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WebQuest investigation to acquire internet usage skills

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WEBQUEST INVESTIGATION TO ACQUIRE INTERNET USAGE SKILLS

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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

Patricia Dougherty Allen

December 2002

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Approved by:

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ABSTRACT

The purpose of this project was to develop a WebQuest investigation that would facilitate student Internet usage, a WebQuest investigation is an inquiry-oriented activity in which most or all of the information that learners interact with comes from resources on the Internet.

Using the Internet as an Educational tool becomes increasingly important as students progress in their academic careers. The Internet allows students to locate and retrieve up to date information on topics studied in the classroom. Early exposure to the Internet as an Educational tool through guided instruction gives students a foundation, which they can apply to their future educational projects and research.

The significance of the project was due to the fact that students should have knowledge of the Internet and be comfortable using the Internet as a research tool. According to Jonassen (1996) in the textbook Computers in the Classroom, Online information retrieval greatly expands the number of available resources. Without Internet usage skills students will not have the opportunity to benefit from the extensive information sources available to them on the Internet.

This projects attempts to show that a WebQuest investigation can improve student Internet proficiency and while doing so accomplishes the integration of content standards in a variety of subject areas.

ACKNOWLEDGMENTS

A warm thank you to my parents Dr. & Mrs. James F. Dougherty, Jr., whose constant encouragement and love have helped me more than I can say.

To my sons, Sean and Jimmy, thank you for helping out and bearing with your mom in the final stages of this project. I love you both.

To Timothy Thelander, thank you for sharing your expertise and providing support throughout this project. I could not have done this without you.

DEDICATION

This project is dedicated to my wonderful

Mother and Father.

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CHAPTER ONE

BACKGROUND

Introduction

The contents of Chapter One are an introduction of
the project comprised of background information pertaining
to the project. The purpose of the project was introduced,
followed by the context of the problem, the significance
of the project, and the assumptions made about the
project. Next, the limitations that apply to the project
are reviewed. Lastly, the definitions of terms are
presented.

Purpose of the Project

The purpose of this project was to develop a WebQuest
investigation that would facilitate student Internet usage
and their proficiency in its use. A WebQuest investigation
is an inquiry-oriented activity in which most or all of
the information that learners interact with comes from
resources on the Internet (Dodge, 1997). As student
Internet proficiency was being achieved the concurrent
benefit was the integration of the State and District
content standards in the areas of Science, Language Arts,
and Technology (Appendices O, P, Q).

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In the WebQuest investigation the students will gain vast Internet experience through integrated lessons in Science, Language Arts, and Technology. Internet use is an important component of the integration of Technology with learning (Jonassen, 1996, p. 151). Using the Internet as an Educational tool becomes increasingly important as students progress in their academic careers. It allows students to locate and retrieve up to date information on topics studied in the classroom. "Knowledge acquisition and negotiation of meaning are some the most fundamental and important learning processes in education." They can be applied in any content domain. "It is critical that learners become self-directed and acquire and use these skills always" (Jonassen, 1996, p. 167). Early exposure to the Internet as an Educational tool through guided instruction gives students a foundation, which they can apply to their future educational projects and research.

Context of the Problem

The context of the problem was to address the fact that Third grade students are not skilled in Internet usage nor are they proficient at using the Internet as a research tool. Students must be able to read the information available, until third grade most students are

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not proficient enough in reading to navigate the Internet. The Internet is a modern tool for gathering and disseminating vast amounts of information (Internet Dictionary, 2002). Therefore without knowledge of Internet usage for research purposes students' academic potential will be restricted.

Significance of the Project

The significance of the project was due to the fact that students should have knowledge of the Internet and be comfortable using the Internet as a research tool. According to Jonassen (1996) in the textbook <u>Computers in the Classroom</u>, Online information retrieval greatly expands the number of available resources. Without Internet usage skills students will not have the opportunity to benefit from the extensive information sources available to them on the Internet. Through subject integration educators are able to teach the Internet skills students need to be successful later in life and integrate the State and District content Standards in Science, Language Arts and Technology.

