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WEBQUESTS TO PROMOTE ORAL COMPREHENSION AND REDUCE ANXIETY IN FLIPPED LEARNING AND IN TRADITIONAL ENGLISH CLASSES: A MIXED METHOD STUDY[1]

WEBQUESTS PARA MEJORAR LA COMPRENSIÓN ORAL Y REDUCIR LA ANSIEDAD EN LA CLASE INVERTIDA Y EN LA CLASE TRADICIONAL DE INGLÉS: UN ESTUDIO MIXTO

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ABSTRACT

Online education has become a necessity and blended approaches have gained momentum since the COVID-19 pandemic. Nowadays, the use of online resources combined with traditional strategies is being widely adopted in education. The new scenario is outpacing theoretical frameworks and research results, and empirical data is needed to assess the effectiveness of new teaching modalities to promote learners' achievement. In the field of language teaching, there is a paucity of studies offering empirical data on the use of combined educational strategies. The current paper aims to investigate the effect of WebQuests in two settings –Traditional (face-to-face) classes and flipped learning classes– on improving English listening skills and decreasing L2 listening anxiety. The study adopts a quasi-experimental design, with 96 participants of preparatory education learning English as a Foreign Language (EFL) in Egypt. Three groups were selected randomly: The first experimental group used WebQuests in flipped learning; the second experimental group studied with WebQuests in a traditional (face-to-face) setting; and the

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control group studied through regular teaching with no WebQuests. A pre-test was used to assess students' L2 listening competence in the three groups. After the intervention, a post-test was given to the three groups to explore the improvement in their listening skills. Additionally, a pre-and-post foreign language listening anxiety questionnaire was used to check the effect of WebQuests on decreasing listening anxiety in the English classroom. The results showed that WebQuests are efficient strategies in teaching English, but the results are more significant in flipped learning.

Keywords: WebQuests, flipped classroom, blended learning, English as a Foreign Language (EFL), listening skills.

RESUMEN

Las modalidades de enseñanza virtuales y mixtas han ganado peso desde la pandemia del COVID-19. En la actualidad, los recursos en línea combinados con las estrategias pedagógicas tradicionales son un enfoque ampliamente adoptado en educación. No disponíamos de modelos teóricos ni resultados de investigación que nos preparasen para lo sucedido en la pandemia, y son necesarios datos empíricos que corroboren la efectividad de determinadas estrategias y modelos pedagógicos en la enseñanza no presencial. En concreto, en el campo de la enseñanza de lenguas hay una escasez de estudios que ofrezcan evidencias empíricas sobre el uso de estrategias combinadas para mejorar el aprendizaje del alumnado. El presente artículo tiene como objetivo investigar la efectividad de las WebQuests en las clases tradicionales y en clases invertidas de inglés. Ambos modelos serán examinados en relación a la mejora de las habilidades de comprensión oral en inglés y la reducción de la ansiedad por parte de estudiantes de educación secundaria en Egipto. La investigación adopta un diseño cuasi-experimental, con 96 participantes distribuidos en tres grupos seleccionados aleatoriamente: el primer grupo (experimental) estudió mediante aprendizaje invertido; el segundo grupo utilizó la WebQuests en clases tradicionales, y el tercer grupo siguió un aprendizaje tradicional (sin WebQuests). Se utilizó un pre-test para evaluar la comprensión oral en inglés de los tres grupos. Tras la intervención, se realizó un post-test para valorar la evolución del alumnado. Adicionalmente, se utilizó un cuestionario de ansiedad para medir la efectividad del uso de las WebQuests en el aula de inglés. Los resultados subrayan la efectividad de las WebQuests como recurso didáctico, pero se confirma que los resultados son más evidentes en el caso del aprendizaje invertido.

Palabras clave: WebQuests, aprendizaje invertido, aprendizaje semipresencial, inglés como lengua extranjera, competencia oral.

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1. INTRODUCTION

This paper is intended to contribute to current research on the use of Information and Communication Technologies (ICTs) and online teaching in language learning. In particular, the article will provide a comparison between the impact of Flipped-based WebQuests (FWQ) and traditional WebQuests (TWQ) in improving English listening skills and decreasing L2 listening anxiety. By analyzing the effectiveness of both approaches, our study will contribute to the current body of research on blended modalities in foreign language teaching.

