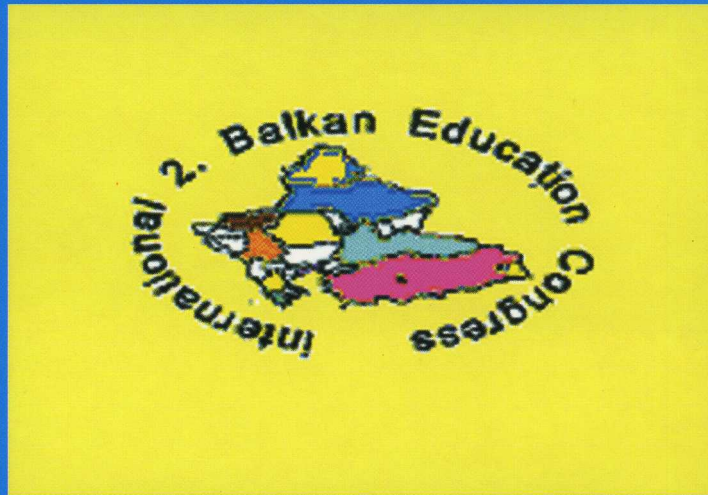


2nd INTERNATIONAL BALKAN EDUCATION CONGRESS



SEARCHING EXCELLENCE IN EDUCATION

8-9-10 October 2004



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PROMOTING NEW TECHNOLOGIES IN THE CLASSROOM, STEP BY STEP

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Zoran ZDRAVEV¹

ABSTRACT

The impact of Internet on students' culture is not hard to measure. The teachers would need to come to terms with it to understand their students' world. Technological literacy must include a wide range of opportunities for students to interact with the new technologies in order to develop a level of competence for their productive work in the future.

The first step into adoption of modern technologies could be bringing the Web into the courses. Web is not just helpful to education, but if used effectively, it can change revolutionary the students' learning. This article gives an idea, how by using WebQuests the teachers and the students can interact in the learning process and expand their creativity by reforming the traditional instructional practice.

The author of widely used and still developing WebQuests strategy is Bernie Dodge of San Diego State University. According to him, it is an inquiry-oriented activity in which teachers and students build a teaching unit, with information obtained primarily from the resources of Internet. This is easily acceptable technology, not very demanding in resources.

This paper highlights the general ideas of the WebQuests, how it enhances the creative thinking and provides a roadmap of its application.

INTRODUCTION

World Wide Web is like a superhighway of information when seen as a source of facts, data, pictures and figures. But, more than information, the Web is about people, ideas and sharing the common space. Although the Web is full of useless information, even junk, although it is amorphous and chaotic, it still is world's biggest source of valuable information. The powerful and easy to use search engines filter through the million of Web pages and link to those of particular value and interest. Long before the Web and Internet, the network called ARPAnet connected researchers via a communication network of computers. They were sharing ideas and working together. When Internet came online, this collegiality moved to the sphere of higher education. With Web's friendly interface, the world has joined in, starting from the primary schools, companies wanting to connect to their communities to the institutions of higher education. Nowadays, each of them has to play by the rules of Web and contribute to the online community.

The most important thing for the education is that the Web is not only helpful to education, but, used wisely and effectively, it can revolutionize the way of student learning and thinking. Much of the teaching profession is trying to incorporate project-based learning as a way to engage and provoke student investigation of authentic problems, and many of them agree that they need technology to make this easier. Web Quests, as inquiry oriented activity, allows the learners to interact with the information on Internet and create their own learning space.

WHAT IS A WEBQUEST?

WebQuests are created to help teachers integrate the power of Web with student learning. A WebQuest can contain a unit of study or the whole project. One way to start implementing it would be to select the standards you intend to apply and try to find an appropriate WebQuest or create your own. Every WebQuest consists of the following components: *Introduction*, *Task*, *Resources*, *Evaluation* (with a Rubric) and a *Conclusion*.

