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EVALUATING WEBQUESTS AND THE

NEEDS OF A WEBQUEST RUBRIC

———————————

A Project

Presented to the

Faculty of

California State University,

San Bernardino

———————————

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

in

Education:

Instructional Technology

———————————

by

Kimberly Marie Rountree

September 2005

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Approved by:

_____ $\dfrac{8/22/05}{\text{Date}}$

Dr. Eun-Ok Baek, First Reader

_____

Dr. Brian Newberry, Second Reader

ABSTRACT

This thesis was done in an effort to address the
problem of helping teachers to better evaluate WebQuests
by answering the research questions in terms of the
frequency of which teachers use WebQuests, the method that
teachers currently use to evaluate WebQuests, and what
specific criteria are most useful or needed to develop a
generalized rubric that could be used to evaluated a
WebQuest. Fifteen teachers who used WebQuests were
surveyed to help in this process. Data was collected from
these teachers and then this information was used to
create a rubric that would assist other teachers in using
WebQuests. A rubric was created and made possible through
an extensive process by taking some current evaluation
tools, and combining criteria that the survey participants
suggested into a rubric that three WebQuest experts would
evaluate as a part of this study. After the WebQuest
experts evaluated, examined, and edited the rubric, a new
rubric was created. Next, two of three WebQuest experts
examined and evaluated the rubric, and a final rubric was
developed. Since this thesis was intended as a reference
guide to meet a variety of teachers' needs, there are many
tables that are intended to help the teacher reference.

ACKNOWLEDGMENTS

I would really like to thank so many people for helping me create this thesis. First, I would like to thank Dr. Eun-Ok Baek. She provided me with a lot of encouragement to keep me going through the process of writing this thesis. Second, I would like to thank Dr. Brian Newberry for all of his expert advice and dedication to each and every one of his students in the Instructional Education Department at California State University, San Bernardino. Dr. Newberry was very informative and delivered relevant hands on technology lessons to his students while I was enrolled in his classes. I owe a big thank you for your encouragement and guidance in helping me select a topic for my thesis.

Then, I would also like to thank Dr. Ken Decroo for all of his assistance in creating an online dialogue between Dr. Dodge and his students during the time that I took a class with him during my Masters venture at California State University, San Bernardino.

Next, I would like to thank Dr. Randall Wright for his support in assisting me in the beginning stages of my thesis. I really appreciate all of the feedback you were able to give me.

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Finally, I would like to thank the many Instructional Technology students who recently worked or completed a thesis and passed on so much in terms of advice during the process of creating a thesis.

DEDICATION

I would like to dedicate this thesis to the teachers who have tried incorporating different uses of technology in the classroom. A great deal of time and effort has been put into developing this thesis to assist classroom teachers.

Throughout the development of this thesis, I myself went through a huge learning curve about WebQuests. I started out not knowing anything about WebQuests, but was so inspired to make it the topic of my thesis because of the stumbling blocks that I personally encountered along the way of creating a WebQuest of my own.

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CHAPTER ONE

BACKGROUND

Introduction

Education is changing because of the Internet for four main reasons. First, more students are using computers at home to complete research for school assignments. Second, teachers are improving their technology skills by taking classes at colleges, online, or through professional development centers offered through school districts. Third, some schools are getting additional computers for their classrooms or computer labs. And fourth, more schools are going online. Among the many ways technology and the Internet are being integrated into classroom instruction, WebQuests, as defined by Dr. Bernie Dodge is an active way of learning that comes with freedom Winograd (2004). However, despite being easy to implement, WebQuests are not used as much as they might be. This may be due in part to the lack of a common and reliable method for evaluating WebQuests for classroom use. Such a system, or rubric would help teachers be more confident about the quality of the instructional experience provided by a WebQuest and would also help administrators and parents understand the effectiveness

and appropriateness of this type of technology integration.

Statement of the Problem

The problem of developing a rubric to evaluate WebQuests is important for several reasons. Once an educator accepts the use of Internet resources in the classroom, especially in the form of a WebQuest, the problem of evaluating that WebQuest arises. There have been too few studies about evaluating WebQuests to date, and given this there is a need to develop a rubric to evaluate all WebQuests that teachers may want to evaluate in the classroom. Second, the expense of school districts spending large sums of money on training and educating teachers on evaluating technologies available is growing as well. There is also overwhelming pressure of meeting higher standards for schools and state standards, which includes the importance of districts developing assessments and rubrics for technology. With the increased pressure of teachers teaching to the standards and helping students raise test scores, technology sometimes gets overlooked in terms of being incorporated into the classroom. And finally, the evaluation process is becoming more widely used and accepted in the design process to

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meet the needs of teachers as the importance of developing rubrics increase.

According to Johnson (1989), many professional academic programs now include courses in evaluation as a part of the curriculum.

With a rubric to evaluate WebQuests, however, teachers can integrate technology into the classroom, and be assured that students are more accountable for their learning.

Purpose of the Study

The purpose of this study was to investigate how teachers evaluate WebQuests in an effort to describe or identify a common, generalizable rubric that new users of WebQuests could use. The investigation included how often the teachers who were surveyed used WebQuests in the classroom, and what these teachers used to evaluate WebQuests. More specifically, it investigated where WebQuest rubrics that teachers used came from. In other words, were teachers using rubrics that they created themselves, or were WebQuest rubrics provided for them. And finally, this study investigated whether teachers used the Dr. Dodge web site that had been visited by thousands

of people, according to the visitor counter on the web site.

For teachers who would like to have students create a WebQuest on their own, it is important to become familiar with Gathering information, Arranging information into meaningful formats, and using technology tools to Present that new knowledge to others, (GAP). This instructional strategy known as GAP, is a strategy that was developed by Caverly to help students (Peterson, Caverly, & MacDonald, 2003). Given all of these things, it is very important for teachers to know how to evaluate WebQuests, and with the use of technology being used more and more in the classrooms, there is an even greater need to evaluate different technologies.

Research Questions

This thesis attempted to answer the following questions that have not yet been adequately researched.

1) How frequently do teachers use WebQuests?

2) What method(s) do teachers currently use to evaluate WebQuests?

3) What specific criteria are most useful or needed to develop a generalized rubric that could be used to evaluate a WebQuest?

Significance of the Study

From an informal sampling in talking to classroom teachers and teachers in the Instructional Technology program at a local university, it was discovered that many teachers and college students were very interested in finding out more about WebQuests, but some of the students had never heard of WebQuests, or how to go about creating, or evaluating a WebQuest.

Today's teachers are expected to use technology with their students, and now more than ever, the majority of teachers have access to computers and the Internet in most classrooms.

One major problem with technology in the classroom is the steep learning curve that exists for most teachers. However, it should be noted that in the general work force and in daily life, people are required to use more and more technology and must deal with the same learning curve and seem to do so. In education, teachers are being encouraged or required to use more and more hands-on technology such as WebQuests in the classroom. Therefore, knowing how to evaluate WebQuests will help to improve teachers' performance and have a positive impact (Reiser & Dempsey, 2002).

It is important to know the frequency of which teachers use WebQuests because teachers are being asked and expected to evaluate student work in the area of technology as the demands of computer literacy skills have increased with time. By examining the frequency of WebQuests it could determine the needs to even have a rubric, and if so later show the importance of a rubric to evaluate all WebQuests in the classroom.

For teachers and administrators it is important to look at evaluating WebQuests because they will ultimately be the ones who will be investing time and money into the technology-based curriculum (Reed, McNergney, & Robert, 2000). WebQuests can be used to motivate students, and therefore developing a rubric for teachers to evaluate WebQuests will help teachers to motivate students. It is necessary to know which method teachers currently use to evaluate WebQuests in order to find out what method they prefer to evaluate WebQuests. In other words, in order to create a rubric to evaluate WebQuests, it needs to be determined what teachers like or don't like about the rubric they are currently using if they do in fact use one.

In developing a WebQuest rubric that would be used by teachers, it is important to know what specific criteria

are most useful or needed to develop a generalized rubric that could be used to evaluate a WebQuest because this would help ensure that teachers would want to actually use the rubric.

Limitations

This study was limited by the difficulty in finding teachers who knew the meaning of a WebQuest and the limited number of teachers in the sample who used WebQuests in their teaching practice. This directly impacted the sample size available for the survey and interviews that form the basis of this study. This limits the generalizability of the results of this study. An additional limitation of this study arises from the relatively limited number of books and research studies about WebQuests, despite the fact that WebQuests have been around for approximately fifteen years.

Definition of Terms

Blooms Taxonomy – is comprised of six levels of cognitive domain; knowledge, comprehension, application, analysis, synthesis and evaluation.

Download time – The amount of time that it takes for a web page to be viewed by the user.

EThemes – is a database of resources organized by themes.

Evaluation – Reviewing or analyzing a course to determine
   its impact and improve effectiveness (Piskurich,
   2000).

Focus group – is a method of collecting data using
   participants who are subject matter expert groups in
   an area being studied. The researchers conducting the
   study facilitate the questions, and collect data for
   analysis.

GAP – Gathering information, Arranging information into
   meaningful formats, and using technology tools to
   present new knowledge to others.

Global Classroom – is an activity or lesson between two or
   more classrooms who exchange information using the
   Internet to communicate.

Hypermedia – is computer stored information that is
   connected and retrieved via links (Giuseppe, 2001).

Instructional Design – A process in which a training plan
   is devised, for an organization to meet their needs
   while trying to be effective and efficient from the
   beginning to the end of a project.

Institutional Review Board (IRB) – is for those students
   who are conducting research at a university to
   protect human and animal subjects who are involved in
   research study.

Multimedia – Technology that is used to enhance group

  lecture presentations (Jonassen, Howland, Moore, &

  Marra, 2003).

Reliability – "is the degree to which a study or

  experiment can be repeated with similar results"

  (Johnson, 2005).

Tapped In – Web based learning environment for

  professional development providers and educators.

Technology – "is characterized as a tool that can help

  teachers and students become co-learners who

  collaboratively construct knowledge" (Reed et al.,

  2000).

TrackStar – Thematic web collections of lessons for

  teachers to use in the classroom using the Internet.

  It is organized by themes, authors, and grade levels

  for teachers to locate lessons quickly. Teachers may

  also create a Web Page or quiz for a track

  (University of Kansas, 2004).

Triangulation – is looking at information from more than

  one perspective (Johnson, 2005).

Uploading – To transfer data from a computer or device to

  a central location.

Universal Resource Locator (URL) - Functions as an

    Internet address and includes the address of the

    server.

Validity - is when a researcher is explaining how they

    assure their readers that the data collected is

    accurate (Johnson, 2005).

Web designer - A person who designs a Web site (TechWeb,

    2005).

Web developer - A person who develops a Web site, and

    organizes the site.

WebQuests - 1) Lessons that can be completed individually,

    with a partner, or in groups using the Internet

    (March, 2003). 2) Inquiry-based activities using the

    Internet resources (Lamb, 2004).