In light of the relevance of using digital tools after the effect of COVID-19 on education, blended learning (BL) –i.e., combining traditional learning with online-based learning– has been naturally embraced by educational institutions as a useful tool both in and outside the classroom and has become a prominent approach in teaching foreign languages (Polakova & Klimova, 2022). The unique combination of online strategies and conventional offline teaching methods provides learners with the opportunity to benefit from flexible learning opportunities along with the interaction of in-class experience (Hrastinski, 2019). Online learning delivers individualized, self-paced learning with interactive media, including games, videos, tutorials, quizzes and social media components that are accessible from the learner's home page in the Learning Management System (LMS) and accessible from learners' smartphones, tablets or computers (Moorhouse & Wong, 2022; Rigo & Mikus, 2021).

Flipped learning (FL) is an effective strategy which is being widely used in BL-based classrooms. This educational approach has mushroomed as a form of BL (Kang & Kim, 2021). The idea behind FL is to create a reversed learning environment where students independently study the topic before applying and consolidating what they have learned (Tran et al., 2022). In comparison to the conventional classroom setting and method, FL offers students a newer and more flexible way to interact and engage in the learning process (Qutob, 2022).

One of the most promising tools in web-based learning are WebQuests (WQs), which are organized teaching strategies supported by web resources (Dodge, 1995). WQs are a powerful example of constructivism and scaffolded learning since they offer meaningful and authentic material for learners through the resources provided by the Internet. WQs help students navigate the Internet in a well-structured way, enhancing their understanding by using their previous knowledge to search for, read and synthesize information from different resources in the L2 to assess problems and find an appropriate response to the required task. Students do not receive information from the instructor directly, but they construct it based on their previous experiences. Therefore, learners have an active role in the learning process, as opposed to traditional instruction (Adanan et al., 2020; Elgeddawy, 2018).

Quite recently, research has brought to the fore the benefits of combining FL and WQs in diverse contexts and using different approaches (Güvenç, 2018; Samiei & Ebadi, 2021). These studies showed significant results in improving English writing, English academic performance and learners' inferential reading comprehension skills, among others. Thus, in the current study, we analyze a combination of WQs and FL strategies to assess their impact on students' listening comprehension and anxiety.

We feel the current paper may fill a gap in the literature and contribute to enriching educational research by exploring the use of FL and WQs as a mixed method in teaching English as a Foreign Language (EFL). The overall aims of the study are the following: First, the impact of TWQ (traditional WebQuest), as an inquiry-based activity inside the classroom will be assessed. Second, the effectiveness of FWQ (Flipped based WebQuest) as a mixed method of instruction will be evaluated. Third, a comparison of the results of using TWQ and FWQ with the use of traditional instruction will be presented.

2. LITERATURE REVIEW

2.1. Blended learning

BL can be defined as an educational model that combines traditional methods and online education (Sari & Wahyudin, 2019). BL is understood as "a way of meeting the challenges of tailoring learning and development to the needs of individuals by integrating the innovative and technological advances offered by online learning with the interaction and participation offered in the best of traditional learning" (Shantakumari & Sajith, 2015: 323). In our study, BL is used as an instructional approach that combines two environments: Online learning based on digital tools –WQs– with in-person instruction.

BL plays a significant role in providing the educational process with a variety of benefits. Self-paced learning is enhanced, as students can work at their own pace; those who are familiar with the topics work fast, while others who have low levels can rewatch videos to improve and deepen their understanding of the topic, enhancing students' information retention. Autonomous learning can be improved in BL, as students are encouraged to be independent learners, searching for information and constructing knowledge. Also, the availability of material provides students with flexible learning, helping them work anytime, anywhere. Besides developing students' autonomy, coping with global changes by using digital tools as a significant way of learning can be another advantage of BL. Additionally, BL may facilitate the use of different pedagogical approaches, supporting active and collaborative learning, increasing students' motivation, and learning engagement

due to the interactive environment. Moreover, learning activities can be tailored to be suitable for most learning styles, reducing students' stress, and improving their achievement (Bardus et al., 2021; Celestino & Noronha, 2021; Jost et al., 2021; Wang & Zhang, 2022).

Aiming to examine the potential of BL in language teaching, Hussein Al Noursi (2020) investigated the effect of BL on twelfth-grade students' overall English language proficiency. The participants were 63 male twelfth-grade students in one of the private schools in Al Ain, United Arab Emirates. They were divided into an experimental group (n=31) which studied through blended learning and a control group (n=32) which studied traditionally. The research instruments used were the IELTS exam, and supplementary e-learning activities intended to measure students' English proficiency. The experiment lasted for two terms of the academic year 2018-2019. The results indicated that blended learning plays a significant role in the promotion of learners L2 command.