Students will gain Internet usage skills by using the WebQuest resources from the Internet to research and report on: the life cycle, similarities and difference and

other interesting facts about butterflies and moths. Science, Language Arts, and Technology standards are integrated throughout the lessons. The final product will be a PowerPoint Presentation showcasing the information the students have obtained through their Internet investigation. The students involved in this investigation will be third grade students with access to computers and the Internet. After completing the WebQuest investigation, students will have gained knowledge of the Internet and be comfortable using the Internet as a research tool.

Assumptions

The following assumptions were made regarding the project:

1. Most students prior to third grade are not proficient enough readers to be able to navigate the Internet.

2. Third grade students are not skilled in Internet usage nor are they proficient at using the Internet as a research tool.

3. By completing this Butterfly/Moth WebQuest investigation students will be familiar with the Internet and be comfortable using the Internet as a research tool

Limitation

During the development of the project, a limitation was noted. This limitation is presented in the next section. The following limitation applies to the project:

1. Teachers with access to the Internet may use this project to teach Internet skills while integrating State and District content Standards in Science, Language Arts and Technology.

Definition of Terms

The following terms are defined as they apply to the project.

Constructivism – an educational learning theory that is concerned with the process of how learners construct knowledge. How learners construct knowledge depends on the kinds of experiences they have had, how they have organized those experiences into knowledge structures and the beliefs they use to interpret objects and events that they encounter in the world. Constructivist models of instruction strive to create environments in which learners actively construct their own knowledge, rather than recapitulating the teacher's interpretation of the world (Jonassen, 1996).

<u>Internet</u> - an electronic communications network that
connects computer networks and organizational
computer facilities around the world. The worldwide
network of networks based on the TCP/IP protocol. A
non-commercial, self-governing network devoted mostly
to communication and research with roughly 20 million
users worldwide. The Internet is not an online
service and has no real central "hub." Rather, it is
a collection of tens of thousands of networks, online
services, and single-user components. Also, when not
capitalized, any interconnected set of networks
(Internet Dictionary, 2002; Merriam-Webster, 2002).

<u>Internet Literacy</u> - The ability to use the Internet to
search for information, to find clues on web pages in
order to evaluate the content, and to follow rules
for gathering and presenting information
(Yahooligans, 2002).

<u>WebQuest Investigation</u> – A WebQuest is an inquiry-oriented
activity in which some or all of the information that
learners interact with comes from resources on the
Internet, optionally supplemented with
videoconferencing. There are at least two levels of
WebQuests that should be distinguished from one

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another, a Short Term WebQuest and a Long Term
WebQuest.

Short Term WebQuests - The instructional goal of a short
term WebQuest is knowledge acquisition and
integration, described as Dimension 2 in Marzano's
(1992) Dimensions of Thinking model. At the end of a
short term WebQuest, a learner will have grappled
with a significant amount of new information and made
sense of it. A short-term WebQuest is designed to be
completed in one to three class periods.

Longer Term WebQuest - The instructional goal of a longer
term WebQuest is what Marzano calls Dimension 3:
extending and refining knowledge. After completing a
longer term WebQuest, a learner would have analyzed a
body of knowledge deeply, transformed it in some way,
and demonstrated an understanding of the material by
creating something that others can respond to,
on-line or off-line. A longer term WebQuest will
typically take between one week and a month in a
classroom setting (Dodge, 1997).