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

Despite the efforts that have gone into the promotion of the use of WebQuests including the development of web-based software (Trackstar) to help teachers easily develop WebQuests, the topic of evaluating WebQuests has not been adequately researched.

This literature review examines three main topics that related to the evaluation of WebQuests. The first topic of review, defines a WebQuest. Because WebQuests are still fairly new, it is important to examine what makes a WebQuest. Second, the literature base on hypermedia, multimedia, and online classes is examined. It also examines Blooms Taxonomy and what web developers and designers have said about quality education. Third, the review examines purposes of WebQuests, pre-existing WebQuests and rubrics. And finally, the most important features of a good WebQuest were researched and included as advantages and disadvantages of WebQuests.

Several of the reviews contain only pertinent information on how to actually build a WebQuest. This is essential, because without this information a teacher may

not know how to evaluate other WebQuests after spending numerous hours searching for one to use in the classroom, so it is important to look at these other reviews about building WebQuests too.

WebQuests

Defining WebQuests

WebQuests are inquiry-oriented activities that use the Internet via a series of links to web sites to bring lessons into the classroom. They were developed by Dr. Dodge along with March in 1995 (Dodge, 2004). There are different types of WebQuests available for teachers to use and evaluate.

Dr. Dodge the creator of WebQuests introduced the world to WebQuests in 1995. He has maintained the web site http://webquest.sdsu.edu/overview.htm (2004), which has been used by many teachers who have created WebQuests themselves. The web site has been visited by a great number of people.

Techtalk, a Journal of Departmental Education, helped define WebQuests more clearly by providing reasons to create a WebQuest and on how to build a WebQuest. The information still applies to date, and the ideas presented can be used by teachers (Peterson et al., 2003). First, a

WebQuest can be used to introduce a course or investigate a career. Second, they can be used for inquiry. Third, students can investigate problems through Problem-Based Learning (PBL). In PBL students investigate a problem in the community and present their solutions to others. And fourth, students can create their own WebQuests for which they have to do research. The instructional strategies that encompass these types of lessons include gathering information, arranging the information, and then presenting the findings to others, GAP. This instructional strategy is also known as the GAP strategy or model, which was developed by Caverly (1998).

Table 1. Gathering Information Arranging Information into Meaningful Formats and Using Technology Tools to Present that New Knowledge to Others

The GAP strategy includes students working through the following steps:	Examples
• Gathering information	• Look at other web sites to find ideas for formatting a WebQuest. • Gather books on a specific topic.
• Arranging information into meaningful formats	• Interpret data and organize it into appropriate formats.
• Using technology tools to Present that new knowledge to others	• By way of creating a WebQuest as a project. • Create a PowerPoint project

Not all WebQuests on the Internet are problem-solving based. However, a good WebQuest should be a lesson that engages students in these types of activities. The purpose for using WebQuests versus some other means of delivering a lesson is to use online information to address higher level questions by analyzing, synthesizing, and evaluating information through links within a WebQuest (Lamb, 2004).

Teclehaimanot and Lamb (2004) define a WebQuest as another way of delivering a computer-mediated lesson to a group of students or teachers. Students engage in problem

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solving, information processing, and collaboration. The end result of the WebQuest is for the learner to present some sort of project, but not a research paper. The final project can also be a skit, diorama, etc.

And from Jonassen's (2003) constructivist's view, WebQuests are intended to challenge students by using web based resources and tools to create a project by analyzing, synthesizing, and presenting an end result project that shows what the learner has gained, therefore information about student created WebQuests is mentioned. This information is important for the purpose of evaluating the task area. A WebQuest should not be online worksheets with little educational value. They should, however include learning that allows the learner to analyze information (Jonassen, 2003).

There are three steps in student created WebQuests. For the upper grades (4th and 5th), some teachers may prefer to have students build a WebQuest of their own, which can also be a part of the evaluation criteria. The teacher may want to have the students build a WebQuest either on their own, in groups, or in pairs. If a teacher chooses to do this, it becomes imperative to evaluate the WebQuest that one is selecting to use with the class. This is just one example of how important it is for teachers to

use the evaluating rubric as a means to gain the most from any lesson. The purpose of a task, in the WebQuest, is not to create busy work for the students, but for quality lessons to be delivered, and quality assignments to be given, as well as meaningful learning to take place.

By having students create a WebQuest of their own they develop confidence with technology and presentation skills while having a great time, and being engaged in a meaningful learning experience. In the end, the students should create a product that is a culmination of creating something unique that demonstrates they have gained knowledge from using a WebQuest.

Finding Quality WebQuests

There are several ways to go about finding quality WebQuests, which include using the Dodge web site, Ethemes, Blue Web'n, Trackstar or by looking at school district WebQuests posted on the Internet and teacher web sites. As mentioned previously the Dodge web site is a great starting point for finding quality WebQuests, especially for those who are new to discovering them.

By looking at the number of people who have visited the Dodge Web site, it is evident that teachers have found it very helpful to spend some time looking at his web site for ideas on WebQuests. His web site has information for

teachers to create a WebQuest, and an evaluation rubric (Dodge, 2000a).

After looking at the number of visitors who have used the Dodge web site, it can be concluded that many people find it very helpful to spend time looking at the web site to become more familiar with WebQuests and a rubric to evaluate WebQuests (Appendix D). The site also makes it much easier to become familiar with the format of good WebQuests, and to help teachers become more familiar with evaluating WebQuests, as his site lays out the essential parts of a WebQuest (Dodge, 2000b). Jonassen (2003) reiterates that a good WebQuest gives examples of what a WebQuest is not (Jonassen et al., 2003). As teachers start looking at WebQuests that are already published on the web, it starts to become clear as to the fact that some of the WebQuests are not true WebQuests, simply because some important missing components, a lack of information, or the overall appearance may not be appropriate for the intended grade level.

The Dodge web site helps to eliminate some of the run around in finding good quality WebQuests according to articles and interviewees. Both of which highly recommended starting with the Dodge web site, looking at some of the WebQuests that are available, and then

venturing out into the World Wide Web (WWW) by doing a search for a specific topic. Next, teachers start to narrow down several WebQuest choices to use in the classroom, and from there, teachers can use the Evaluating WebQuest Rubric that was created as a process of this most recent research in the area of WebQuests (Appendix C).

EThemes and Trackstar are databases of resources organized by themes. There are also some WebQuests under eThemes, which could be used for ideas, or else copied and changed to create a new WebQuest. By using eThemes or Trackstar, teachers are able to find WebQuests relating to their choice of topic. Information can be found quickly by looking at information in the resource index. Themes are organized by way of grade level and topics, therefore narrowing down the search for information to be used in a WebQuest (University of Missouri-Columbia, College of Education & School of Information Science and Learning Technologies, 2004).

Blue Web'n is an online resource of 1,952 sites organize by grade level, and topics (SBC Knowledge Network Ventures, 2005). Teachers have the ability to make refined searches, to find what would best meet their classroom needs. Blue Web'n has been around since 1995, and has been referred to as a good web site in articles and by

interviewees. It is very similar to eThemes in that they are organized the same, and they both have WebQuests that can be copied and changed to create a new WebQuest. As of today, the most recent update for Blue Web'n was October 18, 2004. It is to the teacher's advantage of using sites that have been updated recently, and access links to more recognized web sites to help avoid the possibility of dead links. It is important to keep in mind that WebQuests need to make use of the web, and because of that, finding dead links is inevitable, but the less dead links on a site, the easier it will be to evaluate this area of criteria (SBC Knowledge Ventures, 2004).

Some school districts have a technology page with a list of available WebQuests for any regular education teacher to use. Many times there are a variety of lessons to choose from. Teacher WebQuests are a great way for finding wonderful WebQuests, however according to some interviewees, sometimes WebQuests require more time trying to locate.

Table 2. Reference Guide to Quality WebQuests

Resource	URL/How to access	Search words
Dodge Web Site	http://webquest.sdsu.edu/overview.html	Bernie Dodge and WebQuests
Ethemes	http://www.emints.org/ethemes	WebQuests
Trackstar	TrackStar http://trackstar.hprtec.org	WebQuest and topic of interest
Blue Web'n	http://www.bluewebn.com/kne_search.html	WebQuests
School District Web Sites	Search engines	Name of the school district and WebQuest
Teacher Web Site	Search engines	Name of the teacher and/or topic.

As for search engines, it is suggested by *Five rules for writing a great WebQuest* (2001) that some of the best choices are as follows:

Alta Vista - www.altavista.com

Google - www.google.com

Northern Light - www.northernlight.com

Advantages and Disadvantages

Research so far, has shown the advantages of WebQuests are far greater in number than the disadvantages. As for teachers using WebQuests, an advantage is that WebQuests are an important tool for new teachers because they provide a clearly defined structure

in WebQuest design and use is well supported. There is a wide variety of quality, and the teacher must critically evaluate the WebQuest, as with any other lesson. Two authors, Jonassen (2003) and Faichney (2002) in particular have included advantages and disadvantages in articles to stress these factors.

Jonassen, (2003) who is a constructivist in terms of education and technology examines WebQuest use by the classroom teachers, and students. He lists advantages and disadvantages to help teachers make informative decisions about using WebQuests in the classroom.

One advantage of a WebQuests includes being able to incorporate several skill building and real life benefits by having the students create a WebQuest as a task (Jonassen, 2003). Second, by having students create a WebQuest of their own students develop the confidence with technology and presentation skills while having a great time. In both of these advantages, it is critical to mention how both of these advantages are necessary life long learning skills that are crucial for the young children to learn today to better prepare them for the future. And finally, Faichney (2002) stressed the importance of using WebQuests versus using search engines due to the nature of some topics that may appear

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- Uploading on the Internet

Disadvantages

- Dead links

- Not all WebQuests are kept current

- Not all information is accurate

- Not all information is true and accurate, and information for the WebQuest being evaluated should be selected according to the age the WebQuest is intended (Descy, 2003).

- Need to have some knowledge of technology "Anyone can publish on the web without being reviewed or approved by experts. Students need to interpret and synthesize a variety of resources that may not be well organized and designed for the assigned task" (MacGregor & Lou, 2004, para. 9).

Current Research

To date, there is very little research and information on the elements of effective WebQuests and evaluating WebQuests. With the trend of increasing test scores, many teachers are finding it more difficult to include technology into their lessons, despite it being a required state standard. Although there are many reasons

for this, those reasons will not be discussed in this thesis, but yet it is important to mention this fault because part of the reasons that teachers are feeling uncomfortable with technology themselves, or perhaps the uncertainty of not knowing how to incorporate technology into the classrooms is making it more difficult. In 2000, a large study that was conducted in California suggested having the Internet in a school did not raise test scores (MacGregor & Lou, 2004). It was argued that standardized testing are not good measures of the same higher level thinking as what the Internet may involve. Even though this study is several years old as of the date of this publication, it is still important to note that there has been very little research done in terms of WebQuests. The study suggested that information through inquiry based learning, such as WebQuests supports constructivist learning, and develop intellectual ability. These types of activities are also fun for most students, and increase the number of students who are engaged in hands on lessons.