The recent study by Polakova & Klimova (2022) in the Slovakian context investigated the use of mobile learning to improve L2 vocabulary in BL. The study took a mixed design with quantitative and qualitative tools, examining a sample of 36 EFL students divided into an experimental (n=17) and a control group (n=19), The mobile application Angličtina Today was used by participants for 10 weeks. The results revealed that the experimental group, which studied through blended learning, outperformed the control group in vocabulary acquisition in the L2.

It is worth mentioning that the available studies agree on the potential of BL to promote students' L2 proficiency and enhance the learning of an L2.

2.2. WebQuests

This educational approach was developed by Dodge in 1995. WQs are inquiry-based activities where the learners interact with material from the Internet (Dodge, 1995). Vidoni and Maddux (2008) describe WQs as a design activity that provides learners with resources to help them search for information to achieve tasks that challenge their academic and intellectual abilities. In other words, WQs provide a computer-based teaching and learning model in which learners are actively involved in an activity or situation and use the Internet as a resource (Halat, 2008: 109).

March (2004), the co-creator of WQs, elaborates on this definition by explaining that a WQ is a scaffolded learning structure that uses links to important online resources and an authentic task to encourage students' exploration of a central, open-ended question, development of individual expertise and involvement in a final group process that aims to transform newly learned information into a more sophisticated understanding. WQs accomplish this by encouraging students to

recognize deeper thematic connections, facilitating an impact on the real world of learning, and encouraging reflection on their metacognitive processes. BinTaleb (2021: 3) defines WQs as "a contextual unit of study in which most, or all, of the information for the given context that pupils are exploring and evaluating comes from the Internet". Typically, WQs are composed of 6 elements:

1. Introduction: It sets the background and gives basic information on the lesson.
2. Task: It defines what the learners will do and what they are expected to create as a final product.
3. Resources: They provide students the needed resources to accomplish the tasks.
4. Process: It describes the steps that learners should carry out to achieve the required tasks.
5. Evaluation: It provides the students with the criteria for work evaluation.
6. Conclusion: It provides a brief summary of the lesson.

Dodge (1995) classified WQs into two levels: Long-term and short-term WQs. A long-term WQ is a large and complex project that is implemented over a relatively long period. Students read, analyze and reach their conclusions, and then apply their understanding to different assignments. A short-term WQs continues over a shorter period of time and provides a brief amount of information.

2.2.1. WQs and language learning/teaching

WQs are considered an effective language-learning tool in which students learn through web-based instructional activities interactively (Awada et al., 2020; Samiei & Ebadi, 2021). Pupils engage in different types of activities based on digital images and videos, contributing to the learning process since they cooperate, hold discussions, exchange ideas, share information, apply knowledge and give and/or receive feedback. In this sense, recent research suggests that WQs may play a significant role in foreign language teaching, as they provide students with meaningful input, authentic materials, and exposure to the L2, thereby improving their L2 competence (Elgeddawy, 2018).

Awada et al. (2020) conducted a study to investigate the effect of integrating Student Team Achievement Division (STAD) –a structured cooperative learning method– and WQs on developing EFL students' argumentative writing. The study duration was 12 weeks, with 78 students taking part in the experiment: Learners were distributed into an experimental group (n=54) and a control group (n=24). The researchers used a pre-and-post-writing test and questionnaire to collect the data. ANCOVA was used for the analysis of the results. Interestingly, the main finding of the study revealed only students with lower L2 proficiency improved their writing skills in the foreign language.

Following with writing skills, Salem (2022) comes from Internet resources, according to Bernie Dodge, who conceived and named the concept (Dodge, 1997 investigated the impact of using WQs to improve the academic writing and also the soft skills of language learners and reduce their writing anxiety. The sample comprised 54 students divided into three groups: The first group studied through WQs, the second group used free Google search, and the third group studied through offline learning. The instruments were Soft Skills Rating Card developed by the author, and Second Language Writing Anxiety Inventory (Cheng, 2004) this study aims to develop and evaluate a self-report L2 writing anxiety measure that conforms to a three-dimensional conceptualization of anxiety. Sixty-five EFL learners' reports of L2 writing anxiety were drawn upon to generate an initial pool of scale items. A pilot test was conducted on the initial pool of items to help establish a preliminary version of L2 writing anxiety scale for further refinement and evaluation in the formal study. A sample of 421 EFL majors enrolled in seven different colleges in Taiwan participated in the formal study. Exploratory factor analysis was employed to determine the final make-up of the Second Language Writing Anxiety Inventory (SLWAI and the IELTS writing task. SPSS was used to analyze the data. The results showed that WQs are an effective tool for improving writing and soft skills and reducing writing anxiety.

