Designing and Implementing WebQuests in Teaching and Learning.

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Abstract

WebQuest have emerged a popular form of online teaching and learning that place the learner at the center of the educational experience. These interactive activities are designed to be both resource-based, providing students with a comprehensive and engaging learning experience. By utilizing the vast resources available of the internet and incorporating interactive activities. WebQuest offer a unique and effective way to teach at variety of subjects. In this article, we will explore the concept of WebQuest and how that can be used to enhance de learning experience for students of all ages. This study aims to create and implement a webquest to enhance teaching and learning in English as a foreign language. Firstly, in children from primary school (learning). Secondly, undergraduate students with bachelor's degrees in elementary education in the faculty of distance studies at UPTC. This study shows the need to create and implement a Webquest in order to use digital educational resources to enhance English learning in children from primary school. Moreover, to motivate future teachers to create digital material to take advantage of their classes. Action research combined with qualitative methodology enables teachers to develop theories pertaining to teaching and learning (Manfra, 2019), and it applied three collection data tools which are: a survey type Likert, WebQuests, and a virtual wall which shows the perceptions and opinions of undergraduate students about the creation of them. The theoretical constructs were: Digital educational resources, WebQuest, and constructivism. Finally, the findings revealed three categories:

Keywords: *WebQuest, creation, implementation, Designing, English teaching-learning, Educational digital resources, primary school.*

Problem

A Bachelor of Basic Education in primary school from FESAD at UPTC in Colombia offers within the program different areas of knowledge in its curricula such as mathematics, Spanish, informatics, arts, sports, music, sciences, social studies, and English as a foreign language among others which the undergraduate students must teach when they are in teaching practices in elementary grades in public schools. But, when undergraduate students face teaching practices within classrooms, they do not have innovative digital material designed to strengthen these teaching practices.

At the same time, these future teachers do not count on a range of material such as; didactic units of teaching activities, lesson plans, worksheets (offline and online), digital educational resources for English teaching, and downloadable handouts for their students. For that reason, In the didactics subject focused on teaching There is a necessity for learning English as a second language

(Universidad de Auburn, s.f.) to create a material bank (online and offline) emerged thanks to the teaching practices asks it.

Hence, the creation and implementation of a WebQuest to help in teaching and learning have been relevant to incorporating the designing of digital resources and printable material by themselves and to collecting others that they have already created.

Theoretical Review

Digital educational resources
What are DERs?
Online resources benefit instruction because they are relevant to learners' lives and learning processes that reflects their understanding of the world and how they interact with it. By utilizing virtual resources, students are able to explore beyond the limitations of the physical classroom, fostering their curiosity and enhancing their abilities in critical thinking and problem-solving through inquiry-based learning. Additionally, digital resources

allow students to express their comprehension of the world and their relationship with it by producing their own work. (Thaiposri & Wannapiroon, 2015)

When digital materials are created with an educational purpose in mind, and their design caters to didactic features that are conducive to learning, they are termed as Digital Educational Resources. These resources are intended to provide information on a particular subject, facilitate knowledge acquisition, reinforce learning, address unfavorable situations, foster the development of specific competencies, and assess knowledge. (Garrido, 2003)

Self-efficacy toward using DERs

Merely possessing knowledge and skills is insufficient for incorporating technology in the classroom; teachers must also possess confidence, as stated by Ertmer and Ottenbreit-leftwich (2010) and reiterated by Wang et al (2019). When teachers feel both competent and self - assured in using technology, the are more inclined to utilize it, as demostrated by previous studies indicating a positive correlation between self-efficacy and actual behavior (Barbeite and Weiss, 2004; Lee & Lee, 2014; Rohatgi, Scherer, & Hatlevik, 2010). (Wang, Tigelaar, & Admiraal, 2019)

Teaching a foreign language through ICT

In the classroom, a variety of the technological tools can be utilized, ranging from computers and the internet to broadcasting technologies and telephony. These tools, collectively known as information communication technologies (ICT) allow for communication as well as the creation, dissemination, storage, and management of information. (Owusu-Ansah, 2013).

Moreover, Computer-Assisted Language Learning 'CALL': (Kumar & Sreehari, 2011) Offers a wide range of ICTs applications that notably increase learners' motivation. the realm of CALL now covers a wide range of topics including the design of materials, technologies, pedagogical theories and instructional methods. CALL materials can consist of both specialized language learning materials and adaptations of pre-existing computer-based materials, videos, and other resources. (Ouardi, s.f.)