In terms of looking at the effectiveness of networked technology, little is known, about it, and in most evaluation studies the concerns are that of the

effectiveness of web-based learning (Psaromiligkos &

Retalis, 2003).

According to an extensive, in depth article about the

lack of information on WebQuests, preliminary research,

studies indicate that web developers and designers have

found it more difficult than expected to implement

WebQuests in the classrooms (MacGregor & Lou, 2004).

<div align="center">

Design Criteria for Good Multimedia-based
Instructional Materials
</div>

Many studies have found, and many educators would

agree that computer lessons need to be appropriate for the

intended grade levels. Research has also shown that

teachers need to have training in order to be more

effective in delivering these types of lessons (Haugland,

2000). In order for these things to take place, teachers

need to have the support of their administrators, which

means having sufficient training to meet the needs of

teachers, which includes not only training the teachers,

but also providing mentors and follow up training to work

through any problems or questions that the teachers may be

having (Haugland, 2000).

Hypermedia and Multimedia

The trend of technology literature is moving away

from hardware and towards instructional material design

and strategies for delivering content. One such area gaining attention is the trend of the use of multimedia, and hypermedia products (Preston, 1989). Hypermedia should be thought of as an environment to construct personal knowledge and learn with, not a form of instruction to learn from. This means that students should be engaged in problem solving activities, which requires them to search for information, model the structure of that information and then design the multimedia and hypermedia components (Jonassen et al., 2003).

The criteria that would make up good hypermedia-based instruction would include activities that would allow for students to engage in hands on activities and involve students in higher level thinking lessons such as creating a WebQuest of their own. The student of today, needs to have higher level thinking skills, and it is in the hands of educators to teach and reinforce these skills, that must be modeled and practiced so that students will have the ability to do these things on their own, and hypermedia and multimedia are ways to engage all learners.

Online Classes and Web Developers

Online courses are becoming more popular, and the demand is growing for these classes, and with it comes the use of a wide variety of media resources to conduct such a

class. It requires a management system that tracks the students, has a place for communication with classmates, and the professor and might even offer opportunities to chat with experts within the field (Preston, 1989). Online classes are popular with many independent learners because for the most part, most online classes are asynchronous, and fit students' schedules given that there are usually no set meeting times or dates. It also requires that students have basic technology skills, such as accessing web sites, sending e-mail attachments, and taking part in chat rooms.

While online courses allow for the ability to have global classrooms, the costs of having online courses include maintaining the site with faculty, tech support, and the expense of hardware and software which are not always associated with face to face classes (Wonacott, n.d.). So while telecommuting may seem very advantageous, it can be expensive.

To create successful learning environments such as online classes, web developers and designers need to understand how communication and interaction are changed by computers (Giuseppe, 2001). Using WebQuests entails a lot of collaborative work between students. Designers recognize that the work of most WebQuests takes place away

from the computers, therefore, working collaboratively
with one another (Five rules for writing a great WebQuest,
2001).

Instructional Designers often use John Keller's
Attention, Relevance, Confidence, Satisfaction, (ACRS)
model to incorporate motivation into instruction.

> The ARCS Model identifies four essential
> strategy components for motivating instruction:
> --[A]ttention strategies for arousing and
>   sustaining curiosity and interest;
> --[R]elevance strategies that link to learners'
>   needs, interests, and motives;
> --[C]onfidence strategies that help students
>   develop a positive expectation for successful
>   achievement; and
> --[S]atisfaction strategies that provide
>   extrinsic and intrinsic reinforcement for
>   effort. (Small, 1997, para. 5)

The ACRS model is a problem solving approach to
learning. Its design process includes an analysis of
audience motivation, finding ways to meet the needs of
learners, building learner competence through lessons, and
providing meaningful ways for students to apply new

knowledge (Reiser & Dempsey, 2002). A true WebQuest should

pass all areas of the ACRS model (March, 2003).

Blooms Taxonomy

The children of today need to have more critical

thinking skills for a more promising and successful,

future. These skills need to be learned, and research has

shown that when these skills are not taught on a regular

basis, students forget how to use and apply critical

thinking skills (Howe & Warren, 1989). Other research has

shown that different sources of knowledge need to be

incorporated into the curriculum, and this information is

being documented in more recent research.

Critical thinking skills are of the utmost important

for being able to solve some problems in the areas of math

and science. As far as Blooms Taxonomy and research

results, children can not effectively use critical

thinking skills without appropriate knowledge (Howe &

Warren, 1989). As with most all skills that children learn

it is important to have skills reinforced for the skills

to become embedded in the process of learning so that

these skills will become a more automatic way for children

to learn. Skills that are not modeled, or addressed on a

repeated basis tend to be lost because of the lack of

knowledge in how to apply skills, which leads to

forgetting how to use the skills as another tool to learn. It is also important to have an open dialogue or communication with either the students or have the students work collaboratively to help reinforce skills.

Evaluating WebQuests

Evaluation of technology is a growing trend within instructional design and development. In fact, seventy four percent of academic programs are including evaluation into their courses. The process is divided into four categories: product evaluation, process evaluation, cost-effectiveness, and formative evaluation (Preston, 1989).

WebQuest evaluation starts with choosing a topic to investigate. From there the teacher needs to define some objectives and then look at the guiding questions in the WebQuest. Teachers then need to use some sort of evaluation criteria to help decide how well the WebQuest is by using a rubric. The evaluation process ends with the decision of what to do in terms of using, not using, or modifying a particular WebQuest. This could include, but is not limited to the evaluation of a student creating a project of some sort where they have the opportunity to share with others what they learned.

Given that school districts are trying to raise test scores, many school districts have worked on ways to increase evaluating student work, or district assessments. Technology is not being left out from the perspective of raising test scores, as it too is being included in these standards and requirements that students must meet. Therefore, to make lessons more meaningful to the teachers and students, teachers have a need to use rubrics. Some teachers may use rubrics that are available on the web, but according to Comer and Geissler (1998), they suggest that teachers and school districts develop their own assessment criteria for what they want to evaluate so that the information is tailored to their specific needs (Reed et al., 2000).

Evaluating WebQuests, which is considered an assessment tool is important because it can serve as an instructional device that helps define what students need to know and provide a guide that will help teachers to select quality lessons (Reed et al., 2000).

Finding Good Quality WebQuests

On the Internet, one can find multiple WebQuests on just about any lesson, although for purposes of each classroom there are teachers who may want or need more tailored lessons. Generally a good quality WebQuest tries

to meet the needs of higher level thinking students. In either case, a preexisting WebQuest should be made to fit their needs, although it is true that it is impossible for a teacher to tailor every single lesson to meet the needs of every student, this is just a suggestion when deciding to use a WebQuest.

For those new to WebQuests, it is best to look at some samples before actually beginning the process of evaluating WebQuests. The links listed in table 3 is a good starting point for becoming more familiar with WebQuests besides using the Dodge web site. It defines some of the features of high and low quality WebQuests.

Table 3. Defining the Characteristics of a Quality
WebQuest

Characteristics of a high quality WebQuest	Characteristics of a low quality WebQuest
Title it clearly stated.	Title is not clearly defined.
States the grade level and area of academics – Ex. English, grades 9-12	No grade level is suggested.
Few if any dead links	A lot of dead links.
Overall site: Large easy to read font with a background that is not distracting.	Overall site: Difficult to read font, or distracting background.
Task – The students will produce a specified project. Ex. The students will give an oral presentation.	Task was not clearly defined, or was too difficult or too easy for the intended grade level.
Evaluation – Includes each area to be evaluated in a rubric indicating what qualifies student work as excellent, good and needs improvement	Evaluation was not included in the web site, or else it was missing the grading within the rubric in terms of a rating scale.
Conclusion – Very short synopsis up of ending the lesson.	Conclusion was missing or too brief.
Extensions – Ex. Create a collage of images. This was good for students who may need an extra challenge	No extensions were included in the WebQuest for students.
The author's name was stated.	Author's name was not stated.
Acknowledgments were made within the web site for resources.	No acknowledgments made within the web site for resources.

Rubrics

After selecting a WebQuest, it needs to be assessed

to see if it is truly a WebQuest. There are already

pre-existing rubrics available to evaluate WebQuests. For

the purposes of this study, ideas were taken from these rubrics, and used to create a rubric that was used during the interviews with the experts for this study. The experts in this case, as will be discussed later were assessed on two occasions to develop an efficient and effective rubric.

The Dodge rubric is available at http://webquest.sdsu.edu/webquestrubric.html for teachers to use when evaluating WebQuests (Appendix D). It is broken down into sections using a numeric rating scale.

The "Assessing WebQuest Rubric" is available at http://www.ozline.com/webquests/rubric.html for teachers to use when assessing their own WebQuest or someone else's to determine if it is a good WebQuest. This web site is a parent company of March and his colleagues (Ozline.com & March, 2004).

March's rubric defines what is and what is not a WebQuest according to Assessing WebQuests in Appendix D (March, 2000).

Components

Depending upon which resource one prefers, there are several different guides to look at in terms of features of a good WebQuest, however, they are all very similar,

but it is nice to reference them for their similarities and differences.

According to Dodge, all parts of a WebQuest need to have the following elements to be considered a true WebQuest. The seven steps are crucial in being able to begin the evaluation of WebQuests. The first five steps are listed in more detail in table 4 (Faichney, 2002).

1)   Introduction

2)   Task

3)   The process

4)   Evaluation

5)   Conclusion

6)   Resources

7)   Project

Table 4. Parts of a WebQuest

Introduction	Task	Process	Evaluation	Conclusion
This is meant to grab the student's attention.	This part should tell the student what they will have to do. It should outline what the student's project should be.	This needs to include the steps that the students will follow during the activity.	Here students learn about evaluating one another. The teacher also needs to develop a rubric which indicates objectives for each step in the process.	This brings the lesson to a close. Teachers who choose to add resources at the end of the WebQuest should have three choices. Links for students to use should also be provided.

The resource section of a WebQuest needs to include the resources the teacher used in the creation of their project. Many times WebQuests include credits in this section as well as clip art web sites that were used.

As for the project portion, teachers should decide early on what they would like for their students to create as a result of doing the WebQuest.

According to Blue Web'n a good WebQuest has eight essential parts (Appendix E). Each part is expanded upon for future reference.

1)   Engaging Opening

2)   The Question/Task

3)   Background for Everyone

4) Roles/Expertise

5) Use of the Web

6) Transformative Thinking

7) Real- World Feedback

8) Conclusion

The engaging or opening should have something that grabs the attention of the WebQuest user. This should be thought of as the anticipatory set of a lesson plan.

The question and/or task of the WebQuest should be clearly stated so that the person or persons engaged in the activity know what is expected. The question and task should be higher-order thinking, but at the same time be very clear. For those teachers who may have students that are not able to answer higher level thinking questions, the questions should be simple so that the students can be successful. Within the WebQuest, there should be no doubt as to the question or task at hand.

In terms of background, the basic foundations of knowledge should be present, and the necessary web resources should be available in the WebQuest for the user to access.