Examining the topic from a different perspectives, Synekop (2020) explored teacher attitudes towards WQs as an instructional method and analyzed the application of WQs in teaching information technology. The participants were 31 students from the department of English for Engineering. The study took a qualitative research design. The main findings revealed the positive attitude of teachers towards WQs. In addition, WQs contribute to developing communicative skills for English learners.

The extant literature on the use of WQ in language learning offers promising results, as most studies underline the benefits of introducing this resource in the language classroom. However, further research may be required, as some studies (Awada et al., 2020) only identify benefits for students with lower L2 proficiency.

2.3. Flipped learning

FL is a BL format approach where learners study online before class and complete more practical work in class (Bergmann & Sams, 2012). The core element is the shift that takes place when pupils are provided with materials remotely via instructional videos or other online accessible learning materials and then use them actively to learn tactics that can later be applied in the classroom (Thai et al., 2020; Voigt et al., 2020).

FL allows students to learn at their own pace and offers a more diverse set

of activities during class time, supporting a variety of active learning strategies, including cooperative learning and peer interaction (Divjak et al., 2022; Senali et al., 2022; Tambunan et al., 2022).

In FL, the teacher's role is that of a guide or a facilitator that promotes student interaction and offers feedback and guidance. By working on collaborative projects, learners will engage in higher-order thinking activities, apply new knowledge and engage in communicative active learning (Lin & Hwang, 2018). Additionally, the flexibility of FL offers students the chance to learn at any time and at their own pace (Li, 2021).

Delving into learners' L2 proficiency, Al-Amri (2022) investigated the effect of FL on female EFL university students' self-perceived linguistic competence. The sample consisted of twelve female EFL students who were all majoring in English at a Saudi university. The results showed that the three primary elements that played a crucial role in enhancing the students' linguistic gains and enriching their language learning were the availability of reliable technological applications, collaborative activities and the teachers' assistance.

Liu et al. (2022)accompanied by developments in educational technology, has attracted researchers' attention to reverse teaching or flipped class. The related literature asserts that this mode of instruction might influence instructors' and students' participation in the class. Objectives: To shed more light on the role of flipped class in affecting language learning strategies and skills, this study applied a sequential explanatory mixed-methods approach to explore the impact of flipped class on English as a foreign language (EFL) conducted a study at a private language school in China, where 46 intermediate EFL students between the ages of 21 and 27 were randomly divided into two groups of 23 students. The two groups were divided into a flipped class, which provided writing metacognitive methods and writing abilities through video clips before class, and a non-flipped class, which provided those same skills conventionally during class. The results revealed that the flipped class did better than the non-flipped class in writing metacognitive methods, according to one-way ANCOVA analyses.

Also in the Chinese context, Li et al. (2022) analyzed the impact of FL on the written communicative competence of learners, focusing on lexis, syntax, coherence, pragmatics and discourse competence. Two groups participated in the experiment. The findings referred to the beneficial impact on the communicative skill development of EFL students.

Finally, Fernández-Carballo (2022) examined the effect of FL on the attitudes of 40 university students concerning the topic of language learning using ICT. Both quantitative and qualitative methods of data collection were employed. The findings underline that pupils prefer flipped learning to conventional teaching methods.

The studies examined in this section indicate that FL can potentially offer significant benefits in L2 acquisition, primarily due to the enhanced flexibility it affords students. The available research consistently demonstrates positive outcomes in various areas, including the improvement of writing skills, development of communicative competence, and increased classroom engagement among students.

2.4. FWQ (Flipped-based WebQuest)

FWQ is a mixture of two learning strategies, namely WQs and FL. This strategy comprises three stages: The first and third stages take place at home, while the second step is deployed in class. The first stage includes the first two components of WQs: The introduction, which provides students with a background on the topic, and the task, which gives information about the required task. Students also contact each other before class to prepare for the required task that will be presented in class. The process and information resources stages provide students with the steps they follow and the required resources.

The second stage is implemented in class and includes the remaining components of WQs. In addition, another stage called "Activities" will provide students with the opportunity to engage in class activities. The Evaluation helps students receive feedback from their teacher and their classmates. The conclusion provides students with a summary of the lesson. The third stage, which includes an assignment component to deepen students' knowledge and understanding, takes place after the class has finished.

FWQ is composed of 3 stages (Figure 1):

First stage (before class): It includes the first three components of WQs:
- Introduction: It provides students with a background on the topic.
- Task: It gives information about the required task. Students also contact each other before class to prepare for the required task that will be presented in class.
- Process and information resources: It provides students with the steps they follow and the required resources.

