classrooms. It is worth acknowledging that such a report might not be consistently applicable. Therefore, the researchers preferred to attach these data within the appendices beside the references.

These results ensure the need to enrich the learners' vocabulary and reading skills by implementing more effective approaches, teaching methods, materials, and tools. WebQuest, a tool that guides students in finding information through unlimited web-based resources, could offer extensive exposure to the language in its authentic context, thereby enhancing the students' levels and performances.

Research Objectives and Research Questions

1. To compare the effectiveness of WebQuests to the traditional teaching methods in ESL classrooms.
2. To investigate the students' perceptions toward implementing WebQuests into ESL classrooms and its impact on their vocabulary and reading comprehension skills.

This study aims to examine the impact of WebQuests on the vocabulary and reading comprehension skills of Saudi technical ESL students. Moreover, it seeks to investigate the students' perceptions of WebQuest's effectiveness. Therefore, this study seeks to answer the following questions:

1. Is there a significant difference between students' vocabulary and reading skills achievements when using WebQuests and traditional methods?
2. Does the experimental group consider WebQuest as an effective tool in ESL classrooms?

LITERATURE REVIEW

WebQuests Overview

WebQuests are based on constructivist learning theory, which asserts that individuals construct their understanding and knowledge of the world through experiential learning and subsequent reflection (Renau & Pesudo, 2016). When engaging with WebQuests tasks, students draw upon their prior knowledge, thereby enhancing their motivation and authenticity, critical thinking abilities, and autonomy in the learning process.

WebQuest is a valuable tool for project-based learning, facilitating a student-centered teaching methodology. Through WebQuests, students investigate real-world obstacles and challenges to acquire new experiences, skills, higher comprehension, and a great understanding of the subject matter (Saada et al., 2021). Additionally, WebQuests foster the development of communication, research, and presentation skills.

However, studies examining the impact of WebQuest on teaching and learning have yielded mixed findings. While this tool has demonstrated a positive impact on collaborative working skills and learner attitudes, its direct impact on increasing student achievement is limited compared to other instructional activities (Abbitt & Ophus, 2008).

WebQuests in ESL Context

The internet is an incredibly useful resource for language development as it provides a wide range of authentic materials that are easily accessible (Tuan, 2011). Thus, WebQuests, which exposes learners to online recourses, have gained widespread recognition among English teachers as an effective medium for both teaching and learning. In addition, WebQuest resources facilitate collaboration among teachers, enabling them to collaborate and exchange ideas related to the school curriculum (Amini et al., 2020)

According to Irzawati (2021), many studies show that implementing WebQuests improves students' proficiency in all four language skills: listening, reading, speaking, and writing. Other studies reveal that using WebQuest in English learning reinforces other skills, competence, and aspects such as critical thinking, communication, motivation, autonomous learning, grammar mastery, and vocabulary mastery.

Renau and Pesudo (2016) analyzed the students' opinions and reactions towards using a computer-based approach, specifically WebQuest, in an English as a Second Language class. Their study encompassed different English-speaking countries and their particularities. The results indicated that integrating new technologies motivated students to engage with the English language, improving their digital and cultural competence.

The Impact of WebQuests on Reading Skills

WebQuest effectively enhances students' reading comprehension (Fitrianto et al., 2016). In an experimental study conducted by Al-Shamisi (2016), a statistically significant improvement in reading scores was observed in the experimental group. Moreover, the study reported positive attitudes towards WebQuests besides enhanced collaboration, reading, and higher-order thinking skills.

Similar results were reported by Kocoglua (2010) in an experimental study that investigated the impact of WebQuests on reading and writing skills through experimental study. The findings indicated that the experimental group outperformed the control group in reading tests, while both groups scored equally on writing tests.

Sayed (2020) conducted a study to measure the effect of using the WebQuest strategy on the development of reading comprehension performance in EFL students. The study participants were asked to respond to a reading comprehension test using the WebQuest strategy. The results showed that 45.5% of the study participants were unable to pass the reading comprehension test, while 54.5% were able to pass it.