The roles and expertise should match the issues and web resources. The web resources should provide a variety of ways to view the WebQuest topic.

All WebQuests should use the Web, which should be accessed for the following purposes; interactivity, multiple perspectives, current information. WebQuests that do not access the web, are not considered WebQuests. As mentioned previously eThemes is a way to use the web. Teachers should consider using eThemes, because it is organized for teachers to find information quickly.

Transformative thinking incorporates the question and task portion. Higher-level thinking is required to build new meaning using the resources within the WebQuest. And, just as in any well planned lesson, scaffolding incorporates using links to resources on the World Wide Web. A task to motivate student learning also needs to take place with an open-ended question. Individual expertise and group discussions should involve taking the new found knowledge and transform it into something new, in which the students should walk away feeling very informed or knowledgeable (March, 2003). Real-world feedback is provided within the WebQuest, meaning that a rubric of some kind is provided to evaluate the tasks completed.

The conclusion should tie in with the introduction, and should make them think about how WebQuest learning can be transferred to other topics.

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Nevertheless, when looking at an evaluation rubric, it's important to consider the ideas in the WebQuest for a final student or teacher project. Such culminating activities in the WebQuest that teachers might be looking at would include one of the following types of project.

- Plays/Skits

- Dioramas

- Write a story

- Student created WebQuest

- PowerPoint

Summary

The literature review helped to shed light on three main topics. It started out by defining WebQuests for those unfamiliar or new to using this still fairly new type of lesson in the classroom. It also touched on hypermedia, multimedia, and online classes that have been becoming more widely used in education. Next, it examined Blooms Taxonomy and what web developers and designers have said about quality education. And finally, the characteristics of quality WebQuests were touched on, and the advantages and disadvantages of WebQuests were also included.

CHAPTER THREE

METHODOLOGY

Introduction

Chapter Three documents the steps used in developing
the study by investigating the method of research. A mixed
method was used to answer the research questions by
conducting surveys and interviews for the purposes of this
study. The objective of the research was to develop a
rubric to evaluate WebQuests.

Research Questions

1)   How frequently do teachers use WebQuests?

2)   What method do teachers currently use to
     evaluate WebQuests?

3)   What specific criteria are most useful or needed
     to develop a generalized rubric that could be
     used to evaluate a WebQuest?

Survey Participants

The participants in this study included a total of
fifteen WebQuest using teachers. Six of the survey
participants came from five K-12 schools in Southern
California, two came from K-12 public schools in Arizona
an Indiana, two participants were from a Southern
California private school, and five participants were from

an instructional technology program. The ethnic background, age, and sex of participants were not relevant to the study and were not gathered.

After obtaining Institutional Review Board Approval IRB, The participants in the school districts and private school were recruited by way of responding to an e-mail sent out asking for teachers who had used WebQuests to participate in a survey that would take about twenty minutes to complete. The e-mail included that the survey was voluntary, but their time and effort would be greatly appreciated. The surveys with teachers took place one on one at the participant's school site, by phone, or e-mail, whichever was more convenient for each participant. The survey took about twenty minutes.

The participants who were in the Instructional Technology program at a local university were asked to participate by asking for volunteers who were K-12 classroom teachers. Again, it was emphasized that it was voluntary. These surveys took place at a local university or by e-mail and also took about twenty minutes to complete. It was important to include Instructional Technology participants because they had already taken many technology classes, and had first hand expert

knowledge of evaluating technology in the field of education.

Survey Methods

Once the participant criteria were determined, questions were developed that included questions about evaluating WebQuests (Appendix B).

- What did teachers use for a rubric?

- Where did the rubrics come from?

- What criteria did teachers have for evaluating WebQuests?

- How did using a rubric help evaluate student work?

- How was the Dodge web site helpful for using rubrics?

Survey participation was based on prospective participants having access to at least one computer in the classroom and they must have used a WebQuest at least once. Potential participants who did not meet these criteria were not included in the survey.

Interview Participants

Three participants were selected for follow-up individual interviews and were based on two criteria;

frequency of classroom WebQuests use, or expertise in using and evaluating WebQuests. The goal was to select teachers who had already used WebQuests on a regular basis, and were able to give insight into rubrics for evaluating WebQuests (Morgan, 1997).

One participant was an instructional aide in a computer lab at an elementary school, another one worked for a private school as a technology coordinator and the other expert was as a high school teacher in a public school.

Interview Methods

The interviews with the three experts took place one on one by phone, or e-mail, whichever was more convenient for each participant. Two out of three of these experts participated in two separate interviews. The first interview took about thirty minutes, and the experts were asked questions as well asked to rate items in a rubric (Appendix B). As for the second interview, only two of the experts were able to participate due to time constraints, the instructional aide, and the high school teacher. During this interview the experts rated the rubric items once more (Appendix C). The second interview with the experts took about twenty minutes.

After all of the data from the surveys was collected, and analyzed, interview questions and a rubric were developed (Appendix B). The interview questions were based on what the experts specifically used to evaluate WebQuests, and how they specifically evaluated WebQuests. The rubric items came from the Dodge web site, and the University of Southern Maine web site.

The first question was developed for the purpose of finding out more specifics as to how the experts evaluated WebQuests. It was important to know how teachers specifically evaluate WebQuests so that it could be determined what needed to be included in the rubric being developed for this study. Second, since most teachers who were surveyed said they used a rubric to evaluate WebQuests, we needed to know if the experts used rubrics to determine if there was a need for all teachers or if experts did not like using them. The third question was developed to find out more specifically where the rubrics came from if the experts used them. This information would be used to determine what criteria would need to be included in a rubric by evaluating similarities and differences in the rubrics used by the experts. Next, a question was developed to find out if the experts had ever created a rubric to evaluate WebQuests, and if so how it

was developed. This information would help create more specifics for a rubric. The next question involved finding out if the experts had WebQuest rubrics from their district that could aid in developing a rubric for this study.

During this interview, the experts were asked to evaluate a rubric that was developed from taking pre-existing information on the Dodge rubric for evaluating WebQuests web site, and the University of Southern Maine web site, and together a new rubric was created to help teachers evaluate WebQuests. The expert participants were given the WebQuest evaluation rubric and asked to rate items on a scale between one and five in terms of what rubric categories they would keep in the rubric; a one being items they did not think should be included in the WebQuest evaluation rubric, and a five being they would definitely include the item in a WebQuest evaluation rubric. The next questions for the interview were in regards to what the experts would take out or include from the rubric that was developed for this study. An evaluation chart, to help teachers decide whether or not they should use a particular WebQuest was also included as a part of the rubric for the experts to evaluate. And finally, questions were posed as to

Table 5. Origination of Rubric Category Items

Rubric Item	Dodge web site	University of Southern Maine	Experts
Beginning, Developing, and Accomplished columns	X		
Overall Reliability		X	X
Authority		X	
Credibility		X	
Contact Information		X	
Download Time		X	
Navigation	X	X	
Link Rot, later renamed dead links	X	X	X
Content			X
Information		X	
WebQuest Areas			X
Content	X	X	X
Material	X	X	
Purpose		X	X
Items	X	X	
Working links	X		
Updated		X	
Format and Presentation Appearance			X
Navigating	X		
Font Size	X		
Font Color	X		
Graphics	X		
Grade/Subject Area		X	
Organization	X	X	
Search Engine		X	
Cost and Accessibility		X	
Availability		X	X
Links	X	X	
Expense		X	
Membership		X	

similarities and differences among the Dodge and Blue

Web'n rubric since Dodge had created WebQuests, along with

March. Therefore, the March rubric was included since they helped with the creation of WebQuests.

After interviewing all three experts, the results of the three interviewees were tallied and averaged to find the score of all three experts (Appendix B). Individual categories in the rubric that scored a one or two were removed, and were not put into the revised rubric. Items that the experts rated and received a three, four or five, were included in the revised rubric (Appendix C).

After these items were analyzed a new rubric was developed from their recommendations. The two experts were asked to rate the items once more using the same scale as before. For the second interview, the experts were only asked to rate items in the rubric and make recommendations or suggestions for a final revised rubric that could be used by all teachers to evaluate WebQuests. The overall score of each category was calculated by the same method as in the first interview. Only the items that received an overall score of a three, four or five would be included in the final rubric. From here, the final rubric was developed using the data from the experts' advice on what to include and what to exclude from the evaluation criteria and presented in (Appendix C).

Instructional Design Process

The instructional design process of creating an evaluation criteria for WebQuests was lengthy. There were many steps in the design process. First, survey questions had to be developed, and afterwards interview questions were developed based upon the need to include an evaluation criteria for WebQuests into this study. During this development process it was necessary to analyze the technology skill level, time, and resources available to me.

The first step was to answer several questions, "Who should learn how to create WebQuests?", "Why should there be a method of developing a criteria to evaluate WebQuests?", "How can there be a way to effectively evaluate WebQuests?", and finally, "Can there be one general rubric to evaluate all WebQuests?"

Table 6. Design Time in Evaluating WebQuest Study

Decide on participates to focus on	2 weeks
Gather resources and data for study	4 weeks
Develop survey questions	2 weeks
Submit survey questions to advisor for approval	2 weeks
Submit survey questions and IRB information for approval	2 weeks
Find participants	4 weeks
Survey teachers	4 weeks
Analyze survey data	1 week
Develop interview questions, rubric and new changes to IRB	2 weeks
Submit interview questions, rubric and new changes to advisor for approval	3 weeks
Submit interview questions and rubric to IRB for approval	1 week
Interview expert teachers, including rubric criteria	1 weeks
Analyze data from first interviews and rubrics	1 week
Revise a final rubric for experts to analyze	1 week
Interview expert teachers, including rubric criteria using the second rubric	1 week
Analyze data from second interviews and rubrics	1 week
Complete revised rubric into a final rubric	1 week
Total design time in creating a WebQuest	32 weeks

Data Collection and Instruments

The research process addressed; collecting resources and data through surveys and interviews. Most of this information came from some widely used web sites on the World Wide Web (WWW).

Items collected for this study included; WebQuest and web site evaluation criteria, information on creating WebQuests, and a variety of books and journals in researching this topic.

Validity

The validity in the development of the evaluating WebQuest rubric was assured by having the three WebQuest experts examine the development as part of the design process. Changes they suggested were implemented into a new rubric. After this process, it went back to two of the experts for their final approval using a rating scale. The results in the scale were averaged out, and the items that scored a one or two were not included in the rubrics, and if the items scored a three, four or five, the item stayed in the rubric.

Triangulation

Triangulation was achieved by looking at the process of evaluating WebQuests from two different perspectives (Johnson, 2005). The first perspective was from surveying teachers who already used WebQuests in the classrooms, and the second was from interviewing the WebQuest experts, who had used WebQuests and evaluated them.

Reliability

The reliability of the surveys and interviews were assured by confirming information with the participants who were surveyed. As for the evaluation rubric, the results were tallied, and checked several times. The results were also put into a spreadsheet as a means of double checking the data results. The information was also looked at by other colleagues.