In the *Introduction* phase, the student has a chance to recall some previous knowledge and to become motivated and excited about the project. In the *task* portion, the students are given different assignments that they have to complete within the particular WebQuest. The *process* walks them systematically through the subject towards the completion. In the *Resources* the teachers and the students can find (or put) different sources on Internet like: books, Web pages, magazines, articles etc. By creating the *Evaluation* component, the WebQuest allows the students to know how they will be evaluated at the end, or how their knowledge will be measured. The last

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component is Conclusion to summarize what the students have done within a certain unit. Some already created WebQuests contain lesson plans, teacher page or extension activities.

Although one can find a large selection of already created and frequently used WebQuests (for an example on <http://edweb.sdsu.edu/webquest/webquest.html>) it is always more appropriate to create your own.

CREATE YOUR OWN WEBQUEST, SOME PRACTICAL CONSIDERATIONS

Once you have explored all the available WebQuests and you couldn't find a suitable one for your teaching subject or project unit it is time to create your own. There are many Web sites with design guidelines and materials created to help you with that task. The main point is to have your own idea and a plan for the unit that you will cover with a WebQuest. You have to have predefined standards and framework.

Here are some useful tips and guidelines once you have decided to create your own WebQuest:

- Before you start, it is always good to discuss the topic with the students, interview their interest and knowledge.
- Incorporate as much as possible their ideas.
- You don't have to know html (hypertext markup language), just the basics of Web page is enough.
- You can create it in Microsoft Word or AppleWorks and save it as a Web page.
- Of course you can always use a Web editor like Microsoft FrontPage or Netscape Composer etc.
- On the <http://www.kiko.com> you have a tool that you can use it online (with Internet Explorer). That takes you through the process of creation with just clicking and answering questions.
- You can make your own Web page with a drag-and-drop Web page creator (like <http://www.homestead.com>). In this case you don't worry about uploading.
- You have to choose a place to store your Web site and your WebQuest. A good place for that is always <http://www.geocities.com> or <http://nbc.com>, where uploading is easy to carry out.
- Your students can also create their own WebQuests because they will be using higher computer skills. They will need to know in deep about the topic area and that is useful and great experience for them.

In the following figure the design of a WebQuest is schematically presented.

