Using Web-Quests as an Effective Learning Strategy
Rachna Dadoo
Annandale High School
Fairfax County (VA) Public Schools
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Abstract
As a Family and Consumer Science teacher, I wanted to better prepare my students to be able to read and use the Food Guide Pyramid to plan and prepare healthy meals. This study would have further enabled them to learn about ethnic diversities in the Food Guide Pyramid. In addition to this, I also wanted them to feel more comfortable with using the Internet as a resource for learning. Hence, this study was to examine the effectiveness and the usefulness of Web-Quests in learning about Nutrition and implementing the acquired knowledge by planning and preparing International meals in the lab. This project is a good example of incorporating different methods of learning to achieve the desired objective of teaching students of varied learning levels.

Background
It all began when Kathy Hermann, a very experienced ESOL teacher at Annandale high school, approached me with this wonderful idea of doing an Action Research Project through LMTIP. Even though new to teaching (this is my second year of teaching in United States) I was convinced and interested in taking up this project. Kathy and Felicidad, my mentors helped me to sail through this experience smoothly. Currently, I am teaching in two different schools in Fairfax County; Annandale High School and Holmes Middle School. I am teaching Family and Consumer Science and cover a variety of subjects like Foods and Nutrition, Life Planning and even Sewing.

Introduction
New to the High school and to the classes that I was going to teach, this research came as a very challenging and learning experience for me. As I was teaching Gourmet/International Foods and Life Planning, I knew that my topic had to be related to Foods and Nutrition. I decided to choose my Life Planning class as the subject of my research. I wanted to incorporate computer technology with food theory culminating with application in the foods lab. These three had to go together. Hence, I decided that I would use Web-Quest as the means to introduce and teach the topic of Food Guide Pyramid and consequently plan and prepare a meal based on the learning from the Pyramid.
Methodology

To begin with I had to make a Web-Quest related to Food Guide Pyramid. This is where my *Reading in the Content Area* class came into picture. I had just finished taking a class for my Certification wherein I got a chance to develop a Web-Quest in our Content area. I had developed a Web-Quest on Food Guide Pyramid, which I decided to use with my subject. I took the help of our IT Tech and had the Web-Quest FTP on to the school server so that it was available to my students at school as well as out of school. This prepared the foundation of my research. Now it was time to prepare my subject. My Life Planning class consisted of 15 students, and so I divided the class into three groups of five students each. It was supposed to be a combination of individual and group activity and required them to work in co-ordination with each other on the computers, planning the menu (form a foreign country) and then finally preparing the meal in the foods lab.

Literature Review

Even though a lot of research was not done on Web Quests and their usefulness in education but recently a lot has been written about it and it is gaining importance as the effectiveness of Web Quests is beginning to be understood by the educators. That is one of the reasons it was very hard for me to find references for my Action Research on this particular topic. Not much has been written about both Web Quests and Food Guide Pyramid together. Immense studies and researches have been done on Food Guide Pyramid alone. I made an attempt to combine both these hot topics and experiment in my class.

Why Food Guide Pyramid?

As a part of their curriculum, the class had to learn about Nutrition and Wellness, and there was no other best way to teach them about nutrition and planning meals than the Food Guide Pyramid. The Pyramid is a USDA approved source to plan and prepare foods for a healthy diet. Another advantage of using the Pyramid was that it gives the variations for different countries and cultures, and as I have a very diverse group in my class, I thought it would be interesting for the students to learn about the diversities and experience them by cooking international foods. At the same time they would learn how to stay within the dietary requirements and plan a healthy ethnic meal.

What is a Web-Quest?

A Web-Quest is an inquiry-oriented activity in which most or all of the information used by learners is drawn from the Web. Web-Quests are designed to use learners' time well, to focus on using information rather than looking for it, and to support learners' thinking at the levels of analysis, synthesis and
evaluation. The model was developed in early 1995 at San Diego State University by Bernie Dodge with Tom March, and was outlined then in Some Thoughts About Web-Quests.