Summary

Through the development and implementation of a survey, the creation, and use of an interview protocol, the research questions of this study were investigated. Participants in the surveys gave insight into the frequency of which WebQuests are used in the classroom, the method of choice for evaluating WebQuests, and each participant helped in determining what criteria was needed to be included in the rubric created for this study. This information was needed in an effort to find out what was necessary for other teachers to evaluate WebQuests. After the rubric was created with their advice, interviews were conducted with three expert participants. During this process, the three experts rated items in the rubric as to what they would keep or omit in the next revised rubric on

a scale of one to five. They were also encouraged to make any other changes they felt necessary since they were the experts. Afterwards, a new rubric was made with the changes that were recommended. Then the interviewees were asked to rate the items once more in the same way, however one participant was not able to participant in the last rating. A final rubric (Appendix C) was developed with the advice from the other two experts in a second interview. Unfortunately the final rubric was not tested by anyone due to the timing of schools letting out for the summer.

CHAPTER FOUR

FINDINGS

Introduction

This study was comprised of a mixed method. Surveys
were completed, and later interviews were conducted. The
participants in the survey were selected based on if they
had ever used a WebQuest. As for the interviews, the
participants were based on their expert knowledge of
WebQuests, or expertise in the area of evaluating
technology.

Presentation and Findings

Survey Findings

A total of 15 participants took part in the WebQuest
study, and answered eight survey questions (Appendix B).
Ten of the participants were teachers in public or private
schools. The other five participants were technology
instructors, technology coordinators, or soon to be
credentialed teachers. The surveys were conducted in
person, by e-mail, or phone.

Table 7. Survey Participant Results

N = 15	
Participants were from public or private school	10
Technology instructors, coordinators, or educational technology students	5
Survey Questions	
1) Approximate number of times using a WebQuest with students	
Less than 5 times	9
5-15 times	2
Greater than 15 times	4
2) How the participants evaluate student technology assignments	
Evaluated work on a rubric	9
Either used a rubric or based it on a project or presentation	5
Did not use anything	2
3) Was the rubric provided or self created	
Created or modified their own rubric	10
Used the rubric within the WebQuest	3
Used one from the school district	1
Used one included in the WebQuest and created one	1
4) More specific information as to where the rubric came from	
Dodge web site	4
http://rubistar4teachers.org	1
Self created	7
School district	1
5) If using a rubric made it easier, or more difficult to evaluate	
Using a rubric made it easier	15
Responded that using a bad rubric made it more difficult to assess student work	1
6) How using a rubric made it easier or more difficult	
The students knew what was expected from them before they were graded.	
The rubrics were straightforward or clear, unambiguous and relevant because the subjective component of grading was eliminated.	
Helped the teacher to know what to improve on.	

A good rubric indicated what areas the student excelled in and which they needed more help.	
Helped when conferencing with students.	
Made it easier as another method to evaluate students.	
Easy to fill in student grades, and provided consistency for administrating grades	
Helped clarify the objective of a lesson	
Showed how the students meet the standards for the area being assessed	
Saved the teachers time from creating a rubric	
7) Used the Dodge web site	
Used the Dodge web site	12
Had not used the web site	3
8) Participant comments as to the Dodge web site	
Liked the templates provided	
Found good examples	
Included many great ideas	
Provided age appropriate links	
Great training materials and design patterns	

From talking with the participants, and perspective participants, and analyzing the survey information, many conclusions were made.

1) Creating a rubric seemed to be the most popular, followed by using or modifying one that was already available.

2) Those who created or modified a rubric claimed that a good rubric is not easy to make, or they created them to meet the standards.

3) Participants who modified a rubric did so to meet the standards.

4)   Nine of the participants used a WebQuest less
      than five times, and four participants used them
      more than fifteen times.

5)   Some possible candidates replied that even
      though they had created a WebQuest, and used one
      with students, said they did not feel
      comfortable being surveyed because they had only
      used a WebQuest once with their students.

6)   Some teachers said they lacked confidence in
      their technology skills, a few of these still
      offered to participate, but several others
      declined.

Interviews

A pane of experts comprised of a high school teacher,
a technology assistant who worked with elementary students
in a computer lab on a daily basis, and a director of
technology. Each one of these experts had something very
special and unique that added to this study. It gave the
study a good balance in terms of having input from experts
with knowledge with different backgrounds.

1)   The high school expert had used a WebQuest once,
      and the other two experts had used a WebQuest
      more than 10 times.

2) Time constraints with school getting close to letting out for the summer and teachers needed to meet additional job requirements before the end of the school year.

3) The interview questions and rubric were not online. Had it been online, one or two individual experts said they would have participated in the study.

4) All of the participants in the interview part thought that the rubric was too overwhelming to participate, which is probably the reason that two of the participants decided not to participate in the interview.

5) The interviewees thought the rubric was a lot for teachers to have for a rubric to use.

6) The rubric for the interview had to be conducted two times.

Interview Findings

Many teachers expressed that they had created their own rubric, but that it was important to use what was already available on the Internet to develop a rubric instead of starting from scratch. Some of the participants had expressed that the rubrics that were already available on the web were good, but that there needed to be a more

general way to evaluate all WebQuests so that they did not have to keep creating or modifying a new rubric. Through the surveys we found that these dimensions of the rubric items came from the Dodge web site and the University of Southern Maine web site that outlined important key points for evaluating web resources, and would later be incorporated into the interview portion of this study.

The interview process was a two-step process. First, the survey participants were asked twelve questions (Appendix B). It also involved having the interviewees evaluate a rubric that was created by combining items from the Dodge rubric, the Blue Web'n rubric, and some items suggested from the University of Maine's checklist for evaluating Web resources (2004).

The interview questions focused on three areas including what methods were used to evaluate WebQuests, specific criteria that was used in a rubric, and what similarities and differences could be found between the Dodge rubric, the Blue Web'n rubric and the rubric created for the purpose of this study.

For the WebQuest rubric that the interviewees rated, they were asked to evaluate items on a scale of one to five. A one being they would definitely take the item out of the rubric, and a five being, they would definitely

keep the item in the rubric. Three participants took part in this portion of the study. Afterwards, the items that the interviewees rated, were averaged out to get an overall rating. Any item that received a three or higher stayed in the newly revised rubric, and items that received a score lower than three were not included in the newly revised rubric. The rubric and the total average scores from the participants is listed in Appendix B.

The first research question focused on what method the participants used to evaluate WebQuests. There were a total of five questions in this area that the participants answered to help shed light on this. The first question was, "What did they specifically use to evaluate WebQuests?" Since these were the experts, and very knowledgeable about WebQuests, this question was asked again to possibly obtain any additional information from the expert's point of view since the survey. Each one of the interviewees evaluated WebQuests based upon looking at the WebQuest, or by using the rubric that came with the WebQuests. One interviewee mentioned that if a WebQuest did not look like it would serve a purpose, and the lesson could have been delivered by a different or more useful method, then the WebQuest would not be meaningful.

Second, the experts were asked what method they used to evaluate WebQuests. A variety of answers were given and each may have been due to the various backgrounds of each expert. Two individuals said they had used a rubric, and one did not because they did not give the students a technology grade. Another participant would sometimes use rubrics, but sometimes, the students would just receive a grade from a presentation or some other project that they completed as a result of the WebQuest.

Third, in terms of selectively using a rubric to evaluate WebQuests, the experts preferred to use what came with the WebQuest. And fourth, the experts gave insight as to developing self created rubrics. Both the high school teacher, and technology assistant had created a rubric of their own in a class they had taken. The other expert had given great advice, and suggested that there were already a great number of resources available on the Internet and suggested that teachers should start by looking at what is already available instead of recreating the wheel. Fifth, information was sought after to find out if their school had developed a WebQuest rubric. None of the expert's school or school districts had developed a WebQuest rubric for teachers.

After this series of interview questions, the experts rated the rubric items. Their ratings and the averages of each category are listed in (Appendix B). For the first time rating the WebQuest rubric, the experts were asked if they thought a general guideline table should be included in the rubric to help teachers decide whether or not they should use the WebQuest they were evaluating. Two of the interviewees said to definitely take it out, and one said to keep it. Therefore, it did not appear in the revised evaluation rubric.

Table 8. General Guideline When Deciding to Use a WebQuest

Evaluation Score	Suggestion on whether or not to use the WebQuest
90-100	• Use the WebQuest
85-89	• Think about asking the author for permission to use the WebQuest, and make the changes that fit the other needs.
0-84	• Don't use the WebQuest

The next research question focused on what specific criteria was used to decide what rubric should be used to evaluate a WebQuest. So the experts were asked if they had any other suggestions about the rubric. Their opinions were needed to develop a useful evaluation rubric. For the

most part, there were a lot of similar suggestions among the experts.

Some of the suggestions included by all of the participants included:

- Change the word "items" to "resources"

- Do not use the word "link rot", but instead use "dead links".

- Have the section dead links only once and not twice.

- Combine font color and size into one category, and revise the wording to include both items.

The category items that were eliminated from the first rubric included; contact information, material, updated, search engine, the links category under the cost and accessibility category, expenses, and membership.

The last part of the interview questions asked about comparing the rubric that was created for the purpose of this study to the Dodge rubric and also the Blue Web'n rubric.

Table 9. Self Developed Rubric Compared to the Dodge

Rubric

Similarities	Differences
Both rubrics use points to evaluate a WebQuest.	The Dodge rubric laid out the sections of a WebQuest.
Both had Beginning, Developing and Accomplished.	The Dodge rubric was very wordy.
	His rubric was based on 50 points versus 100 points in the rubric the participants evaluated.
	The points were broken down differently for different categories.
	The rubric that was developed for this study according to two of the experts appeared to be broken down better and did not seem to intimidate teachers. The experts said it seemed much easier to read, and appeared to be developed more for a practical use for a classroom teacher; user centered.
	The rubric that was developed for the experts to evaluate had areas such as authority and credibility which were not in the Dodge rubric.
	The Dodge rubric had standards.

Table 10. Self-Developed Rubric Compared to the Blue Web'n
Rubric

Similarities	Differences
Very similar with the three columns	The rubric developed for this study was more of a scoring versus a rubric.
More simple, easier to read	The Blue Web'n was not based on points
	The rubric that was developed for this study was broken down better.
	Blue Web'n was done with a constructivist's approach
	The Blue Web'n was very different from the standpoint of the categories.
	The Blue Web'n rubric evaluated the whole learning activity.

One expert made a very good point, they wanted to
know without the points, how teachers would add it all up
to make and overall decision when deciding to use a
WebQuest. The data obtained from the two experts during
the second interview are listed in Appendix C. From their
expert advice, no categories were eliminated, and only a
few minor changes were made. The cost and accessibility
category were eliminated, due to only one item,
availability being left in the category. Also the word
availability was changed to reliability with the experts
advice, and placed in the overall reliability category.

Summary of Research Questions

1) How frequently do teachers use WebQuests?