Second stage (in-class):
- Activities: Provide students with the opportunity to engage in class activities.
- Evaluation: Gives students feedback from their teacher and their classmates.
- Conclusion: Provides students with a summary of the lesson.

Third stage (after class):
- Assignment: Provides students with more understanding.

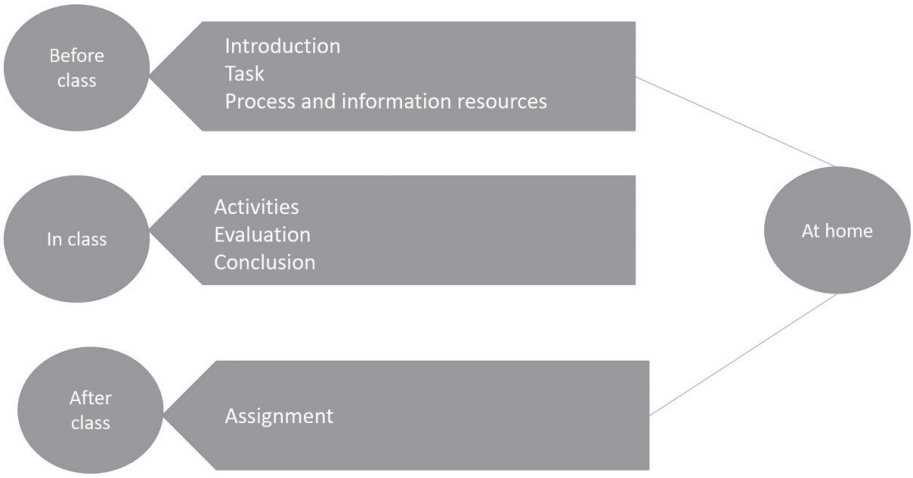

Figure 1. FWQ stages.

2.5. Foreign language listening anxiety (FLLA)

FLLA is defined as a unique complex of self-perceptions, beliefs, feelings and behaviors associated with classroom language acquisition. In addition, the psychological strategy described FLA (foreign listening anxiety) as tension, stress and a lack of confidence in listening (Kim, 2000). According to previous research, FLLA differs from general foreign language anxiety, but it is positively connected (Liu & Yuan, 2021). For second or foreign-language learners, listening can be challenging (Du & Man, 2022) but L2 listening has received much less attention than reading, writing, and speaking in L2 teaching. This study investigated the direct effect of listening self-efficacy and metacognition on L2 listening comprehension and tested the mediating effect of metacognition on the relationship between listening self-efficacy and L2 listening comprehension. Three hundred and thirty Chinese university students of English as a foreign language (EFL). Moreover, FLLA interacts with a variety of factors, including motivation, strategies, language ability and self-efficacy, to influence the outcomes of listening learning (Wang & Cha, 2019; Xu & Huang, 2018) among whom 227 low- and 243 high-proficient students were included in the final analyses of the collected data. The findings were as follows: 1. For instance, students who have a high level of self-efficacy in their listening skills have less anxiety when listening to a foreign language (Zheng & Zhou, 2022). Therefore, employing a proper strategy could support students' listening skills.

3. METHODOLOGY

3.1. Design

The present study followed a quantitative approach. Pre- and post-listening tests and a foreign language anxiety scale were used to gather data about students' L2 listening skills and their foreign language listening anxiety. The current study adopted a quasi-experimental design to answer the following research questions:

1. What is the effect of FWQ and TWQ on students' listening?
2. What is the effect of FWQ and TWQ on students' English language listening anxiety?

3.2. Participants

The sample included 96 students enrolled in a preparatory school in Assiut Governorate, Egypt. They were divided into three groups: The first experimental group (n=32) group studied through FWQ; the second experimental group (n=32) studied through TWQ; and the control group (n=32) group studied entirely through face-to-face teaching.

3.3. Experiment

Students in the three classes had a similar level of English (as evidenced by their English exam scores in tests conducted by the Directorate of Education). The pre-listening test was administered to the three groups: An A2 Cambridge listening exam was used as a pre/post-test because of its appropriateness for the students' age. The evaluation rubric from Cambridge was used as a scoring rubric in the current study. The A2 Cambridge listening band descriptor was used to evaluate the listening skills of the participants.

The foreign language listening anxiety questionnaire (Kim, 2000) was administered before and after the intervention to investigate the impact of the strategies in decreasing listening anxiety. The reliability of the foreign language anxiety scale was .093. The questionnaire contains 33 five-point Likert scale items.

