

VI International Forum on Teacher Education

Web Quest Technology in Teaching Foreign Languages in a Technical University

Nina S. Shvaikina*

*Samara State Technical University, 443001, Samara (Russia), 244 Molodogvardeiskaya street,
nsshvaikina@gmail.com*

Abstract

This study focuses on the use of web quest technology in teaching foreign languages at a technical university, as an instructive method. The study explores the extent to which WebQuests can be used as an instructive tool to enhance learners' attitude towards science concepts learning and boost student creativity, decision making, initiative taking and engagement in the lesson. The purpose of this article is to describe the work of creating a web quest in classes of foreign language teaching with students of the Faculty of Industrial and Civil Engineering (ICE), to identify the effectiveness of this technology in the formation of foreign-language competence of future engineers. The pilot work was conducted during the two semesters in foreign language classes. 45 people - students of the Faculty of ICE participated in the experiment. The research methods used in this work are the questionnaire for students and the final testing of students in the form of the creation of a language portfolio at the end of the course.

Web quest is considered as one variant of a computer game. It is one of the newest teaching tools, and is focused on improving the effectiveness of the foreign language learning process. The essence of the technology is that the students should collect the necessary materials on the selected problem in the Internet sources. References to some sources are provided by the teacher, students must find some of the links themselves. Upon completion of the work on the topic, the learners should present the results in the form of their own web pages, electronically, in print or orally.

Keywords: web quest, gamification, engineering students, foreign language teaching, game learning technologies, game content, role-playing approach.

© 2020 Nina S. Shvaikina

This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Published by Kazan federal university and peer-reviewed under responsibility of IFTE-2020 (VI International Forum on Teacher Education)

* Corresponding author. E-mail: nsshvaikina@gmail.com

Introduction

Modern higher education aims at finding new types and forms of organization of the learning process, which should be effective in developing independent critical and creative thinking. To accomplish this task, many teachers are actively implementing project technology, using Internet resources. However, the quality of Internet information makes the process of working on the project complicated. The only possible solution to this problem is web quest technology.

Today quest has become popular among students and teachers. The word "quest" is translated from English as "to do research activities by carrying out tasks" (Andreeva, 2004). A quest in the computer world is an entertainment game in which a player should possess intellectual ability to go through many obstacles in order to achieve a pre-set goal. Today, the quest is an evolving and progressive genre of the game that began to spread in the 1990s of the 20th century. Its focus "is not basically on con-tent, but on using content as a means for developing thinking skills by engaging learners in tasks that require them to practice those skills".

Purpose and objectives of the study

Having analyzed the curriculum of the discipline "Foreign Language" in the field of "Construction," we concluded that we should develop the web-quest on the topic "Careers in construction sphere." According to the principles of Web quest classification, the project should be (1) long-term; 2) mono-project; 3) scientific by type of tasks, i.e. aimed at studying various phenomena, discoveries, facts on the basis of unique online sources.

In accordance with the research questions, we will identify the objectives of the study - to describe the work on creating a web quest in ELT for the students of the Faculty of Industrial and Civil Engineering and to identify the effectiveness of this technology in the formation of foreign-language competence of future engineers.

Literature review

The web quest model as educational technology was created in 1995 by San Diego University teachers Bernie Dodge and Tony March: a web quest is "created to catalyze students 'thinking at levels of analysis, synthesis, and evaluation" using information presented on authentic web resources that are used as assignments"(Dodge, 2001; March, 2001). This teaching technology is particularly popular in the North America and Western Europe. A modern teacher possesses a list of the sites that follow this educational model and on which you can find not only examples of educational web quests, but also tools for their creation.

Web quests have a clear, defined structure. However, teachers do not always follow this structure, but develop their own web quests according to the needs and styles of learning and channels of perception of their students. Traditionally there are four main sections (Chr, 2005):

- 1) Introduction: this section provides basic information about the project and a description of the roles of students and the tasks that the teacher sets for them during the course. The purpose of the introduction is to interest students, so the project must be related to students' interests, ideas, past experiences or future professional goals;
- 2) Task: this section explains clearly and accurately what students should do. The task must be motivating and interesting for the students, and must be firmly fixed in the real life situation;
- 3) The "Process" phase provides students with a range of tasks and research tasks that they need to solve using a set of recommended resources that are web-based and interactive;
- 4) The "Assessment" stage involves self-evaluation - comparing their achievements and outcomes with other students. At this stage the teacher develops his own evaluation criteria or sometimes some web-resources have already provided evaluation criteria.

According to Polat et al. (2002), any web quest should have following structure: introduction (theme formulation, description of participants' main roles, quest scenario, work plan or overview of the entire quest); the central task (task, questions on which students have to find the answer within the independent research what final result has to be achieved); list of information resources (tools that can be used to perform tasks, including Internet information resources); description of the main stages of work; a guide to actions (various tips, use of Web pages for reports, recommendations on the use of information resources, etc.); conclusion (results of the study, issues for further development of the topic, etc.) (Polat et al., 2002).