Organization of the Thesis

The thesis portion of the project was divided into
four chapters. Chapter one provides an introduction to the

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context of the problem, purpose of the project, significance of the project, limitations and definitions of terms. Chapter Two consists of a review of relevant literature pertaining to this project. Chapter Three documents the steps used in developing the project as well as the design of the project. Chapter Four presents the conclusions and the recommendations drawn from the development of the project. The Appendices for the project follow Chapter Four. The Appendices consist of: Appendix A The Butterfly Moth WebQuest Home page; Appendix B The Butterfly Moth WebQuest Introduction Page; Appendix C is the Butterfly Moth WebQuest Task Page; Appendix D is the Butterfly Moth WebQuest Process Page; Appendix E is the Butterfly Moth WebQuest Lesson 2; Appendix F is the Butterfly Moth WebQuest Lesson 3; Appendix G is the Butterfly Moth WebQuest Lesson 4; Appendix H is the Butterfly Moth WebQuest Quiz; Appendix I is the Butterfly Moth WebQuest Resources Page; Appendix J is the Butterfly Moth WebQuest Evaluation Page; Appendix K is the Butterfly Moth WebQuest Life Cycle Graphic Organizer; Appendix L is the Butterfly Moth WebQuest Compare and Contrast Graphic Organizer; Appendix M is the Butterfly Moth WebQuest Migration/Hibernation Graphic Organizer; Appendix N is the Books of Interest; Appendix O is the California State

Content Standards for Third Grade in Language Arts;

Appendix P is the California State Content Standards for

Third Grade Life Sciences; Appendix Q is the California

State Content Standards for Third Grade in Technology;

Appendix R is a picture of the Gerlach-Ely Design Model.

Finally, the references used in this project follow the

appendices.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

Chapter Two consists of a discussion of the relevant literature. The relevant literature reviewed was separated into four subsections. Subsection One consists of literature covering Primary Science education and technology. Subsection Two consists of literature covering Technology supporting student learning. Subsection Three consists of an explanation of the Gerlach-Ely Design Model. Subsection Four consists of the literature covering WebQuests and their usefulness in education. Followed by a summary of the literature review.

Primary Science Education
and Technology

In the elementary classroom children's learning in science is reflected in approaches to teaching. Research into children's learning has provided a strong argument of including science in the primary curriculum. Researchers have found that children form many of their ideas in these early years and that these ideas can interfere with later science learning (Harlen, 2001). Programs designed to develop inquiry skills lead to improved conceptual

understanding. Exposure to alternative ideas such as secondary sources and other students becomes an important part of student learning.

Computers are used in the primary science classroom for data collecting, graphing, creating and using databases, accessing information from the Internet and word processing. Studies have found that computers can help children to work in a truly investigative way (Harlen, 2001).

The computer allows children to manipulate variables and understand the relationship between them. Using computers creatively in science can encourage primary aged students. Internet investigations and multimedia presentations can provide the vehicle for creativity. In all subjects areas students must present their work in some manner; being able to present their work using an interactive format allows them to have greater depth of expression. Students creating an interactive presentation can become captivated with the science they are learning from the perspective of sharing their information with someone else (Lachs, 2000).

Multimedia science projects are cross-curricular because there are many subject areas that are involved. When creating multimedia projects students need to have

something they want to communicate, decide who their audience is and then consider the best way of presenting the material to their audience. They must plan out the project working in collaborative groups, with partners or independently. Students will be focused and learning about a particular aspect of science and proud to share and communicate what they have learned and created (Lachs, 2000).

Technology Supporting Student Learning

Computers have become more powerful and with that their role in education has broadened. The computer is now viewed as a productivity tool in the areas of writing, drawing, computation and reference. Using the Internet in the classroom is an extension of the computer as a productivity tool for information retrieval, resource material retrieval and communication, which are all areas of instructional technology (Dennis, 1996).

Computers support student learning. In a constructivist learning framework the following six principles apply: 1) learners bring unique prior knowledge and belief to a learning situation; 2) knowledge is constructed uniquely and individually, in multiple ways, through a variety of authentic tools, resources,

experiences and contexts; 3) learning is both an active and reflective process; 4) learning is developmental. We make sense of our world by assimilation, accommodation or rejecting new information; 5) social interaction introduces multiple perspectives on learning; 6) learning is internally controlled and mediated by the learner. These principles were compiled from a variety of sources on constructivism, brain research and educational research (Adams, 2000).

Internet in the classroom can provide relevant instruction to the students. Using the Internet students can have direct connections to the classroom curriculum. Class instructional objectives can be met by structuring the on-line experiences to best suit these objectives. Therefore curriculum goals will dictate the structure of an on-line experience (Adams, 2000).