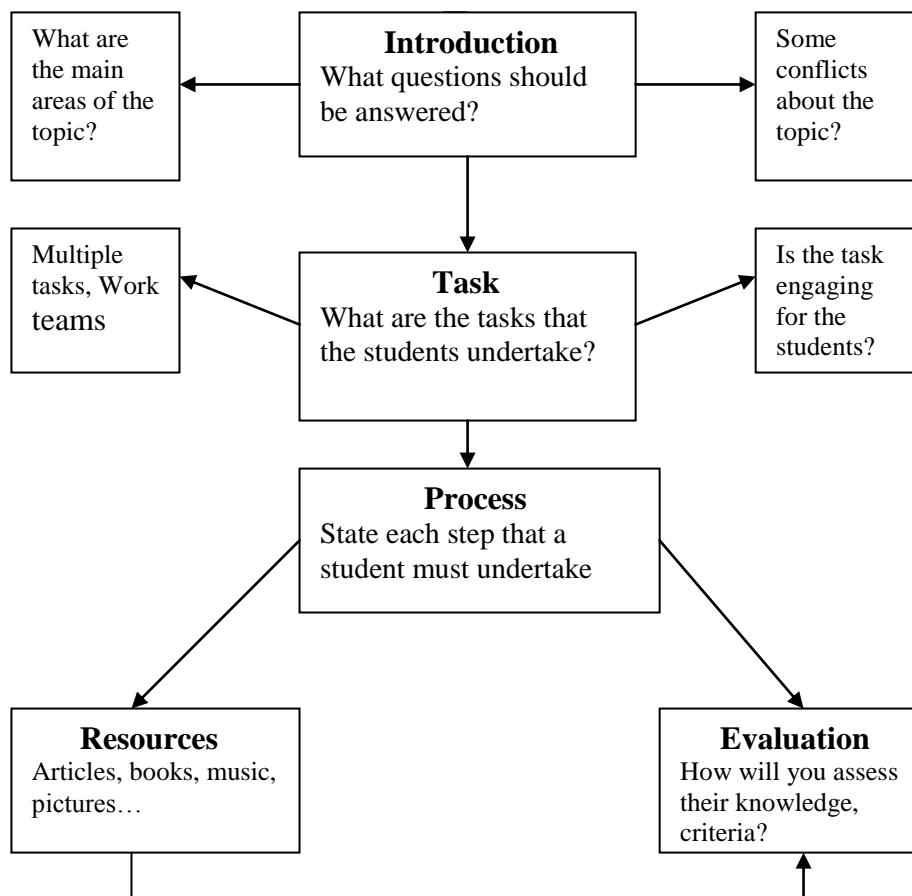


Figure 1. Schema of design of a WebQuest

WHY ARE WEBQUESTS A GOOD LEARNING METHODOLOGY?

WebQuests were designed to address the most critical issues in the learning practice: critical thinking, creativity, cooperative learning, authentic assessment and technology incorporation. They bring together the most effective instructional practices into one integrated student activity. Here are some important highlights behind our decision to use WebQuests as a first step into technology supported learning process:

Technology access

The exact details of implementing the WebQuest will vary depending on the Web access you have and the number of computers available. Still, the technology that you need to create and use WebQuest is neither complicated, nor expensive. All you need is several networked computers with good Internet access.

Motivation

It motivates the students, not only to put more efforts, but to solve authentic tasks that confront the real world. They join a community of learners which gains their self-confidence. Also, the solution a student or a group of students develop is transparent to all. It can be posted, emailed or presented to an expert for an opinion and feedback. This authentic self-assessment also motivates the students to do their best, stimulates their creativity and they usually escape from the trap to just formally fulfill the task.

Resources

The students work with real resources, not from outdated textbooks or filtered encyclopedias. They can directly access experts, search databases, current reporting etc.

Creative thinking

One of the main features of WebQuests is that students tackle questions that need higher level of thinking. Built into the WebQuests process are the strategies of cognitive psychology and constructivism. This technology forces the students not only to retrieve the information, but rather

to transform the information into something more useful: a cluster that matches the main issues, a comparison, an evaluation, a hypothesis, a solution etc.

Cooperative learning

Because the students take roles within a group this promotes competition and motivation. WebQuest usually target complex, large and sometimes controversial issues. In that case it is not realistic to expect that each student masters all the aspects of the problem. But this on the other hand, sends them a very important message: they have to face the reality that not everyone knows everything. Having students develop expertise and be recognized for that among the group is build into the WebQuest strategy. It is also useful to divide several groups within the classroom working on the same issue. The comparison of their solutions, the arguments they provide will be a measure of quality of the group members.

CONCLUSIONS

WebQuests are usually labeled as inquiry-centered or problem-centered learning by some, or one can view them simply as activities that provide students freedom to explore and learn from multiple resources. They provide the teachers with the opportunity to integrate Internet technology into the course curriculum in a constructive and creative way. The WebQuests can be especially very useful for the teachers who are novices in ICT in a way that they can use and offer prepackaged course units, ready for implementation.

We, at our department for ICT, have a pilot project that introduces some of the most interesting, more intriguing topics of the course called “Information Systems in Education” via WebQuest technology. For an example, “Creating web pages with HTML” where the students start with the elementary syntax, choice of color, designing text rules, importing sounds and images, creation of hyperlinks etc. The WebQuest technology enables them to explore many different Internet resources, share experiences among the working groups as well as to apply the best practices in Web pages creation and finally to self-assess or self-evaluate their work.

Our next challenge will be to make a strategy for implementation of this and similar technologies within the other teaching courses outside the ICT department. I believe that our colleagues and their students will enjoy the experience.

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