2) What method do teachers currently use to evaluate WebQuests?

3) What specific criteria are most useful or needed to develop a generalized rubric that could be used to evaluate a WebQuest?

In summary, this thesis discovered from the fifteen participants surveyed that nine teachers used WebQuests less than five times, two teachers used them between five and fifteen times, and four teachers used them more than fifteen times. From the results of this study, it was found that nine teachers use a rubric to evaluate WebQuest, five used either a rubric or a project, and two did not evaluate WebQuests. As for specific criteria that the participants found most useful or needed to develop a generalized rubric that could be used to evaluate a WebQuest included; the need for a rubric with clear guidelines, that would provide some means to assess the students. The rubric also needed to clarify the objective of the lesson, and show how the students would meet standards for the area being assessed. It needed to provide a method of evaluating student work and a method of evaluating student work.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Introduction

Included in Chapter Five was a presentation of the
conclusions as a result of completing this study. Further,
the recommendations extracted from the study are
presented. Lastly, the Chapter concludes with a summary.

At the time of this publication everything possible
has been done to check the web sites out in terms of
validity, reliability, and reputation of the web sites
listed in this thesis.

Participant Recruitment

In the beginning of this research only elementary
school teachers in a Southern California school district
were asked to participate, and students enrolled in an
Instructional Technology program. It was soon discovered
that only a total of three participants in the particular
school district had used WebQuests after sending out an
e-mail to district employees at the elementary schools.
Some teachers responded by asking me more about WebQuests,
and others speculated as to what they were, and said they
had used the Internet with students. Only three
individuals from the district participated in the survey.

A decision was made to still keep asking around because one of the technology projects that teachers were allowed to do with their students included using a WebQuest, but even after asking teachers again two months later, no more participants were found. As for students at the university, a total of four participants were discovered by e-mailing students who had taken a technology class, or else students were asked in class if they would be willing and able to participant. Some of the students e-mailed other teachers, to try and help find additional participants. Unfortunately, no more additional participants were found with these methods. Out of the four participants at the university, two of them not only took the survey, but were also participants in the interview portion of the study. Although because of the difficulty in finding participants, one of these experts was selected even though they had used a WebQuest only once in the classroom, but because of their wealth of knowledge in technology in terms of WebQuests they participated in the interview. This expert had taken a WebQuest class and was very familiar with the process of creating a WebQuests.

After several months of trying to find participants, it was decided that the original participant requirements

for this study had to be changed because only seven participants had taken part in the survey. Knowing that this was far too little, and with the advice of some classmates and professors, the criteria was revised, and the new criteria included surveying and interviewing other people who worked in public or private schools, or who had used a WebQuest with students. One individual also suggested e-mailing people who had created and posted their WebQuest on the Internet. All of the advice given helped, and other participants were discovered by looking at WebQuests that had been created, and contacted these individuals asked for their help. This helped to open the door to being able to survey more people, and a total of eight other participants were surveyed.

But still when only a few more participants had taken part in the survey, phone calls were made to individuals in the technology department of nearby school districts. Teachers who had taught WebQuest classes were also contacted, however, no participants were found. A few findings that were discovered, however when trying to find participants include the following.

A. School Districts Technology Personnel

　　　1) One school district's technology personnel didn't know what a WebQuest was when trying

to find out about finding participants within the school district.

2) One person in charge of technology at another school district thought that a WebQuest was a software program that schools could purchase to use the web.

3) At two school districts their technology personnel knew right off that teachers in the district did not use WebQuests.

Conclusions

The need for this study to be conducted was important for a variety of reasons from the beginning, but throughout the research process, several other reasons were discovered as needs in addition.

The conclusions extracted from the thesis follows.

1. Did teachers who used WebQuests evaluate them?

2. Why develop a way to evaluate WebQuests?

3. How could teachers effectively evaluate WebQuests?

4. Could there be a general rubric to evaluate all WebQuests?

5. Would teachers like having a rubric to evaluate WebQuests?

Before starting to discuss the conclusions, it is imperative to mention that those who used WebQuests more than fifteen times did not seem to evaluate WebQuests using a rubric, and overall made their decision on using a WebQuest based on how meaningful it would be to use it versus another method of instruction. It is also important to note that although some of the teachers had created a WebQuest, not a lot of people have used them multiple times, and those who had used them did not feel very comfortable discussing their experience. For these reasons, there is a great need to conduct more research on WebQuests.

Perhaps there is not a need to develop a way to evaluate WebQuests, given that there are not a lot of teachers using them. Before more research is done in this area, other areas of WebQuests should be looked at more closely, such as; do a lot of teachers know about WebQuests, or why have those who have used them, only used them a few times.

After conducting the first part of the interviews the need for evaluating WebQuests became clear based on the answers from the interviewees with their various backgrounds. More research should be done in this area, and more participants need to be involved, and it should

include not only teachers, but technology coordinators, and directors. With all of the different perspectives that each of these possible future participants would have, an effective way to evaluate WebQuests may or may not be able to be developed, but again, it needs to include the teachers. The participants who should make up a future study should comprise mostly of teachers, since the dynamics of teaching has changed so much in just the last few years, and others who have not been in the classroom. Overall, teachers are the ones who would mostly use a rubric. Those who use WebQuests all of the time, are able to look at WebQuests, and know right away whether or not it would be useful and meaningful, because they used them far more often than the classroom teacher according to this study.

This brings us to the question of, "Can there be just one rubric to evaluate WebQuests?" Perhaps the development of an evaluation rubric should be developed by a group of individuals after attending a WebQuest class, and after they have used a WebQuest in the classroom, but there is not just one way to evaluate WebQuests as this study has shown, and further research should include this. There can be a general guide to evaluate WebQuests, but not all WebQuests are the same even though a good WebQuest should

contain the items that Dodge recommends, but to say there can be one rubric to evaluate all WebQuests, would entail far more research, and more participants who use WebQuests frequently.

In general, from talking to the participants, they expressed that they liked having a rubric to evaluate WebQuests, but again, for the most part, those who had used WebQuests more than fifteen times, or those who did not have to record technology grades for students were less likely to use a rubric.

Throughout the research process of this thesis many people were fascinated to know more about WebQuests, and even more surprised to discover that the mass majority of teachers did not even know that WebQuests existed for teachers to use. They were later surprised to find out that WebQuests had been around for ten years, and that there were so many lessons on the Internet for teachers to use in their classrooms. What a greater reason to conduct more research.

Recommendations

The recommendations resulting from this study follows. Due to the limited articles published on WebQuests further research or articles need be published

in terms of informing teachers about what a WebQuest is, and how they can be used in the classroom. There is still a lot of research that needs to be done on selecting WebQuests, and ways of dealing with the dead links within so many of the WebQuests, but before this can be done, there needs to be more research done on finding out why teachers who do know about WebQuests hardly use them.

The process of finding participants, collecting all of the data, and analyzing the results, demonstrated a need for additional studies to be conducted in the following areas.

1. Why do people create WebQuests, but then abandon them?

2. Why are a lot of teachers and school district technology personnel unfamiliar with WebQuests?

3. Are the teachers who used WebQuests only once or twice not interested in using WebQuests again in the future?

4. Is there a trend of fewer teachers using WebQuests since they were created?

Summary

Chapter Five reviewed the conclusions extracted from the study. Lastly, the recommendations derived from the study were presented.

Surveys

Forty teachers were e-mailed who had participated in a WebQuest Academy who had each created a WebQuest of their own, but had never used a WebQuest. And out of those who were e-mailed, only two people participated. Some of the reasons that participants did not respond to e-mail were probably due to the following.

1) Sometimes people do not check their e-mail.

2) E-mail addresses or links listed on WebQuests have changed, making it difficult to find participants.

3) Some teachers receive an overwhelming amount of e-mail and only check e-mail who they recognize the sender.

4) Some teachers who had created WebQuests and even uploaded them to the Internet, but never used one.

Another obstacle discovered from conducting this type of study included the possibility of receiving computer viruses from sending out so many e-mails to others. During

the endeavor, two e-mails from individuals contained viruses.

The process of writing a thesis really helped me to grow professionally and opened my eyes to how much graduate students rely on other people to assist in the development of a thesis or project; including professors, and fellow students. It requires knowing how much a person can take on, disciplining oneself, and setting realistic goals along the way. It could also mean, relying on others to format a thesis, which a researcher might typically be able to do without help, but yet, having someone else do it for the purposes of spending more energy on the content of the thesis itself. And lastly, it includes the support of family and friends because so much time is being spent on developing a thesis, which means missing out on events where time might have otherwise been spent.

The design process should be considered a problem solving process. It was a very lengthy process, which needed constant revision. It involved finding data that may look good in the beginning, but may need to be thrown out later. There were a lot of WebQuests for teachers to use, but when too many of the links within them were dead links it made the WebQuest an invaluable resource.

Even though there was a desire to get at least twenty to twenty five participants, it was unrealistic after trying to find participants for several months. At some point, despite the amount of effort put into all of the research and data collection, it was very difficult to decide when to stop looking for participants, and then report on the data and findings that had been collected. This was probably the most difficult in terms of the culmination of this study; knowing that there is more so much more research to be conducted, but yet not feeling as though my own study was thorough enough.

APPENDIX A

CALIFORNIA STANDARDS FOR THE TEACHING PROFESSION

CALIFORNIA STANDARDS FOR THE TEACHING PROFESSION

The California Standards for the Teaching Profession are based on current research and expert advice pertaining to best teaching practice. The standards address the diversity of students and teachers in California schools today, and reflect a holistic, developmental view of teaching.

The California Standards for the Teaching Profession were developed to facilitate the induction of beginning teachers into their professional roles and responsibilities by providing a common language and a new vision of the scope and complexity of teaching. The standards are not set forth as regulations to control the specific actions of teachers, but rather to guide teachers as they define and develop their practice.