The Impact of WebQuests on Vocabulary Acquisition

"WebQuest is a web-based electronic medium that can be implemented in teaching vocabulary" (Kuncahyo et al., 2022). The researchers have indicated that learners can acquire vocabulary effectively with WebQuest. The results revealed that the experimental group outperformed the control group regarding vocabulary achievement and retention.

Qoura et al. (2022) have indicated that the experimental group outperformed the control group in vocabulary achievement and retention. Based on these findings, it is recommended to implement WebQuests in EFL classrooms to promote students' vocabulary acquisition.

Tsai (2006, as cited in Aydin, 2016), investigated the effects of implementing a WebQuest model in an EFL program. The study measured vocabulary acquisition and performance in story reading and found no significant differences between groups regarding thematic reading comprehension. It also revealed that the use of WebQuests offered a slight advantage compared to traditional instructional methods.

MATERIALS AND METHODS

Research Approach

This study employed a quantitative experimental research design to address its main objectives. It aimed to examine the impact of WebQuests in ESL classrooms, along with participants' perspectives on its effects on vocabulary and reading comprehension skills. The design included a matching pretest to evaluate initial abilities, a post-test to measure abilities post-treatment, and a questionnaire to gather data from participants.

Population and Sample

The study was conducted at the Technical College for Girls in Buraydah, involving 78 female Saudi students in their 3rd semester of an IT major. All participants, sharing a similar cultural background and having Arabic as their first language, were enrolled in a blended learning system for English education. The sample was evenly divided into two classrooms, with 39 students each.

Questionnaire

The questionnaire examined the experimental group's perspectives on the effectiveness of WebQuest in improving reading skills and vocabulary acquisition in ESL classrooms. It comprised 24 items divided into four parts: Part 1 evaluated the five components of WebQuest (Introduction, Tasks, Resources, Evaluation, Conclusion) with 14 items (Adanan et al., 2020). Part 2 assessed the perceived usefulness of WebQuest with four items (Alfadda & Mahdi, 2021). Part 3 focused on the ease of use, featuring three items (Alfadda & Mahdi, 2021), while Part 4 explored overall learner attitudes, also with three items (Alfadda & Mahdi, 2021). The closed-ended questions utilized a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Initially developed in English, the questionnaire was translated into Arabic and reviewed by an expert to ensure accuracy.

The questionnaire's validity and reliability were thoroughly assessed. For external validity, experts reviewed the questionnaire's content, clarity, and suitability, recommending modifications to align with the study's objectives, which were implemented to ensure clarity. Internal validity was tested using correlation coefficients between each statement and the overall field, all of which were significant at the 0.01 level, confirming the questionnaire's consistency and validity. Reliability was measured using Cronbach's alpha, yielding a value of 0.945 for the entire questionnaire and above

0.8 for each section, indicating strong internal consistency, as all values exceeded the 0.7 threshold as shown in Table 1 (Hair et al., 2010).

The Experiment

The experiment involved a pretest and post-test to ensure the equivalence of the experimental and control groups. The test consisted of 20 questions divided into four sections: skimming and scanning skills, vocabulary (synonyms), vocabulary (definitions), and prediction/making connections, with five questions in each section. Correct answers were scored as one, and incorrect answers as zero, resulting in scores ranging from 0 to 20. English language specialists reviewed the test for validity, while internal consistency and reliability were confirmed using the Kuder-Richardson method, which is appropriate for dichotomous items (Tavakol & Dennick, 2011). The test's reliability, indicated by a KR-20 value of 0.73, exceeded the commonly accepted threshold of 0.7, confirming its reliability. Moreover, Table 2 presents a t-test comparing the mean scores of both groups in the pretest to assess their homogeneity. The p-values >.05, indicating no statistically significant differences between the groups in any section or overall score, confirming that the control and experimental groups were equivalent and homogeneous.

The experiment was conducted during weeks 4, 5, and 6, using WebQuests aligned with the units taught in those weeks. Designed through "BookWidgets" and developed using the AI tool "Poe," WebQuests focused on tasks that enhance reading and vocabulary skills. Communication with participants occurred via a Telegram group, where the researchers explained the experiment's steps:

- Conduct an online pretest to ensure group equivalence.
- Randomly assign one section as the experimental group and the other as the control group.
- Provide the experimental group with three WebQuest links over the weeks.
- Administer a post-test to both groups to assess outcomes.