Two Google sites were created for the FWQ and TWQ models, and the two experimental groups were trained in both approaches. The FWQ model had three stages: Before, during and after class. Regarding the first experimental group, students followed the introduction, task and information resources before class time to have a good understanding of the lesson. In the introduction, students learned

about the lesson and read or heard about the chosen topic. In the task, students had the freedom to contact each other before class time and cooperate to find answers and solutions to the required task. During class time, students engaged in class activities, followed by the evaluation and conclusion. In the evaluation rubric, students received feedback from their teachers and classmates. In the conclusion, students received a summary of what they had learned in this lesson. After the class, there was an assignment which students prepared at home individually before presenting their work in the next session.

In the second experimental group, students followed the introduction, steps and information resources before class time to have a background on the lesson. In the introduction, students learned about the lesson. In the task, students were divided into groups to complete the task in the class. Students followed the process, information resources, evaluation and conclusion. They had the lesson links, which provided them with the lesson resources. In the evaluation rubric, students received feedback from their teachers. In the conclusion, they received a summary of what they had learned in this lesson.

In the control group, students learned according to the "traditional" way through printed papers and books. The period of the study was two months. The listening test was administered twice at the beginning and the end of the experiment.

3.4. Instruments

FWQ and TWQ sites provided students with the resources. A pre-post listening test (the A2 Cambridge exam) was administered at the beginning and end of the experiment for the control and experimental groups. To evaluate the listening skills of the participants, the A2 Cambridge band descriptor was used. ANOVA analysis was used to examine the effect of FWQ and TWQ on students' English listening and anxiety and compare means of scores between the control and experimental groups using SPSS.

The foreign language listening anxiety scale (Kim, 2000) was used to measure students' listening anxiety in English. It is a Likert scale based on five points: 1- strongly disagree; 2 - disagree; 3 - neither agree nor disagree; 4 - agree; 5 - strongly agree. For the reliability of the scale, Cronbach's coefficient was .93, and the test-retest reliability accounted for .84. The foreign language anxiety listening scale was run at the beginning and end of the experiment to measure the effect of the FWQ model on L2 learners' listening. Pre- and post-tests were collected and analyzed by SPSS. One-way ANOVA was used to compare the means of the three groups. The research designed is summarized in Figure 2:

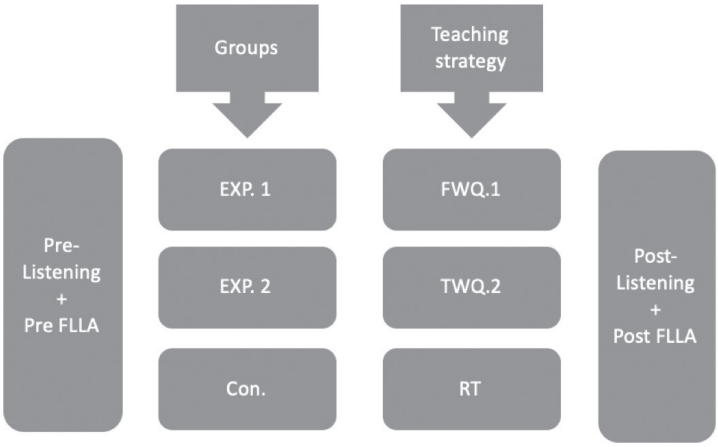

Figure 2. Research design.

4. RESULTS

Pre-test results were analysed to check the distribution of the three groups. As shown in Table I, the mean score of the second experimental group (M=13.97–SD 3.789) was higher than the first experimental group (M=13.59–SD 4.493) and the control group (M=13.69; SD 3.814). However, this difference was not significant (p>0.05), since the p-value was .928, as shown in Table II. Thus, the three groups were almost equivalent.

Table I. Descriptive statistics of the three groups in the listening pre-tests.

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Ex.1	32	13.59	4.493	.794	11.97	15.21	7	24
Ex.2	32	13.97	3.789	.670	12.60	15.33	7	23
con	32	13.69	3.814	.674	12.31	15.06	7	22
Total	96	13.75	4.005	.409	12.94	14.56	7	24

Table II. One-way ANOVA in the listening pre-test.

ANOVA

pre_listening_all

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.438	2	1.219	.074	.928
Within Groups	1521.563	93	16.361		
Total	1524.000	95			

A Kolmogorov-Smirnov test was run to check the normality of the data. The results of the experimental and control groups in the pre-test were .122, .200, and .200 respectively, while the listening post-tests were 200 .200 and .200, thus assuring the normality of data, as shown in Table III.