Furthermore, ICT in Teaching and Learning Languages: The 21st century is the age of Globalization (Lee, Kurbanov, & Cristescu, 2022) in which asserts that technology is central to the globalization phenomenon, impacting education employment and cultural aspects. (Solanki, Shyamlee, & Phil, 2012). The integration of ICTs brought set changes in the field of teaching / learning foreign languages among which

- Expanding Access to education through ICT
- Promoting Efficiency of Language Teaching
- Promoting Student-Centered Curricula
- Improving the Quality of Learning
- Learning Time vs. Classroom Time
- Motivating to Learn
- Fostering Inquiry and Exploration
- The Changing Roles of Language Teachers
- ICT as a Foreign Language Teaching Support
- ICT and the Teaching of ESP
- Authentic Resources Used in ESP Learning
- The impact of ICT Tools Used in Learning ESP

What is a Webquest?

WebQuests, created by Bernie Dodge at San Diego State University in 1995, (Kurt, 2021) are self-contained "inquiry-oriented" events on the web. WebQuest is (Kurt, 2021) "designed to support the learners' thinking at levels of analysis, synthesis, and evaluation" by using the details provided in authentic web resources that are used as givens in the tasks constituting it. (Organisation For Economic Co-Operation, 2009) Therefore, the emphasis is no primarily on content, but rather on utilizing content to cultivate thinking abilities through tasks that necessitate learners to exercise those abilities. the emphasis is no primarily on content, but rather on utilizing content to cultivate thinking abilities through tasks that necessitate learners to exercise those abilities.

Moreover, the concept has become very popular in the academic world. (Haleem, Javaid, Qadri, & Suman, 20222) it is noted that WebQuests can be created for diverse academic disciplines and educational stages. Advocates assert that the WebQuest serves as a technological resource that is commonly utilized to enhance the caliber of education. (Portilla Arciniegas & Camacho Vásquez, 2017)

How to design a Webquest?

A solution had to be found for developing a WebQuest that would be user-friendly for both students and teachers and could seamlessly integrate into an existing module.

According to Dodge (2002), novice WebQuest creators could enhance their skill and understanding by learning from the experiences of others. To aid in this process, he created a general five-step approach for designing a WebQuest:

- a) Choose a suitable subject for WebQuest;
- b) Determine a layout that matches the chosen subject;
- c) Outline the assessment criteria for students;
- d) Develop the procedure by identifying ways to elaborate on specific resocurces,
- e) Enhance and refine the WebQuest by updating the capitalization checklist. (AL-Khataybeh & AL-Awasa, 2016)

Figure 1
A theoretical diagram of the use of WebQuests (Laborda, 2009)
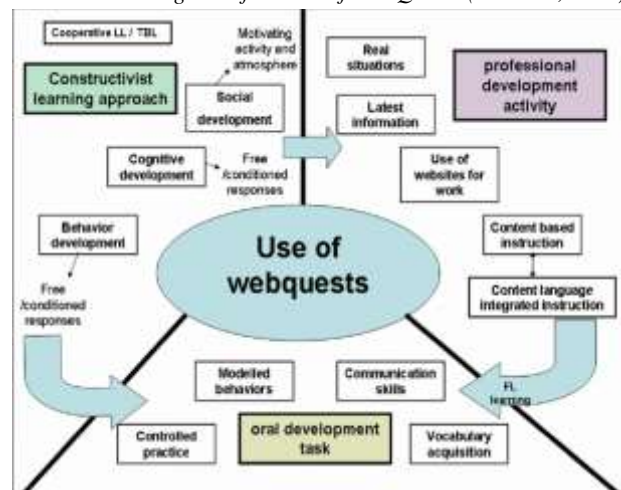
Note: Using Webquests for Oral Communication in English as a Foreign Language for Tourism Studies. (Laborda, 2009)

Methodology

This type of study participants. Action research was the methodology employed, and as such, a survey a survey in the form

of a likert scale was administered (Sileyew, 2019) to 20 participants undergraduate students of Primary Basic Education bachelor's degree of the subject in English Didactic in a Distance University which aims at knowing on different scales the use and implementation of digital resources in their class design. At the same time, 10 WebQuests designed by undergraduate students which followed the

March T (1997), has developed a flow char for the design process of WebQuest, which you may need to create and produce. To begin, you can follow the guidelines below:

- Determine the subject matter and the desired outcome (Introduction and task phases).
- Locate appropriate web resources that match the content and language requirements (Resources).
- Categorize the resources based on the stages of the Task
- Organize the process by defining tasks, resources, lexical areas, and grammatical areas. (Berns, Gonzalez-Pardo, & Camacho, 2011)

In this case, the undergraduate students have followed Structure. A complete WebQuest consists of five fundamental components, namely, introduction, tasks, process, resources, evaluation and conclusion. (Portilla Arciniegas & Camacho Vásquez, 2017) Moreover, some of the digital resources have been taken from websites and others have been created by themselves.