Two online meetings were held with the experimental group to clarify WebQuest details, which emphasized exploration, information gathering, and cognitive skill development. The WebQuests encouraged creative thinking and included linguistic support, as described by Renau and Pesudo (2016). Each WebQuest had five sections:

- Introduction: Engages students by presenting the topic, goals, and expectations clearly (Bobkina & Dalmau, 2012). Figure 1
- Tasks: Outlines expected outcomes, requiring students to process and transform information to complete them (Papadaki et al., 2023). Figure 2
- Resources: Provides links and materials for task completion, integrated with the tasks to maintain focus (Bobkina & Dalmau, 2012).
- Evaluation: Uses rubrics for assessing student work (Irzawati, 2021). Figure 3
- Conclusion: Summarizes achievements and encourages reflection (Adanan et al., 2020). (Figure 4)

The WebQuests included texts, videos, audio, and images, allowing students to independently access information and produce creative outcomes.

Table 1. The results of Cronbach's Coefficient Alpha for the questionnaire

Statement	No. of items	Alpha Value
1. WebQuest's subparts	14	0.917
2. Perceived usefulness	4	0.896
3. Perceived ease of use	3	0.826
4. Attitude	3	0.871
Total	24	0.945

Statistical Methods

Data analysis was performed using SPSS version 28 and Microsoft Excel 2017. These tools calculated the item difficulty index, discrimination coefficient, and internal consistency reliability of the tests. Additionally, means and standard deviations were determined for the questionnaire items. Inferential statistics, specifically t-tests, were employed to identify any statistically significant differences between the experimental and control groups, as well as between the experimental group's pretest and post-test results.

Table 2. t-test results of differences in pretest scores for the control and experimental groups regarding the average pretest score

	Group	M	SD	t	p
1. Degree of Skimming and Scanning Skills	Control (n=39)	3.85	1.20	1.097	0.276
	Experimental (n=39)	3.51	1.47		
2. Degree of Vocabulary (Synonyms)	Control (n=39)	4.00	0.97	1.372	0.174
	Experimental (n=39)	3.56	1.73		
3. Degree of Vocabulary (definitions)	Control (n=39)	3.77	1.40	-0.801	0.426
	Experimental (n=39)	4.03	1.42		
4. Degree of Prediction and Making Connections	Control (n=39)	3.85	1.27	0.466	0.642
	Experimental (n=39)	3.69	1.62		
5. Total pretest degree	Control (n=39)	15.46	3.37	0.683	0.497
	Experimental (n=39)	14.79	5.08		

*p-value <.05, **p value <.01

Figure 1. Introduction
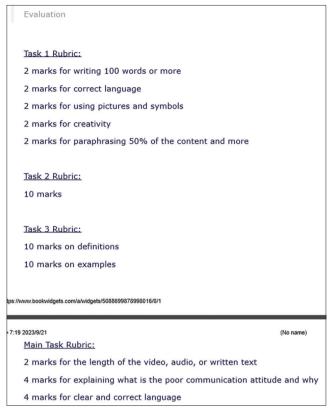

Figure 2. Tasks

Figure 3. Evaluation

Figure 4. Conclusion

RESULTS

Is there a Significant Difference Between Students' Achievements in Vocabulary and Reading Skills Using WebQuests and Traditional Methods?

After the conclusion of the experiment, both the control and experimental groups underwent the post-test under similar conditions to those of the pretest. This was done to assess the performance of the female students in both groups.

Based on Table 3, it is evident that all the p-values>.05 indicate the absence of statistically significant differences between the control and experimental groups in each section of the post-test or total degree. This indicates that the experiment had no clear effect on the experimental group compared to the control group.