-California Standards for the Teaching Profession: Resources for Professional Practice, BTSA

Engaging and Supporting All Students in Learning	Creating & Maintaining Effective Environments for Student Learning
1-1 Connecting students' prior knowledge, life experiences, and interests with learning goals	2-1 Creating a physical environment that engages all students
1-2 Using a variety of instructional strategies and resources to respond to students' diverse needs	2-2 Establishing a climate that promotes fairness and respect
1-3 Facilitating learning experiences that promote autonomy, interaction, and choice	2-3 Promoting social development and group responsibility
1-4 Engaging students in problem solving, critical thinking, and other activities that make subject matter more meaningful	2-4 Establishing and maintaining standards for student behavior
1-5 Promoting self-directed, reflective learning for all students	2-5 Planning and implementing classroom procedures and routines that support student learning
	2.6 Using instructional time effectively

Understanding & Organizing Subject Matter for Student Learning	Planning Instruction & Designing Learning Experiences for All Students
3-1 Demonstrating knowledge of subject matter content and student development 3-2 Organizing curriculum to support student understanding of subject matter 3-3 Interrelating ideas and information within and across subject matter areas 3-4 Developing student understanding through instructional strategies that are appropriate to the subject matter 3-5 Using materials, resources, and technologies to make subject matter accessible to students	4-1 Drawing on and valuing students' backgrounds, interests, and developmental learning needs 4-2 Establishing and articulating goals for students' learning 4-3 Developing and sequencing instructional activities and materials for student learning 4-4 Designing short-term and long-term plan to foster student learning 4-5 Modifying instructional plans to adjust for student needs
Assessing Student Learning	**Developing as a Professional Educator**
5-1 Establishing and communicating learning goals for all students 5-2 Collecting and using multiple sources of information to assess student learning 5-3 Involving and guiding all students in assessing their own learning 5-4 Using the results of assessments to guide instruction 5-5 Communicating with students, families, and other audiences about student progress	6-1 Reflecting on teaching practice and planning professional development 6-2 Establishing professional goals and pursuing opportunities to grow professionally 6-3 Working with communities to improve professional practice 6-4 Working with colleagues to improve professional practice 6-5 Balancing professional responsibilities and maintaining motivation

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APPENDIX B

WEBQUEST SURVEY AND INTERVIEW

WebQuest Survey

1) Approximately how many times have you used WebQuests with your students? _____

2) When you use technology with your students, do you evaluate work they do based on a rubric, or something else? _____

3) If you used a rubric to grade technology assignments, did you create the rubric, or was it provided for you? _____

4) If the rubric was provided for you, where did it come from? Did it come from a school district, a website, or some other place?

   _____

5) If you used a rubric, did it make it easier, or more difficult to evaluate student work? _____

6) How did a rubric make it easier, or more difficult to evaluate?

   _____

7) Have you used the Bernie Dodge website, or evaluated a WebQuest according to the Bernie Dodge website?   ☐ yes   ☐ no

8) Please comment as to how useful the Bernie Dodge website was if, and when you used it. _____

   Thank you so much for your time and effort in completing this survey.

INTERVIEW QUESTIONS

1. What specifically do you use to evaluate WebQuests?

    _____

    _____

2. How specifically do you evaluate WebQuests?

    _____

    _____

3. Are you selectively using a rubric to evaluate WebQuests?

    _____

    _____

4. Have you ever developed your own rubric to evaluate WebQuests? If so, how did you develop your rubric?

    _____

    _____

5. If you have a district rubric on evaluating WebQuests, could I see it?

    _____

    _____

Evaluating WebQuests

This information in the following paragraph will be for teachers to evaluate WebQuests.

The evaluation table below is intended to help teachers evaluate WebQuests. It is intended as a guide when a teacher is deciding whether or not to use a WebQuest with their students. If it is necessary, and an item falls between two categories, it can be scored as a 1 or a 3. If a page seems to fall between categories, feel free to score it with in-between points.

For the purpose of this study, please rate each section using the your rating column. Rate each item on a scale of 1 to 5. A one being you would definitely take the item out of the rubric, and a five being, definitely keep the item in the rubric.

	Beginning	Developing	Accomplished	Your Rating
Overall reliability (This refers to the WebQuest page itself, not the external resources linked to it.)				
Authority	0 points There is no information as to where the WebQuest came from	2 points The name of the person or persons who created the WebQuest is listed, but no other information such as a school, or university is listed.	4 points The name of the person or persons who created the WebQuest is listed along with the name of the school and/or university they are using the WebQuest with is listed.	1 2 3 4 5 3.3
Credibility	0 points There is no information listed as to what the WebQuest creator teaches.	2 points There is some information listed as to what the WebQuest creator teaches.	4 points The grade/subject and that the WebQuest creator teaches is listed as well as the school/university where they work is listed.	1 2 3 4 5 4

	Beginning	Developing	Accomplished	Your Rating
Contact Information	0 points There is no contact information.	2 points There is contact information listed, but it is not current. In other words, you may have tried to contact someone, but they haven't gotten back with you after a reasonable time	4 points The contact information is listed, and you are able to make contact with the WebQuest creator.	1 2 3 4 5 2.3
Download Time	0 points The WebQuest took longer than 20 seconds to download.	2 points The WebQuest took approximately 10-20 seconds to download.	4 points The WebQuest downloads immediately.	1 2 3 4 5 4
Navigation	0 points It is difficult to navigate within the site.	2 points It is somewhat difficult to navigate within the site.	4 points It is very easy to navigate within the site.	1 2 3 4 5 5
Link Rot	0 points There is a lot of link rot within the site making it very difficult to use the WebQuest.	2 points There is some link rot, and somewhat interferes with using the WebQuest.	4 points There is little or no link rot within the site.	1 2 3 4 5 4
Content (This refers to the WebQuest itself and the links that are listed within the WebQuest.)				
Information	0 points The information is unreliable.	2 points Some of the information is not reliable, and or pictures do not match the content of the WebQuest.	4 points The WebQuest is very reliable, and has other information cited within the WebQuest.	1 2 3 4 5 5
WebQuest Areas	0 points Some parts of the WebQuest are missing according to the Bernie Dodge WebQuest template.	2 points There are at least two parts missing from the WebQuest according to the Bernie Dodge WebQuest template.	4 points All parts of a good WebQuest according to Bernie Dodge template.	1 2 3 4 5 4

	Beginning	**Developing**	**Accomplished**	**Your Rating**
Content	0 points The WebQuest is lacking content.	2 points The content is missing some important content components in the WebQuest.	4 points The content appears to provide a wealth of information.	1 2 3 4 5 5
Material	0 points The material in the WebQuest is not useful, or is repetitive throughout the WebQuest.	2 points The material is either somewhat useful, and/or repetitive.	4 points The material is useful, and is not too repetitive within the WebQuest.	1 2 3 4 5 2.3
Purpose	0 points The purpose of the WebQuest is not stated.	2 points The purpose of the WebQuest is not very clear.	4 points The purpose of the WebQuest is clearly stated.	1 2 3 4 5 5
Items	0 points There are no items included in the resource section.	2 points There is a limited number of resource items included.	4 points There is a sufficient amount of resources listed.	1 2 3 4 5 3
Working Links	0 points The working links are not grade level appropriate.	2 points The working links are grade level appropriate, but too difficult for the students to read on their own.	4 points The working links are grade level appropriate, and the students should be able to read the information on their own with little or no help.	1 2 3 4 5 5
Updated	0 points The site does not list when it was last updated, or it has not been updated in over a year.	2 points The site has not been updated in over two months.	4 points The site has been updated in the past two months	1 2 3 4 5 2.3
Format and Presentation Appearance (This refers to the WebQuest itself.)				
Navigating	0 points The information is not easy to get to, or else it takes too many links to get to something useful.	2 points The information is easy to get to, and takes several tries to get to something useful.	4 points The information is easy to get to, and most of the links take the audience to something useful.	1 2 3 4 5 5

	Beginning	Developing	Accomplished	Your Rating
Font Size	0 points The font is too small, and not grade level appropriate.	2 points The font is too small, but it is grade level appropriate.	4 points The font is easy to read, and grade level appropriate.	1 2 3 4 5 4.67
Font Color	0 points The font color is difficult to read, due to the color of the font or the color of the background	2 points The font color is somewhat distracting.	4 points The font color is easy on the viewer's eye, and is not too distracting.	1 2 3 4 5 4.33
Graphics	0 points The graphics take away from the WebQuest or are not appropriate for the intended audience.	2 points The graphics are too distracting.	4 points The graphics do not take away from the WebQuest, and are appropriate for the intended audience.	1 2 3 4 5 3.67
Grade/Subject Area	0 points No grade or subject area is listed.	2 points The WebQuest does not clearly state either the grade or subject area.	4 points The grade and subject area clearly stated.	1 2 3 4 5 4.33
Organization	0 points The WebQuest is missing subtitles to help in the overall organization.	2 points The arrangement of the links and content appear cluttered.	4 points The arrangement of the links and content appear uncluttered.	1 2 3 4 5 4
Search Engine	0 points The WebQuest does not have a search engine.	2 points The WebQuest has a search engine, but it is not very useful.	4 points The WebQuest has a very useful search engine.	1 2 3 4 5 1
Cost and Accessibility (This refers to the cost and accessibility of the WebQuest itself.)				
Availability	0 points The site is not always up and running.	2 points The site is not available on a consistent basis.	4 points The site is always up and running.	1 2 3 4 5 5
Links	0 points There is a lot of link rot.	2 points There is very little link rot.	4 points There is no link rot.	1 2 3 4 5 2.3

	Beginning	Developing	Accomplished	Your Rating
Expense	0 points There is a cost to use the site.	2 points The site can be accessed a couple of times without incurring a cost.	4 points There is no cost to use the site.	1 2 3 4 5 2.3
Membership	0 points There is no way to sign up to be a member to use the WebQuest listed on a site.	2 points The WebQuest user must sign up in order to use the WebQuest.	4 points No membership is required to use the WebQuest.	1 2 3 4 5 2.3
Total Score				/100

After evaluating a WebQuest using the rubric above you should decide to use or not use the WebQuest being evaluating using the final score received. The chart below is intended as a guideline to help the teacher make their decision.

Overall Evaluation

Evaluation Score	Suggestion on whether or not to use the WebQuest
90-100	• Use the WebQuest
85-89	• Think about asking the author for permission to use the WebQuest, and make the changes that fit your own needs.
0-84	• Don't use the WebQuest

APPENDIX C

EVALUATING WEBQUESTS

Evaluating WebQuests

For the purpose of this study, please rate each section in the last column, "your rating". Rate each item on a scale of 1 to 5. A one being you would definitely take the item out of the rubric, and a five being, definitely keep the item in the rubric.