Web quests can cover as a separate problem or a subject as well as inter-subject problem (Bykhovsky, 1999). Dodge (1999) identifies three principles of web quests classification:

-By duration: short-term and long-term.

-According to the subject content: mono-projects and cross-curriculum web quests.

-By type of tasks performed by students: tasks for retelling, compilation tasks, mystery tasks, journalistic tasks, design tasks, creative product tasks, consensus forming tasks, persuasion tasks, self-cognition tasks, analytical tasks, evaluation tasks, scientific tasks (Dodge, 1999). Web-quests have lots of advantages for English teachers for the following reasons:

They are entirely classroom-based. When a teacher comes up with a WebQuest, he or she expects their students to complete the work during the class period.

Sources are pre-selected. The teacher also usually selects the resources students can use ahead of time, which takes the focus off of *finding* information and moves it to how that information is *used* and *interpreted*. In fact, many WebQuests specifically ask students to be critical of the sources and

analyze them based on what they already know, or to use them in clever and creative ways.

They are team-based. The vast majority of WebQuest assignments are group projects where individuals are given specific tasks and roles to complete. In this way, WebQuests help show people how the internet can be a tool that brings people together and facilitates communication and discussion.

Methodology

Fast-growing information and communication technologies, high requirements for knowledge of a foreign language force to choose educational methods and forms of organization of work that contribute to the active process of knowledge.

At Samara State Technical University the current task of development of higher education institutions is to create business incubators, where students should be able to find necessary information, use various information sources, remember, think, make decisions quickly, and possess skills of self-organization. Web quest technology is the best option to educate and train such professionals. However, there are many versions of web quests on Internet spaces, but not all of them can be applied to a certain student group. Thus, the task of the study is to determine the content and develop a web quest for students of the Faculty of Industrial and Civil Engineering, to identify the effectiveness of this technology in the process of foreign-language competence formation of future construction engineers.

The pilot work was conducted for two semesters in foreign language classes. 45 people - students of the Faculty of ICE participated in the experiment. The research methods used in this work are the questionnaire of students and the final test of students in the form of the creation of a language portfolio and participation in the presentation competition at the end of the course.

The preliminary stage of work included a questionnaire for students. Students had to answer 15 questions that revealed their attitude to conducting classes in the form of a web quest. The students went through the following stages of work on the quest.

The first stage is familiarization, when students get acquainted with the basic concepts on the chosen topic.

The theme of the web quest is "Architecture that repairs itself." Students browse the page of the web-quest - www.zunal.com/webquest.php?w=419378. Roles in the team are distributed: 1-4 people per 1 role (task). All team members should help each other and teach them how to work online.

The role stage prepares students for the overall result achievement. Participants perform tasks according to the selected roles. Since the purpose of the work is not competitive, in the process of working on the web quest there is mutual training of team members. The team summarizes the performance of each task, participants exchange materials to achieve the common goal - creation of presentations on the topic.

The final stage includes a presentation competition, which takes place at the university every year in March: where a special commission evaluates such criteria as the understanding of the task, the reliability of the

information, its relation to the given topic, critical analysis, coherence, structure of information, certainty of positions, approaches to solving the problem, individuality, professionalism of the presentation. Both teachers and students participate in the evaluation of results through discussion or interactive voting. The best works are recommended for the second stage of the competition at All-Russian level, which is carried out by Samara state technical university for participants from other cities.

A key section of any web quest is a detailed scale of evaluation criteria, on the basis of which, project participants evaluate themselves and teammates. The same criteria are used by the teacher. A web quest is a complex task, so an assessment of its performance must be based on several criteria focused on the type of problem task and the form of presentation of the result (Van Loo et al., 2003). The www.zunal.com website recommends 4 to 8 criteria, which may include evaluation of research and creative work, quality of reasoning, originality of work, micro-group skills (if presentation is given by two or three authors), oral presentation, multimedia presentation, written text, etc.

Results

As it was already mentioned the research methods used in this work are the questionnaire of students and the final test of students in the form of the creation of a language portfolio and participation in the presentation competition at the end of the course. In order to evaluate the research abilities of the students we used the criteria for evaluating the results of the web-quest.

The preliminary stage of work included a questionnaire for students. Students had to answer 15 questions that revealed their attitude to conducting classes in the form of a web quest. Most responses were positive as students expressed enthusiasm for finding new information in English online and teamwork with their group-mates. WebQuests seemed to have been appealing to them. The majority of the learners expressed their enthusiasm about the process which made them feel “important”, “smart” or “like scientists”. Particularly they liked the fact that they were given a sense of “independence” and “trust” by their teachers, as they explored knowledge themselves and had to make their own decisions for the dissemination of the information and its appropriate selection for the tasks implementation.

Students projects showed:

- 1) Perfect understanding of a task: their projects demonstrated an accurate understanding of the task.
- 2) Performance of a task: all materials are directly related to the topic and resources are quoted correctly; students used information from reliable sources.
- 3) Result of work: the work was clearly and logically presented with the information that was directly relevant to the subject, the students analysed critically the material and their positions were clearly demonstrated.