Additionally, undergraduate students' comments and perceptions through the participation on a virtual wall in Padlet. This Virtual Wall posted a question to discuss: *Do you consider it relevant to create and implement a Web quest as a virtual tool as a teaching help in your teaching experiences?* showed determination in the designing and implementation developed in the creation of web quests.

Results and Discussion
Survey: type Likert For a Diagnostic analysis.
The following instrument of recollection was answered by 39 students of bachelor's degree in Elementary Education in the Faculty of Distance Studies.

Figure 2
Pregunta 1 Uso de Recursos Educativos Digitales.

According to that, it could be analyzed that 51% of students do not use digital resources almost their teachers ask them during the development of academic instruction. On the other hand, 39% have used them to design teaching English activities in the didactic subject.
Moreover, 10% of students have not used them in their teaching activities designing.

Figure 3
Pregunta 2 Uso de los RED por parte de los Docente de LBP.

It represents that 39% of the teachers of bachelor's degree in Elementary Education in the Faculty of Distance Studies usually have used and implemented digital resources in order to guide their classes in the didactic subject. While 51% of their teachers rarely use and implement them in the activities. In addition, 10 % of teachers sometimes have used them. Hence, this demonstrates that the motivation comes from their teachers who must propose the use, design, and implementation of digital resources in order to connect them to their activities as future teachers.

Figure 4
Pregunta 3 Uso de WebQuest para Didactica del Inglés.

It shows that 13% of students usually have used a Webquest to generate learning and teaching activities in English as a foreign language, 51% of 39 students sometimes design and use a Webquest to develop proposed teaching activities during the development of the didactic subject, 26% of students rarely use it and 10% of them never have taken into account a Webquest.

Figure 5
*Pegunta 4 Diseño de Webquest in Parcticas*

This graphic evidences that after students of bachelor's degree in Elementary Education in the Faculty of Distance Studies receive some instruction sessions about how to use, design, and implement

a Webquest in order to present teaching and learning activities in English for children at primary school, the most of them replay that it is necessary to design a WebQuest as a support material and to apply it into their practical teaching activities. Conversely. the minority of them answered that they would not design a Webquest to work on teaching and learning activities until they have more digital skills.

Figure 6
*Pregunta 5 Importancia de Material Digital*
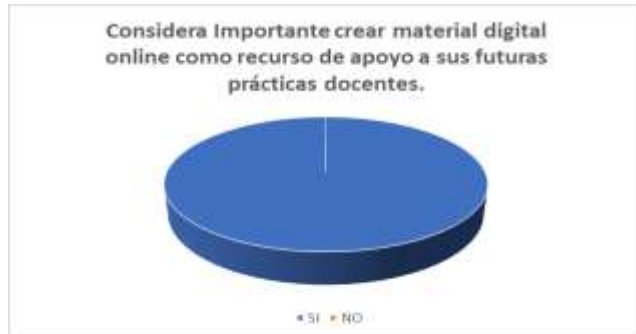
However, in the next-to-last question in this survey, the majority of respondents have coincided that the creation of digital material through WebQuest contributes support to future teaching and learning practices as teachers to enhance English teaching in children at primary school.

Webquest Samples

Figure 7
Webquest about Vocabulary and Pronunciation.
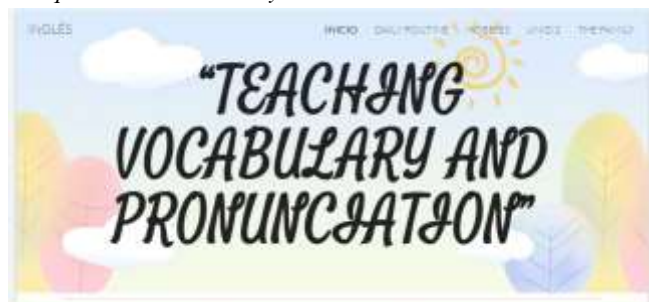
Note: WebQuest creation screenshot for teaching Vocabulary and Pronunciation.

Figure 8
Webquest about Daily Routine

Note: Webquest with Listening Activities with video to enhence Daily Routine

Figure 9
Componentes of a Webquest to Teach Grammar

Note: WebQuest to explain the main components to design a Vocabulary WebQuest

Figure 10
Webquest to practice Vocabulary through games

Note: Learning vocabulary throught the creation and selection of online resources as games

Figure 11
Animals. Webquest to teach vocabulary through the music.