Students must be involved in actively integrating new information from the Internet into their existing knowledge. This helps students construct new knowledge and reconstruct their existing beliefs.

In a constructivist approach to learning teachers look at their students' interests, prior knowledge and use this to organize activities to help students achieve meaningful learning. These activities have sequenced

components. Integrating the Internet into the curriculum gives power to students and teachers, enabling them to construct meaning from current information and integrate it into their existing knowledge. The appropriate use of technology in teaching can encourage meaningful learning by students (Sunal & Smith, 1998).

Social interaction can be encouraged within the classroom through computer use. In the proper environment students will share their strategies and talk about their learning experiences. Properly structured lessons can encourage student collaboration. Rather than isolating individuals, computers can be the impetus for discussion about the lesson's content. Letting students work in collaborative groups is an excellent way to encourage academic conversations, which can be enhanced by computers. Having students share individual perspectives promotes personal understanding of the project by other students (Adams, 2000).

Computers support learning through linking learners with the World Wide Web. Teachers need to be sensitive to the literacy demands placed on their students by the Internet. Internet information retrieval can be problematic for young or low-literate students. Many of the functions students perform while searching for and

retrieving information from the Internet involve higher
order thinking skills. While viewing the information found
on the Internet students must evaluate and synthesis it,
these are both higher order cognitive tasks. Reading the
information found on the Internet coordinates several
higher-level aspects of literacy, such as, setting a
purpose for reading, regulating the reading rate, making
evaluative judgments about the text and synthesizing
textual information (Dennis, 1996).

There are obstacles classrooms need to overcome in
order to incorporate the Internet into the curriculum.
These problems are centered around: inconsistencies within
the Internet, school districts providing teacher training,
individual classroom access to the Internet, censorship
and pornography. In the proper instructional setting, the
Internet can be a powerful tool for learning and
instruction. For many teacher and students the potential
benefits of the Internet are worth overcoming these
obstacles (Dennis, 1996).

The Internet is a vast and sometimes frustrating
source of material for both teachers and students but with
practice and experience teachers will develop usage
strategies to facilitate learning and user-friendliness.
By reflecting on their Internet teaching experiences

teachers can build strategies improve these activities.
The gradual development of proficiency by both teachers
and students is the goal (Sunal & Smith, 1998).

Gerlach-Ely Design Model

The Gerlach-Ely Design Model is a prescriptive model;
it would be appropriate for K-12 and higher education. It
is meant for novice instructional designers who have
knowledge and expertise in a specific context. The
Gerlach-Ely Design model includes approaches for selecting
and including media within instruction. It also handles
the allocation of resources (Braxton & Looms, n.d., ¶ 1).
The main strength of this model is that practicing
classroom teachers can identify with the process it
suggests. The objectives classification is appropriately
stated for teachers' use. The taxonomy is easily related
to specific instructional strategies. The weakness of this
model is that it may inadvertently reinforce the existing
organization of learning and teaching in schools, rather
than promoting a re-examination of best practices in
classrooms. "Gerlach and Ely had a good thought regarding
"assessment of entering behaviors" as a precursor to needs
analysis, but their approach defined no concrete way of
doing this" (Qureshi, n.d.).

The model starts out with the specification of content and the specification of objectives being interrelated. These two areas lead to the next field, which is the assessment of entering behaviors. Next part was a five part series consisting of: determination of strategy, organization of groups, allocation of time, allocation of space and selection of resources. These five steps are followed by the evaluation of performance and finally the analysis of feedback. After the analysis the designer goes back to the beginning, the specification of content and the specification of objectives and revises where necessary. The WebQuest format was modeled after the Gerlach-Ely Design Model (Appendix R).

WebQuests and Their Usefulness in Education

WebQuests are Internet investigations in which project based learning activities link technology with higher order thinking skills. WebQuests are inquiry-oriented activities, in which some or all of the information comes from resources on the Internet (Garry, 2001).