	Beginning	Developing	Accomplished	Your Rating
Overall reliability (This refers to the WebQuest page itself, not the external resources linked to it.)				
Authority	0 points There is no information as to where the WebQuest came from	2 points The name of the person or persons who created the WebQuest is listed, but no other information such as a school, or university is listed.	4 points The name of the person or persons who created the WebQuest is listed along with the name of the school and/or university they are using the WebQuest with is listed.	1 2 3 4 5 5
Credibility	0 points There is no information listed as to what the WebQuest creator teaches.	2 points There is some information listed as to what the WebQuest creator teaches.	4 points The grade/subject and that the WebQuest creator teaches is listed as well as the school/university where they work is listed.	1 2 3 4 5 5
Download Time	0 points The WebQuest took longer than 20 seconds to download.	2 points The WebQuest took approximately 10-20 seconds to download.	4 points The WebQuest downloads immediately.	1 2 3 4 5 3
Navigation	0 points It is difficult to navigate within the site.	2 points It is somewhat difficult to navigate within the site.	4 points It is very easy to navigate within the site.	1 2 3 4 5 5

	Beginning	**Developing**	**Accomplished**	**Your Rating**
Dead links	0 points There is a lot of dead links within the site making it very difficult to use the WebQuest.	2 points There is some dead links, and somewhat interferes with using the WebQuest.	4 points There is little or no dead links within the site.	1 2 3 4 5 4
Reliability	0 points The site is not always up and running.	2 points The site is not available on a consistent basis.	4 points The site is always up and running.	1 2 3 4 5 5
Content (This refers to the WebQuest itself and the links that are listed within the WebQuest.)				
Information	0 points The information is unreliable.	2 points Some of the information is not reliable, and or pictures do not match the content of the WebQuest.	4 points The WebQuest is very reliable, and has other information cited within the WebQuest.	1 2 3 4 5 5
WebQuest Areas	0 points Some parts of the WebQuest are missing according to the Bernie Dodge WebQuest template.	2 points There are at least two parts missing from the WebQuest according to the Bernie Dodge WebQuest template.	4 points All parts of a good WebQuest according to Bernie Dodge template.	1 2 3 4 5 4
Curriculum	0 points The WebQuest is lacking content and missing resources to complete the WebQuest.	2 points The content is missing some important components in the WebQuest.	4 points The content appears to provide a wealth of information and provides sufficient resources.	1 2 3 4 5 4
Purpose	0 points The purpose of the WebQuest is not stated.	2 points The purpose of the WebQuest is not very clear.	4 points The purpose of the WebQuest is clearly stated.	1 2 3 4 5 5
Resources	0 points There are no items included in the resource section.	2 points There is a limited number of resource items included.	4 points There is a sufficient amount of resources listed.	1 2 3 4 5 4.5

	Beginning	Developing	Accomplished	Your Rating
Working Links	0 points The working links are not grade level appropriate.	2 points The working links are grade level appropriate, but too difficult for the students to read on their own.	4 points The working links are grade level appropriate, and the students should be able to read the information on their own with little or no help.	1 2 3 4 5 5
Format and Presentation Appearance (This refers to the WebQuest itself.)				
Navigating	0 points The information is not easy to get to, or else it takes too many links to get to something useful.	2 points The information is easy to get to, and takes several tries to get to something useful.	4 points The information is easy to get to, and most of the links take the audience to something useful.	1 2 3 4 5 5
Font Size, Text and Background Color	0 points The font is not grade level appropriate or the colors are too difficult distracting.	2 points The font size is grade level or the colors are somewhat distracting.	4 points The font is easy to read, and grade level appropriate. The colors are not distracting.	1 2 3 4 5 4
Graphics	0 points The graphics take away from the WebQuest or are not appropriate for the intended audience.	2 points The graphics are too distracting.	4 points The graphics do not take away from the WebQuest, and are appropriate for the intended audience.	1 2 3 4 5 3
Grade/Subject Area	0 points No grade or subject area is listed.	2 points The WebQuest does not clearly state either the grade or subject area.	4 points The grade and subject area clearly stated.	1 2 3 4 5 5
Organization	0 points The WebQuest is missing subtitles to help in the overall organization.	2 points The arrangement of the links and content appear cluttered.	4 points The arrangement of the links and content appear uncluttered.	1 2 3 4 5 4.5
Total Score				/68

APPENDIX D

A RUBRIC FOR EVALUATING WEBQUESTS

A Rubric for Evaluating WebQuests

The WebQuest format can be applied to a variety of teaching situations. If you take advantage of all the possibilities inherent in the format, your students will have a rich and powerful experience. This rubric will help you pinpoint the ways in which your WebQuest isn't doing everything it could do. If a page seems to fall between categories, feel free to score it with in-between points.

	Beginning	Developing	Accomplished	Score
Overall Aesthetics (This refers to the WebQuest page itself, not the external resources linked to it.)				
Overall Visual Appeal	0 points There are few or no graphic elements. No variation in layout or typography. OR Color is garish and/or typographic variations are overused and legibility suffers. Background interferes with the readability.	2 points Graphic elements sometimes, but not always, contribute to the understanding of concepts, ideas and relationships. There is some variation in type size, color, and layout.	4 points Appropriate and thematic graphic elements are used to make visual connections that contribute to the understanding of concepts, ideas and relationships. Differences in type size and/or color are used well and consistently. See <u>Fine Points Checklist</u>.	
Navigation & Flow	0 points Getting through the lesson is confusing and unconventional. Pages can't be found easily and/or the way back isn't clear.	2 points There are a few places where the learner can get lost and not know where to go next.	4 points Navigation is seamless. It is always clear to the learner what all the pieces are and how to get to them.	
Mechanical Aspects	0 points There are more than 5 broken links, misplaced or missing images, badly sized tables, misspellings and/or grammatical errors.	1 point There are some broken links, misplaced or missing images, badly sized tables, misspellings and/or grammatical errors.	2 points No mechanical problems noted. See <u>Fine Points Checklist</u>.	

	Beginning	Developing	Accomplished	Score
Introduction				
Motivational Effectiveness of Introduction	0 points The introduction is purely factual, with no appeal to relevance or social importance OR The scenario posed is transparently bogus and doesn't respect the media literacy of today's learners.	1 point The introduction relates somewhat to the learner's interests and/or describes a compelling question or problem.	2 points The introduction draws the reader into the lesson by relating to the learner's interests or goals and/or engagingly describing a compelling question or problem.	
Cognitive Effectiveness of the Introduction	0 points The introduction doesn't prepare the reader for what is to come, or build on what the learner already knows.	1 point The introduction makes some reference to learner's prior knowledge and previews to some extent what the lesson is about.	2 points The introduction builds on learner's prior knowledge and effectively prepares the learner by foreshadowing what the lesson is about.	
Task (The task is the end result of student efforts... not the steps involved in getting there.)				
Connection of Task to Standards	0 points The task is not related to standards.	2 point The task is referenced to standards but is not clearly connected to what students must know and be able to do to achieve proficiency of those standards.	4 points The task is referenced to standards and is clearly connected to what students must know and be able to do to achieve proficiency of those standards.	

	Beginning	Developing	Accomplished	Score
Cognitive Level of the Task	0 points Task requires simply comprehending or retelling of information found on web pages and answering factual questions.	3 points Task is doable but is limited in its significance to students' lives. The task requires analysis of information and/or putting together information from several sources.	6 points Task is doable and engaging, and elicits thinking that goes beyond rote comprehension. The task requires synthesis of multiple sources of information, and/or taking a position, and/or going beyond the data given and making a generalization or creative product. See <u>WebQuest Taskonomy</u>.	
Process (The process is the step-by-step description of how students will accomplish the task.)				
Clarity of Process	0 points Process is not clearly stated. Students would not know exactly what they were supposed to do just from reading this.	2 points Some directions are given, but there is missing information. Students might be confused.	4 points Every step is clearly stated. Most students would know exactly where they are at each step of the process and know what to do next.	
Scaffolding of Process	0 points The process lacks strategies and organizational tools needed for students to gain the knowledge needed to complete the task. Activities are of little significance to one another and/or to the accomplishment of the task.	3 points Strategies and organizational tools embedded in the process are insufficient to ensure that all students will gain the knowledge needed to complete the task. Some of the activities do not relate specifically to the accomplishment of the task.	6 points The process provides students coming in at different entry levels with strategies and organizational tools to access and gain the knowledge needed to complete the task. Activities are clearly related and designed to take the students from basic knowledge to higher level thinking. Checks for understanding are built in to assess	

	Beginning	Developing	Accomplished	Score
			whether students are getting it. See: • Process Guides • A Taxonomy of Information Patterns • Language Arts Standards and Technology • WebQuest Enhancement Tools • Reception, Transformation & Production Scaffolds	
Richness of Process	0 points Few steps, no separate roles assigned.	1 points Some separate tasks or roles assigned. More complex activities required.	2 points Different roles are assigned to help students understand different perspectives and/or share responsibility in accomplishing the task.	
Resources (Note: you should evaluate all resources linked to the page, even if they are in sections other than the Process block. Also note that books, video and other off-line resources can and should be used where appropriate.)				
Relevance & Quantity of Resources	0 points Resources provided are not sufficient for students to accomplish the task. OR There are too many resources for learners to look at in a reasonable time.	2 point There is some connection between the resources and the information needed for students to accomplish the task. Some resources don't add anything new.	4 points There is a clear and meaningful connection between all the resources and the information needed for students to accomplish the task. Every resource carries its weight.	

	Beginning	Developing	Accomplished	Score
Quality of Resources	0 points Links are mundane. They lead to information that could be found in a classroom encyclopedia.	2 points Some links carry information not ordinarily found in a classroom.	4 points Links make excellent use of the Web's timeliness and colorfulness. Varied resources provide enough meaningful information for students to think deeply.	
Evaluation				
Clarity of Evaluation Criteria	0 points Criteria for success are not described.	3 points Criteria for success are at least partially described.	6 points Criteria for success are clearly stated in the form of a rubric. Criteria include qualitative as well as quantitative descriptors. The evaluation instrument clearly measures what students must know and be able to do to accomplish the task. See Creating a Rubric.	
Total Score				**/50**

Original WebQuest rubric by Bernie Dodge.
This is Version 1.03. Modified by Laura Bellofatto, Nick Bohl, Mike Casey,
Marsha Krill, and Bernie Dodge and last updated on June 19, 2001.

(Bellofatto, L., Bohl, N., Casey, M., & Dodge,B., 2000)

APPENDIX E

BLUE WEB'N RUBRIC

Blue Web'n Rubric

Use this rubric to assess your own or another's WebQuest.

	Low	Medium	High
	Probably not a WebQuest	A solid draft	Ready for Blue Web'n
Engaging Opening	No attempt made to appeal to learners.	Honestly attempts to appeal to student interests.	Has something that compels attention.
The Question / Task	Fuzzy Question or Task. Maybe what's asked for is lower level thinking.	The Question and Task target higher order thinking, but may not be totally clear.	Clear Question and Task. These naturally flow from the introduction and signal a direction for learning.
Background for Everyone	No attempt to access prior learning or build common background.	Some mention of addressing a common body of knowledge. (May not happen within the activity.)	Clearly calls attention to the need for a common foundation of knowledge and provides needed (Web?) resources.
Roles / Expertise	Roles are artificial or not requiring interdependent teamwork.	Roles are clear. They may be limited in scope.	Roles match the issues and resources. The roles provide multiple perspectives from which to view the topic.
Use of the Web	This activity could probably be done better without the Web.	Some resources reflect features of the Web that make it particularly useful.	Uses the Web to access at least some of the following: interactivity, multiple perspectives, current information, etc.
Transformative Thinking	Not Transformative thinking. (This is not a WebQuest, but may be a good Treasure Hunt).	Higher level thinking is required, but the process for students may not be clear.	Higher level thinking required to construct new meaning. Scaffolding is clearly provided to support student achievement.
Real World Feedback	No feedback loop included.	The learning product could easily be used for authentic assessment although this may not be mentioned.	Some feedback loop is included in the Web page. May include a rubric.
Conclusion	Minimal conclusion. No mention of student thinking or symmetry to intro.	Sums up the experiences and learning that was undertaken. Probably returns to the intro ideas.	Clear tie-in to the intro. Makes the students' cognitive tasks overt and suggests how this learning could transfer to other domains/issues.

http://www.ozline.com/webquests/rubric.html (March 2000)

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