4) Creative approach: the creative approach was reflected in the way students used demonstrative computer techniques.

Discussions

The web quest, using Internet information resources and integrating them into the educational process, helps to effectively solve a number of practical tasks: the participant of the quest gets an additional opportunity to professional expertise of his creative abilities and skills; learns to use the information space of the Internet to expand the sphere of its creative activity, etc.

The advantage of implementing a Web quest is that no specific technical knowledge is required for the event. You can work on a quest individually, or in small groups. When working in groups, communication competencies of students are increased, the process of information exchange is established, critical thinking, comparison, analysis and classification skills are developed.

The visibility and multimedia of the training is also successfully realized in the process of working on the web quest. The motivation of students who use modern communicative means with greater desire than educational literature is increased.

Web quest visibility is enhanced with presentations, videos, and graphics. Another feature of educational technology is interactivity. It manifests itself in the impact of virtual objects of media information environment, presentations and videos and allows to implement personal-oriented training.

Motivation is generated by using different types of information, high visibility of situational tasks and creation of success situations.

According to Dr. Dodge (1997), the best way to know if you have created a successful WebQuest is if your students come up with different answers to the same problem. This way, you know that they have engaged with the topic and formed their own distinctive viewpoints based on the information. As our world continues to increase in speed and complexity, this kind of higher-level thinking is going to be invaluable to ensure that they have a successful future.

Conclusion

After the webquest lessons we conclude that this technology:

- 1) increases the motivation of trainees for independent educational activity by introducing game and competitive elements;
- 2) allows to introduce additional (electronic) training resources;
- 3) develops presentation and discussion skills.

We will make some recommendations for teachers who plan to use this technology in English language training.

Educational content is necessary for the development of new competences and for the consolidation of material. This content should contain educational information presented in various forms: video, text and animation (Nikolayeva, 2002). The teacher can use the tutorial or textbook, download it on the web quest page (Romantsov, 2009).

In order to ensure the effectiveness of the training, the teacher must select training material from various Internet resources in advance and correctly mark the link to a specific page containing the necessary information, not to the whole site.

A teacher should develop exercises for different levels of English proficiency so that any student can accomplish it.

Thus, the use of one of the technologies of game learning-web quests, contributes to the improvement of efficiency of educational process, forms motivation of students. During the game motivation of achievement in joint educational activity is formed. Game methods, on the one hand, actively contribute to the acquisition of new knowledge, on the other - compensate the information overload.

Acknowledgements

The work is performed in the framework of International competition on students' projects at Samara state technical university. We are also grateful to our department of linguistics, cross-cultural communication and Russian as a foreign language, organising committee of the international competition, that included school teachers, professors of Samara universities and tutors of language centers who are native speakers, and also students of the Industrial and Civil Engineering Faculty for participating in the experiment.

References

- Andreeva, M. V. (2004). Technologies of web quest in the formation of communicative and sociocultural competence. In *Information and communication technologies in the teaching of foreign languages: proceedings of the I International Scientific and Practical Conference* (pp. 20-25). Moscow.
- Bykhovsky, Y. S. (1999, November 9-12) *Educational Web quests*. International conference "Information Technologies in Education. ITO-99", Moscow, Russia.
- Chr, B. R. (2005). *WebQuests Resource Page*. Retrieved April 20, 2020, from <http://academics.smcvt.edu/cbauer-ramazani/Links/webquests.htm>
- Dodge, B. (1997). *Some Thoughts About WebQuests*. San Diego State University.

- Dodge, B. (1999). *WebQuest Taxonomy: A Taxonomy of Tasks*. Retrieved April 18, 2020, from <http://webquest.sdsu.edu/taskonomy.html>
- Dodge, B. (2001). *A Rubric for Evaluating WebQuests*. Retrieved April 18, 2020, from <http://webquest.sdsu.edu/webquestrubric.html>
- March, T. (2001). *What's on the Web?* Retrieved April 20, 2020, from <http://www.ozline.com/learning/webtypes.html>
- Nikolayeva, N. V. (2002). Educational Quest Projects as a Method and a Means of Developing Students Information Skills. *Internet Education Issues*, 7.
- Polat, E.S., Bukharkin, Yu.,M., Moiseeva, M.,V., Petrov, A.,E., & Polat, E.S. (2002) *Training manual for students. higher education institutions and systems of professional training*. Moscow: Publishing Center "Academy".
- Romantsov Yu.V. (2016). Web Quest as a way to activate students 'learning activities. *Science and Perspectives*, 4.
- Van Loo, E., Bron, J. T., & Jansen, Yu. (2003). *Experiments in task-based learning Russian: "language fair" and "web quest for Russian language and country studies"*. Russian word in world culture: proceedings of the Xth Congress of MAPRYAL. Saint Petersburg: Politekhnik.