WebQuests allow students to complete authentic projects and use technology to find and present information. WebQuests alleviate some of the barriers

teachers may find in their attempt to work in the confines of project-based learning (Garry, 2001).

WebQuests have a systematic approach for completion. Resources offer the students and teacher Web pages, books, magazine articles, and so on that will help with the project (Garry, 2001).

Teachers benefit from WebQuests in a number of ways. For example, rubrics for each project and Web resource addresses are provided, authentic learning occurs, ideas for projects are supplied, and learning would be fun for students while they integrate technology. WebQuests can and should be modified by the teacher to fit the needs of the classroom (Garry, 2001).

Bernie Dodge, an educational technology professor at San Diego State University is the founder of WebQuests. In his article FOCUS written to assist educators with WebQuest development, Dodge explains five guidelines necessary to develop a successful WebQuest. "Find great sites. Orchestrate your learners and resources. Challenge your learners to think. Use the medium. Scaffold high expectations (Dodge, 2001).

Finding great sites varies with the students' ages, the WebQuest topic and the learning objectives to be met. Great sites are readable and interesting to the students,

the information is current as well as accurate. There are practical problems of keeping track of web sites. WebQuest developers need to organize and keep track of the good Web sites as they are encountered (Dodge, 2001).

In orchestrating learners and resources teachers must organize their computer resources and activities so that their access to computers is used efficiently. Experience with cooperative learning groups facilitates WebQuest designers organization of learners (Dodge, 2001).

Challenging learners to use critical thinking skills is part of a well-constructed WebQuest. Students need to learn to analyze and synthesize information in order to succeed in most professions. This can be accomplished within a WebQuest by planning a great task section. A great WebQuest will go beyond retelling and engage students in problem solving (Dodge, 2001).

Using the medium referring to the Internet as not only a network of computers but also a network people. E-mail can be used to correspond with others who are experts in a field or to correspond with other children. Using the Internet in this respect will build higher order thinking skills (Dodge, 2001).

Scaffolding high expectations into a WebQuest asks students to do things they might not normally be expected

to do. This is done in three steps: reception, transformation, and production. The reception puts students in contact with resources they may not have seen before and provides direction for them to proceed and succeed. The transformation part of the WebQuests asks students to transform what they have learned into something new, such as comparing and contrasting, using inductive reasoning or decision making. In production students are asked to create things they usually have never created before. By scaffolding the stages along the way students go beyond what they would be able to do on their own" (Dodge, 2001).

Summary

The literature important to the project was presented in Chapter Two. The relevant literature reviewed was separated into four subsections. Subsection One consisted of literature covering Primary Science Education and Technology; key concepts applicable to the elementary science classroom and technology integration were discussed. Subsection Two consisted of literature covering Technology Supporting Student Learning, this subsection focused on computer use and integration and how it can enhance student learning. Subsection Three consisted of

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information on the Gerlach-Ely Design Model; it explains the characteristics of the model and its connection to the WebQuest format. Subsection Four consisted of literature covering WebQuests and their Usefulness in education. A WebQuest was used as the basis of this projects title: WebQuest Investigation To Acquire Internet Usage Skills, this section was covered in detail. The four subsections in the literature review covered the relevant information to this project.

CHAPTER THREE

METHODOLOGY AND DESIGN

Introduction

Chapter Three explains the steps used in the development and design of the WebQuest investigation. It began with an explanation of the Gerlach-Ely Design Model and a step-by-step look at the methodology and design using the Gerlach-Ely Design Model. It was a compilation of the concepts, format, research, objectives, and curriculum content standards come to fruition.

Development and Design

The Gerlach-Ely Design Model was used to create this project (Appendix R). According to Gerlach-Ely Design Model authors this design model would work well because it is best suited for novice instructional designers who have knowledge and expertise in specific content areas. This design model also has strategies for selecting and including media within instruction (Braxton & Looms, n.d.).