Table 3. t-test results of differences in post-test scores for the control and experimental groups regarding the average pretest score

	Group	*M*	*SD*	*t*	*p*
6. Degree of Skimming and Scanning Skills	Control (n=39)	3.38	1.18	-0.914	0.364
	Experimental (n=39)	3.62	1.04		
7. Degree of Vocabulary (Synonyms)	Control (n=39)	3.73	1.56	-0.275	0.784
	Experimental (n=39)	3.75	1.34		
8. Degree of Vocabulary (definitions)	Control (n=39)	4.23	1.20	0.668	0.506
	Experimental (n=39)	4.03	1.50		
9. Degree of Prediction and Making Connections	Control (n=39)	3.18	1.07	0.873	0.386
	Experimental (n=39)	2.95	1.26		
10. Total post-test degree	Control (n=39)	14.54	3.39	0.235	0.815
	Experimental (n = 39)	14.33	4.28		

* P value <.05, ** P value <.01

Does the Experimental Group Consider WebQuest as an Effective Tool in ESL Classrooms?

Data have been collected through a questionnaire to determine the perceptions of the experimental group toward WebQuest. The purpose was to gather insights and opinions from the experimental group regarding the effectiveness of WebQuest as a teaching tool in ESL settings. The findings revealed positive results, which are outlined below:

WebQuest's sections

Table 4 demonstrates the level of agreement among the experimental group students regarding the features of WebQuest, with a mean (4.03 ± 0.8). This mean falls within the fourth category of the five-point Likert scale, suggesting a moderate degree of agreement. The experimental group expressed agreement with the presence of features in all sections of WebQuest. Specifically, the introduction section ranked first with an average of 4.19 ± 0.59, followed by the evaluation section with an average of 4.13 ± 0.63. The resources section ranked third with an average of 4.11 ± 0.81, while the tasks section ranked fourth with an average of 3.9 ± 0.66. The conclusion section received the lowest average score of 3.86 ± 0.82. However, all sections received arithmetic average scores that indicate overall approval.

Perceived usefulness

Table 5 illustrates the strong agreement among the experimental group students regarding the perceived usefulness of WebQuest, with a mean (4.3 ± 0.7). This mean falls within the fifth category of the five-point Likert scale, indicating a strong degree of agreement. The experimental group expressed agreement that WebQuest is perceived as useful in various aspects. These include facilitating more efficient learning, aiding in the acquisition of English language skills, enhancing reading comprehension abilities, and being advantageous for vocabulary acquisition.

Perceived ease of use

Table 6 illustrates the strong agreement among the experimental group students regarding the perceived ease of use of WebQuest, with a mean (4.22 ± 0.68). This mean falls within the fifth category of the five-point Likert scale, indicating a strong degree of agreement. The experimental group expressed agreement that moving through the WebQuest sections is easy and fast. They also found using WebQuest easy and appreciated the attractive and user-friendly design provided by the "widgets" platform used in the experiment for creating WebQuests.

Attitude

Table 7 showcases a positive attitude among the experimental group students towards WebQuest, with a mean (3.86 ± 0.85). This mean falls within the fourth category of the five-point Likert scale, suggesting a moderate degree of agreement. The experimental group expressed agreement that using WebQuests for learning English as a second language is a favorable idea. They also found learning English through WebQuest to be enjoyable. Additionally, they preferred using WebQuests as a learning tool for English language acquisition.

DISCUSSION

Is there a significant difference between students' achievements in vocabulary and reading skills using WebQuests and traditional methods?

Most studies proved the positive effectiveness of WebQuests in improving vocabulary and reading skills. For instance, Al-Shamisi (2016) reported a statistically significant improvement in reading scores among the experimental group. Similarly, Kocoglua (2010) indicated that the experimental group scored higher on reading tests than the control group. Moreover, Qoura et al. (2022) indicated that the experimental group outperformed the control group in vocabulary achievement and retention.