Web-Quests are now being used increasingly in almost all the content areas and I thought that using this tool, as a learning strategy would be interesting and engaging for my students. Also because Web-Quests are more user friendly and comprehensible, the idea of the lesson would reach most of the students.

Data Collection Strategies

After choosing the objective and the subject of my research I began to plan and work on my data collection. I have a small class of 15 students; hence my data collection was easy and personalized. There was Observation along with a lot of Discussions and Brainstorming about Nutrition, healthy eating habits, and Food in general. Articles on Food were read from various magazines. As a part of the curriculum we are supposed to cover Foods as one of the units and I decided to make it as one of the highlighted topics for I felt, after discussions and talking to my students, that they were not well informed about healthy eating habits and the use of Food Guide Pyramid. At the same time I felt the lack of the use of technology in my curriculum and hence I decided to incorporate technology and integrate both these concepts in my lesson plan.

Process

I talked to my students about their awareness of Internet and Web-Quests and as to how comfortable they were while using them. To test their prior knowledge about Food Guide Pyramid, I first gave them a Pre Test on it. There were fifteen True and False questions. After evaluation, it gave me an idea as to how much my subjects knew about Food Guide Pyramid.

Next, they were given two class periods in the computer lab, wherein they got a chance to work on the Web-Quest. The first two subtasks were supposed to be done individually wherein they had to read about the Food Guide Pyramid by visiting various sites, then they took quizzes individually which were also done online. After these two subtasks, they got together into pairs and worked on two other subtasks wherein they were supposed to visit various websites, read and research and make notes on young children's diet and the ethnic diversities of the Food Pyramid. The last subtask was to get together as the entire group and plan a day's menu based on an International variation (example: Italian, Mexican, Asian, African etc.) of the Pyramid. This is where they got to use their acquired knowledge and the last part of this project was to cook one meal from that menu and do a demonstration. This was the application of the knowledge. The concluding part of this Action Research was to take a Post Test, which had the same exact questions as the Pre Test.

Student Feedback and Findings
My students loved and enjoyed doing this project. Doing the individual subtasks was the only odd one out; they were more comfortable doing group work, their favorite part being the cooking. The whole process took two weeks, and it was one of my projects that was thoroughly enjoyed and sincerely worked upon by my students. Some of my findings based on this research are that the students’ understanding and knowledge were definitely improved and enhanced after finishing the project. My subjects did better on the Post test than on the Pretest, though both had the same questions. Text combined with technology gives better results than text alone. It was proved in my class that technology in the form of Web-Quests and Internet keeps the students gripped and involved, plus the hands on activity like cooking keeps them motivated to finish their project. A better understanding of the content now enabled them to effectively indulge in discussions and intelligently deal with health issues.

Teacher Reflections and Implications

This Action Research was one of the most enjoyable and learning experience for me. It gave me an opportunity to collaborate with other colleagues and work under the guidance of mentors, and learn new and effective ways to improve myself as an educator. Also, it gave me a chance to explore new ways to incorporate technology and implement effective strategies to better teach my students. After doing this action Research, which was my first experience, I realized that I could have improved it in certain ways. Web-Quests need a lot of planning and organization and have to be very specific and clear in their directions. I would definitely need to study more about them, their different types and uses and how can they be used more effectively to reach the desired goal of teaching various topics, not only in my content area but also in every subject. It can be the most useful tool to teach for any educator and the results obtained from it could be the most reliable and effective ones.

References

As a lot has not been written about Web-Quests and their use in teaching Food Guide Pyramid, I have made an attempt to do so in my class. I took some basic reference and help from the following book and websites:


- [http://webquest.sdsu.edu/overview.htm](http://webquest.sdsu.edu/overview.htm)
- [http://www.lfelem.lfc.edu/tech/dubose/bquest/ant/nutrition.htm](http://www.lfelem.lfc.edu/tech/dubose/bquest/ant/nutrition.htm)
- [http://www.sesd.sk.ca/teacherresource/802/webquestpres_files/frame.htm](http://www.sesd.sk.ca/teacherresource/802/webquestpres_files/frame.htm)