The use of Web Quest in helping students and teachers improve their vocabulary learning- teaching.

Checklist

Alternatively, the collection tools, the following checklist was applied to know the most relevant criteria and standards in order to design a WebQuest. Also, to assess the designing knowledge about a WebQuest Consequently, it was answered by the same 39 students. According to that, the verification of answers shows that the majority of them consider that WebQuest must have texts, online learning resources, and audios that must be attractive for their children. At the same time, In the Process of the description of the steps to follow to carry out the proposed task. The steps or activities should include the necessary links for their achievement.

Table 1
Checklist about Standers and Criteria for Wequest Designing.

No	CRITERIA	Yes	No
1	The website in which it poses has a question or problem for the student.	3	36
2	It exposes the task to be carried out, describing its steps or activities, providing the necessary network resources for it.	35	4
3	The Introduction aims to introduce the student to the question or problem that is going to be worked on in the Webquest.	30	9
4	The design, texts and resources are striking visually, in audio and in presentation.	36	3
5	The Task is a formal description with a wide range of possibilities to do the tasks such as: design of online tools, oral presentations (oral report) and creation of resources, etc.	2	37
6	In the Process of the description of the steps to follow to carry out the proposed task. These steps or activities should include the necessary linksfor its achievement.	34	5
7	Presents the Digital Resources in a list of websites of other online sources that will help students complete the task.	39	0

Opinions and Perceptions through a Digital Wall

How has your designing process for WebQuest been

On this virtual wall, the 39 students gave their perceptions and opinion about their design process of the WebQuest of students who disagreed provided valuable feedback for improvement. The students were surveyed regarding their thoughts on the WebQuest design, and the results indicated that a majority of them (85%) found it to be well-designed. However, the remaining 15% who expressed dissenting opinions offered constructive criticism for potential enhancement perceive that they must explore and use more digital resources to get and advanced domain of designing.

Figure 12

Virtual Wall of Student's Opinions and perceptions about the Webquest Designing

From the previous research discovered WebQuest improves various language abilities, proficiency, and features Kimberly (2002) y Cheng (2021) Nazanin Adhami, Mahboubeh Taghizadeh. (2022) point out that WebQuest promoted critical thinking and the impact of WebQuest-based classrooms on EFL learners. Also, Among the various technological tools available, WebQuests are an exemplary means of supporting the principles of constructivism, as noted by (Matusevich, 1995; March, 2008, quoted in Luu Trong Tuan,2011) in language teaching. At the same time, according to Dodge, B. (2001 replays that teachers as new WebQuest creators can take advantage to improve the acquisition of English and aid learners in their critical thinking abilities in the domains of analysis, synthesis, and evaluation. Furthermore, according to Subramanian, K. (2010) Torres, I. P. (2007) affirm that the WebQuest seems to be a useful strategy to promote content and language integrated and task based learning concluding that it can contribute to promote approaches and methods in TEFL.

Consequently, the 39 students of Bachelor of Basic Education in primary school from FESAD think that learning with WebQuest was useful and interesting because it permitted them to develop critical thinking about their teaching and learning process and improve it, as well. In addition, WebQuest creation and implementation asked for a systematic organization that has 5 parts: introduction, task, process, resources, evaluation, and conclusion. (Portilla Arciniegas & Camacho Vásquez, 2017). Thanks to that, the students could proceed orderly and notice and most of the students have shown many improvements at the moment to select the online activities. On the other hand, It can be seen from the result of the student's achievement and the average of their own English level. Finally, the students" attitude towards WebQuest-based to gain digital competencies was favorable because some virtual objects and online resources were selected and used.

Conclusions and Recommendations

The use of WebQuest has been discussed and practiced among teachers and students in Instructing and acquiring proficiency in English as a non - native language. However, the experience with the designing, use, and implementation of WebQuest has been a new tool in academic practices for students of bachelor's degrees in Elementary Education in the Faculty of Distance Studies. Of 21st century skills. The findings of this study suggest that the use of WebQuests can facilitate the instruction of skills relevant to the time and learning of EFL and enhances them into digital skills during the teaching labor. Also, this study demonstrates that Teachers are able to share their own materials through a tool that is based on the web, created by themselves, it offers a wide range of resources for free from different online virtual objects. Finally, the use of WebQuest cultivates critical thinking thanks to working in a group, autonomous learning, and self. reflection during the design process. Hence, the students could analyze their learning and teaching needs from the students' and teachers' roles.

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