However, Aydin (2016) pointed out that WebQuests have a limited impact on vocabulary acquisition in EFL classrooms. WebQuest has little impact on students' achievement compared to other instructional activities (Abbitt & Ophus,

Table 4. The mean, SD, and percentages for evaluating students' opinions about WebQuest's sections

Items		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	M	SD	Degree	Rank
1. The introductory section arises students' motivation to learn.	N	10	18	4	0	0	4.19	0.64	Agree	1
	%	31.3	56.3	12.5	0.0	0.0				
2. The introductory section provides initial knowledge about what to learn.	N	10	19	2	1	0	4.19	0.69	Agree	1
	%	31.3	59.4	6.3	3.1	0.0				
Introduction							**4.19**	**0.59**	**Agree**	**1**
1. The tasks are relevant to the curriculum.	N	9	10	9	4	0	3.75	1.02	Agree	4
	%	28.1	31.3	28.1	12.5	0.0				
2. The tasks support the objectives and goals stated in the introductory section.	N	10	18	4	0	0	4.19	0.64	Agree	1
	%	31.3	56.3	12.5	0.0	0.0				
3. The Tasks' difficulty level is in accordance with students' cognitive level.	N	5	16	10	1	0	3.78	0.75	Agree	3
	%	15.6	50.0	31.3	3.1	0.0				
4. The Steps of tasks, which students should do, are clear.	N	9	16	1	6	0	3.88	1.04	Agree	2
	%	28.1	50.0	3.1	18.8	0.0				
Tasks							**3.90**	**0.66**	**Agree**	**4**
1. The resources are relevant to the theme of the lessons.	N	12	13	6	1	0	4.13	0.83	Agree	1
	%	37.5	40.6	18.8	3.1	0.0				
2. Both quantity and quality of resources are sufficient.	N	14	11	4	2	1	4.09	1.06	Agree	2
	%	43.8	34.4	12.5	6.3	3.1				
Resources							**4.11**	**0.81**	**Agree**	**3**
1. Criteria of evaluation are clear.	N	17	11	2	2	0	4.34	0.87	Strongly agree	1
	%	53.1	34.4	6.3	6.3	0.0				
2. The evaluation section covers quantitative and qualitative descriptors.	N	10	14	8	0	0	4.06	0.76	Agree	3
	%	31.3	43.8	25.0	0.0	0.0				
3. The evaluation instrument clearly measures what the student should achieve.	N	12	15	4	1	0	4.19	0.78	Agree	2
	%	37.5	46.9	12.5	3.1	0.0				
4. Evaluation criteria are relevant to the purpose of learning and curriculum.	N	7	16	8	1	0	3.91	0.78	Agree	4
	%	21.9	50.0	25.0	3.1	0.0				
Evaluation							**4.13**	**0.63**	**Agree**	**2**
1. Conclusions remind students of what has been learned.	N	7	14	9	2	0	3.81	0.86	Agree	2
	%	21.9	43.8	28.1	6.3	0.0				
2. Conclusions allow students to reflect.	N	9	14	7	1	1	3.91	0.96	Agree	1
	%	28.1	43.8	21.9	3.1	3.1				
Conclusion							3.86	0.82	Agree	5
WebQuest's sections							4.03	0.80	Agree	

2008). Contextually, the current study reveals no statistically significant differences between the control and experimental groups in each part of the post-test or total degree. This indicates that the experiment had no impact on the experimental group compared to the control group. Therefore, it can be concluded that WebQuests may not contribute to reading and vocabulary improvement.

Does the experimental group consider WebQuest as an effective tool in ESL classrooms?

The experimental group shows a positive attitude toward WebQuests. They expressed positive opinions on various sections of WebQuest, including the introduction, tasks, resources, evaluation, and conclusion. They also held positive perceptions regarding the perceived usefulness and ease of use of WebQuest. Their agreements on the impact of WebQuests included the following:

1. The clarity of the introductory section and its role in motivating students and providing initial knowledge about what they will learn.