Table III. The one-sample Kolmogorov-Smirnov test for normality of data.

		Kolmogorov-Smirnov[a]		
	Group	Statistic	df	Sig.
Pre-test	Exp1	.139	32	.122
	Exp 2	.097	32	.200
	Con	.108	32	.200
Post-test	Exp 1	.103	32	.200
	Exp 2	.124	32	.200
	Con	.121	32	.200

To answer the first research question (What is the effect of FWQ and TWQ on students' listening?), an independent sampled one-way ANOVA was run. The descriptive statistics showed that the mean scores of the first and second experimental groups were 19.22 and 17.47, respectively, and the mean scores of the control group were 16.22, as shown in Table IV, F 4.113, P .019, as shown in Table V. Therefore, it can be concluded that the two experimental groups performed better than the control group.

Table IV. Descriptive statistics of the three groups in the listening post-tests.

Descriptives

post_listening_all

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Ex.1	32	19.22	3.998	.707	17.78	20.66	10	25
Ex.2	32	17.47	3.681	.651	16.14	18.80	10	25
Con	32	16.22	4.844	.856	14.47	17.97	9	25
Total	96	17.64	4.339	.443	16.76	18.51	9	25

Table V. One-way ANOVA in the listening post-test.

ANOVA

post_listening_all

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	145.333	2	72.667	4.113	.019
Within Groups	1642.906	93	17.666		
Total	1788.240	95			

The results of the Tukey test compare the scores of the three groups and confirm that there are significant differences between the post-test of the three groups in favour of the experimental groups, as shown in Table VI.

Table VI. Post-hoc Tuckey Test, Multiple Comparisons (Post-test Multiple Comparisons).

Dependent Variable: post_listening_all

Tukey HSD

					95% Confidence Interval	
(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Ex.1	Ex.2	1.750	1.051	.224	-.75	4.25
	Con	3.000	1.051	.015	.50	5.50
Ex.2	Ex.1	-1.750	1.051	.224	-4.25	.75
	Con	1.250	1.051	.462	-1.25	3.75
Con	Ex.1	-3.000	1.051	.015	-5.50	-.50
	Ex.2	-1.250	1.051	.462	-3.75	1.25

*. The mean difference is significant at the 0.05 level.

To answer the second question (What is the effect of FWQ and TWQ on students' English language listening anxiety?), the independent sampled one-way ANOVA was run and the descriptive statistics showed that the mean scores of the first and second experimental groups were 71.03 and 76.09, respectively, and the mean scores of the control group were 83.19, as shown in Table VII; F 4.007, and P .021, as shown in Table VIII. Therefore, it can be claimed that the two experimental groups performed better than the control group.

Table VII. Descriptive statistics of the three groups in the listening anxiety post-tests.

Descriptives

post_anx_all

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Ex.1	32	71.03	18.816	3.326	64.25	77.82	39	109
Ex2	32	76.09	16.336	2.888	70.20	81.98	44	115
Con	32	83.19	16.509	2.918	77.24	89.14	49	119
Total	96	76.77	17.795	1.816	73.17	80.38	39	119

Table VIII. One-way ANOVA in the listening anxiety post-test

ANOVA

post_anx_all

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2386.396	2	1193.198	4.007	.021
Within Groups	27696.563	93	297.813		
Total	30082.958	95			

The outcomes of the Tukey test compare the scores of the three groups and confirm that there are significant differences between the post-test of the three groups in favour of the experimental groups, as shown in Table IX.

Table IX. Post-hoc Tuckey Test, Multiple Comparisons (Post-test).

Multiple Comparisons
Dependent Variable: post_anx_all
Tukey HSD

					95% Confidence Interval	
(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Ex.1	Ex.2	-5.062	4.314	.472	-15.34	5.21
	Con	-12.156*	4.314	.016	-22.43	-1.88
Ex.2	Ex.1	5.063	4.314	.472	-5.21	15.34
	Con	-7.094	4.314	.232	-17.37	3.18
Con	Ex.1	12.156*	4.314	.016	1.88	22.43
	Ex.2	7.094	4.314	.232	-3.18	17.37

*. The mean difference is significant at the 0.05 level.

5. DISCUSSION

The results of the ANOVA show that both FWQ and TWQ have a significant impact on students' improvement of listening skills. Likewise, both models contribute to reducing learners' listening anxiety. However, participants who studied through FWQ achieved better performance in developing English listening skills and decreasing English listening anxiety than those who studied through TWQ and the control group who studied through RT.