Table 5. The mean, SD, and percentages for evaluating students' opinions about Perceived usefulness

Items		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD	Degree	Rank
1. WebQuest helps me to learn more efficiently.	N	12	14	3	3	0	4.09	0.93	Agree	4
	%	37.5	43.8	9.4	9.4	0.0				
2. Using WebQuest to learn English is helpful.	N	16	13	2	1	0	4.38	0.75	Strongly agree	1
	%	50.0	40.6	6.3	3.1	0.0				
3. WebQuest improves my reading comprehension skills.	N	15	14	2	1	0	4.34	0.75	Strongly agree	3
	%	46.9	43.8	6.3	3.1	0.0				
4. WebQuest is advantageous for acquiring vocabulary.	N	17	11	3	1	0	4.38	0.79	Strongly agree	1
	%	53.1	34.4	9.4	3.1	0.0				
Perceived usefulness							4.30	0.70	Strongly agree	

Table 6. The mean, SD, and percentages for evaluating students' opinions about Perceived ease of use

Items		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD	Degree	Rank
1. Using WebQuest is easy for me	N	14	11	7	0	0	4.22	0.79	Strongly agree	2
	%	43.8	34.4	21.9	0.0	0.0				
2. Moving through the sections of WebQuest is easy and fast.	N	16	13	1	1	1	4.31	0.93	Strongly agree	1
	%	50.0	40.6	3.1	3.1	3.1				
3. "BookWidgets" platform that is used in this experiment provides attractive and easy design for WebQuests.	N	13	10	9	0	0	4.13	0.83	Agree	3
	%	40.6	31.3	28.1	0.0	0.0				
Perceived ease of use							4.22	0.68	Strongly agree	

Table 7. The mean, SD, and percentages for evaluating students' opinions about their Attitude

Items		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD	Degree	Rank
1. Learning English through WebQuest is fun.	N	11	12	5	3	1	3.91	1.09	Agree	2
	%	34.4	37.5	15.6	9.4	3.1				
2. Using WebQuests for learning English as a second language is a good idea.	N	12	10	8	2	0	4.00	0.95	Agree	1
	%	37.5	31.3	25.0	6.3	0.0				
3. I like using WebQuest for learning English.	N	7	12	11	0	2	3.69	1.03	Agree	3
	%	21.9	37.5	34.4	0.0	6.3				
Attitude							3.86	0.85	Agree	

2. The tasks are relevant to the curriculum, easy to accomplish, aligned with the objectives stated in the introductory section, and appropriately challenging based on students' cognitive level.

3. The resources are relevant to the theme of the lessons, with both quantity and quality being sufficient.

4. The evaluation criteria are clear, relevant to the purpose, and measure what the student should achieve, and its sections cover quantitative and qualitative descriptors.

5. The conclusions serve as a reminder of what has been learned and provide an opportunity for reflection.

6. WebQuests are perceived as useful in helping students learn more efficiently.

7. WebQuests have a positive and advantageous impact in improving vocabulary and reading comprehension.

8. WebQuests are easy to use, allowing for smooth navigation through sections. The "BookWidgets" platform used in this experiment is also praised for its clarity and simplicity.

In general, the experimental group agreed that learning English through WebQuest is enjoyable, and using WebQuests for learning English as a second language is a good idea. They liked using WebQuest in English language learning. However, the questionnaire presents positive data on WebQuests' usage and impact on vocabulary and reading skills. Unlikely, the post-test indicated opposite results as the experimental group scored nearly similar results to the control group, suggesting that implementing WebQuest has no significant impact on vocabulary and reading skills.

CONCLUSION

Globally, there has been a growing focus on self-learning, life-long education, and technology in the field of education. In the Saudi Arabian context, "The Human Capability Development Program", a key initiative of Vision 2030, aims to empower citizens, enhances their long-life learning, and harnesses technology in their education (Human Capability Development Program, n.d.). In light of these initiatives, it is worth contributing to these efforts by investigating WebQuest's impact on ESL classrooms in Saudi Arabian contexts.

Many studies that explore the effects of WebQuests on ESL classrooms were reviewed. However, limited studies were found about the Saudi context, especially in the technical and vocational colleges of Saudi Arabia. Besides, while most studies have relied solely on the experimental method, this study incorporated a questionnaire besides the experimental method to reinforce the results. The experimental component aimed to assess the effectiveness of implementing WebQuest, while the questionnaire provided valuable insights into the participants' perceptions and experiences toward WebQuests.