The results highlighted the fact that providing students with materials before the classes in the blended modalities contributed to developing students' L2 listening skills, enhancing students' autonomy and supporting student-centered learning. These findings are in line with Ebadi and Rahimi (2018) each with ten EFL learners, attending an IELTS course at a language institute in Sanandaj, Iran, took part in the study. California Critical Thinking Skills Test form B was used to assess the participants' critical thinking skills, IELTS academic writing task 1 and task 2 were used to assess their academic writing skills, a semi-structured interview was conducted to assess their perceptions towards the impact ofy the WebQuest-based classroom on critical thinking and academic writing skills, and the researcher/instructor journals were used to contribute to the qualitative findings. One-way MANOVA and one-way MANCOVA were used to analyse the quantitative data. The results revealed that both the WebQuest-based and the

face-to-face classrooms developed the learners' critical thinking and academic writing skills, while the former outperformed the latter both in post- and delayed post-tests (i.e. short and long term effects who observed that the WebQuest-based flipped classroom can increase students' English skills and responsibility levels more than the conventional way of teaching languages due to its interactive nature and meaningful resources.

In addition, student interaction and collaboration before class and during group discussions promote English language skills and helped learners to be prepared in advance for the class task. These findings are in agreement with Almansour and Kurt (2022) who state that student-group contact enhances students' understanding and motivation towards the process of learning. In the same regard, Awada et al. (2020) see that collaboration during class time enhances and supports English language skills.

Furthermore, the analysis of results shows that student anxiety is decreased through the mixed use of flipped and WebQuest due to its interactive environment, since students appear to have more time and space to reflect on and come up with solutions to the learning issues before class starts, through the organized instruction of the WQs. This is in line with Gok et al. (2021) who point out the significant role of the flipped classroom in decreasing students' foreign language classroom anxiety and reading anxiety.

6. CONCLUSIONS

The current paper aims to contribute to research on BL and the impact of ICTs in language teaching by exploring the didactic possibilities of WebQuests. In particular, we propose a new model (FWQ) and we compare it with TWQ and regular L2 instruction.

While most previous studies followed the traditional WebQuest structure, the current study adopted a model that incorporates two strategies in which the sequences of the WebQuest were adjusted to support EFL preparatory school students. SPSS was used to carry out all the required analyses and ANOVA was estimated to assess the effect on the three groups (FWQ, TWQ and RT).

The results of the study confirm exposing students to Web-based learning did result in more effective learning than simply using traditional instruction methods. The analyses underline that there is a significant difference in improving English listening skills and decreasing students' English listening anxiety in favour of FWQ.

These positive results are due to the use of Web learning tools, the effective use of BL and the structured design of WebQuests. FWQ provided students with opportunities to have continual access to class resources, watch videos as many times

as they want and develop their listening skills through authentic materials. The organized structure of FWQ streamlines the learning process since students have defined stages with clear instructions. With this modality, students are compelled to contact each other before class time to prepare for the task that will later be presented in class. The class time was interactive and full of activities that enhanced listening and speaking skills. The assignment after class increases students' time for practice to develop their English language skills.

We feel the current study can help English instructors develop their students' English skills through new teaching modalities (BL). Hence, the proposed design model has major implications for curriculum and instructional material designers, giving them knowledge of how to employ technology in education and incorporate different instructional strategies to foster English language skills.

There are limitations to this study even though the data strongly suggested that flipped and WebQuest strategies are beneficial for improving students' listening skills and decreasing anxiety. One significant limitation of this study is students' familiarity with using FWQ and TWQ. Before starting the experiment, students have negative perceptions of learning through new teaching strategies instead of using the traditional way. For that reason, two sessions were provided to the students before the experiment to prepare them and give them some information about the strategies to be used. Second, some students lack sufficient proficiency in technological skills; therefore, they have two training sessions to master the required technical skills to facilitate their work during the learning process. Third, the teacher provides students with a printed copy of the required resources before the class (to make sure they can complete it even if technical difficulties –such as a bad Internet connection– arise at home).

While the study focuses on EFL in the preparatory stage, further studies may explore the impact of FWQ in improving reading, writing and speaking, while also decreasing other foreign language anxiety skills. Our findings have important implications. The results suggest that using the flipped classroom and WebQuest has the potential to alleviate foreign language and listening anxiety. Additionally, providing ESL students with appropriate strategies can contribute to their education. The flipped classroom and WebQuest research, which combine a student-centered environment with a technology-enhanced approach, have the potential to open up new avenues for foreign language education research in the current era.

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