However, the primary objective of this study was to explore the influence of WebQuests on vocabulary and reading skills in ESL classrooms of technical colleges in Saudi Arabia. The study aimed to assess the potential of WebQuests on the learners' performances. Also, it was crucial to examine the learners' perceptions toward implementing WebQuests in ESL classrooms. This research is of great significance as it provides deep insights into WebQuests' role in improving vocabulary and reading skills.

Some limitations of the study need to be acknowledged. Firstly, the experiment was implemented and monitored online due to the geographical distance between the researchers and the sample. Despite the support of the sample's official teacher in handling some responsibilities, some tasks, like doing the tasks of the WebQuests and conducting the pretest and post-test online, were done independently and remotely. This might lead to inaccurate test results or limitations of WebQuest's implementation.

Secondly, the study was conducted within one technical college out of hundreds of colleges spread all over Saudi Arabia. As a result, the generalizability of the findings to other technical students and ESL contexts may be limited. Other colleges and educational settings may have unique characteristics and factors that can influence WebQuest's implementation and impact on vocabulary and reading skills, thereby constraining the transferability of the study's conclusions to broader contexts.

Thirdly, the experiment lasted 3 weeks, which might be too short to show accurate results. The sample undergoes (three semesters) system, which results in implementing WebQuests for only three weeks. However, results might differ if it lasts longer than this duration.

Based on the findings and insights gained from the study, several recommendations can be made to address the challenges and limitations associated with implementing WebQuest into ESL classrooms to improve vocabulary and reading skills:

1. For teachers, it is crucial to design WebQuests effectively and rely on academic resources. While artificial intelligence websites may provide great materials, ensuring their applicability to your course content, students' levels, and backgrounds are essential. If AI was used in designing WebQuests, it is advisable to have them reviewed by professionals. Also, showcasing exemplary student work and results to the whole class or even other classes and teachers can serve as encouragement.
2. For researchers, it is recommended to monitor the treatment personally and avoid relying solely on online methods, particularly for pretest and post-test. Also, it is crucial to ensure that students do the tasks as required and find a way to observe them directly. By having confidence in the sample's progress, the experiment can yield accurate and valid results. Moreover, extending future research to other contexts and settings is important to generalize the results of implementing WebQuests.

In this study, WebQuests' implantation lasted for 3 weeks, which is considerably insufficient to make a positive impact. Therefore, WebQuests' implementation would be fruitful and effective if it lasted for a more extended period. Therefore, it is recommended for teachers and researchers to consider implementing WebQuests for a longer duration to gain better outcomes and results.

This study shed light on the perceived impact of WebQuests on vocabulary and reading skills in ESL classrooms of technical colleges in Saudi Arabia. The experimental method was used to explore the difference between traditional teaching methods with and without implementing WebQuests. Additionally, a questionnaire was administered to the experimental group to gauge their perceptions and opinions toward WebQuests implementation.

The results showed a limited impact of WebQuests on promoting vocabulary and reading skills. The experiment reveals no significant improvement in the experimental group's performance compared to the control group. Interestingly, the post-test results for both groups showed similarities. However, the questionnaire given to the experimental group to explore their attitudes and perceptions toward WebQuests indicated different results. The data collected through the questionnaire showed the positive impact of WebQuests on vocabulary and reading skills.

However, the study also uncovered some limitations and challenges associated with implementing WebQuests into ESL classrooms to improve vocabulary and reading skills. These limitations included the delivery of WebQuests, pretests, and post-tests online, which may have resulted in potential inaccuracies in the obtained results. It also included

the limited setting of the study, which may restrict the generalizability of the results to other contexts. These limitations highlight the need to address these issues to harness the potential of WebQuests in vocabulary and reading skills improvements.

In conclusion, the recommendations of this study are noteworthy. Both teachers and researchers should consider these recommendations to overcome the aforementioned challenges. Designing WebQuests based on academic resources, monitoring students directly, and extending the study setting are significant recommendations that can help mitigate the mentioned limitations. Lastly, further research is needed as this remains a field that warrants in-depth exploration and investigation.

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