Once the content for the WebQuest was researched the objectives for the WebQuest were set up. With this model the content and objectives are related and interdependent. The students' entering behaviors and abilities were

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assessed. Concurrently, the determination of strategy, the organizations of groups, allocation of time, allocation of space and selection of resources are worked on by the author. Later an evaluation and analysis of the project was carried out. The feedback from the evaluation and analysis was used to improve the project. The same steps as previously mentioned were repeated until the evaluation and analysis showed the project to be efficient and effective.

Specification of Content

The preliminary phase of the project was research and information gathering. A thorough investigation of the content matter was done through the use of Internet searches and viewing of many WebPages featuring information on butterflies and moths. Other WebQuest investigations were viewed to observe the format and examples given by the various authors. The information gathering also included viewing The Learning Channel's (TLC) video Bees and Butterflies. Handouts and books covering insect classifications and body structure: e.g. head, thorax, and abdomen were reviewed. Big Books and content appropriate trade books (Appendix M) on butterflies and moths were researched. As well as math lessons in symmetry to discuss butterfly wing symmetry.

Finally, the State and District content standards in Science (Appendix P), Language Arts (Appendix O) and Technology (Appendix Q), were reviewed to confirm the usefulness of the information being used.

Specification of Objectives

The purpose of this project was to develop a WebQuest investigation that would facilitate student Internet usage and their proficiency in its use. A WebQuest investigation is an inquiry-oriented activity in which most or all of the information that learners interact with comes from resources on the Internet (Dodge, 1997). As student Internet proficiency was being achieved the concurrent benefit was the integration of the State and District content standards in the areas of Science, Language Arts, and Technology (Appendices O, P, Q).

In the WebQuest investigation the students gain Internet experience through integrated lessons in Science, Language Arts, and Technology. Internet use is an important component of the integration of Technology with learning (Jonassen, 1996, p. 151). Using the Internet as an Educational tool becomes increasingly important as students progress in their academic careers. It allows students to locate and retrieve up to date information on topics studied in the classroom. "Knowledge acquisition

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and negotiation of meaning are some the most fundamental and important learning processes in education." They can be applied in any content domain. "It is critical that learners become self-directed and acquire and use these skills always" (Jonassen, 1996, p. 167). Early exposure to the Internet as an Educational tool through guided instruction gives students a foundation, which they can apply to their future educational projects and research.

Assessment of Entering Behaviors

The population served by this WebQuest investigation is Third Grade students that were reading at or close to grade level, who have computers with access to the Internet and a desire to learn more about Butterflies and Moths. These students are from a mixture of middle and lower-middle socio-economic levels. The majority of students (70%) were reading at grade level. The students' reading proficiencies were measured using the Harcourt Brace Jovanovich *Signatures* Reading Series assessment test. This test evaluates students' vocabulary and reading comprehension.

The students' computer skills included: some keyboarding skills - formally they have been introduced to the home-row keys and in the classroom students have word-processed their compositions two to three times a

month, they were very familiar with word processing and have used many educational computer games. Concurrently while participating in the WebQuest investigation the students would be learning to create PowerPoint Presentations.

Determination of Strategy - WebQuest Format

A WebQuest format was chosen for the design layout. San Diego State University's WebQuest Page had many WebQuest example projects as well as a training section to help new designers set-up and create projects. A WebQuest is "an inquiry-oriented activity in which most or all of the information used by learners is drawn from the Web" (Dodge, 1997, ¶ 1). WebQuests are Internet investigations that provide structure and guidance.

Introduction

All WebQuests have the following sections: an Introduction, Task, Resources, Process, Evaluation with a Rubric and a Conclusion (Dodge, 2000). The WebQuest Introduction prepares students by giving them a chance to recall some prior knowledge and to become excited about the project.

Task

The Task section focuses students' attention on the learning activities that are going to take place. The task in this WebQuest stated:

"At the end of this Mission (WebQuest), entomologists (people who study insects) will have surfed the Internet and done research using the Internet. The valuable information you have gathered will be used to create Power Point Presentations depicting one or more of these fascinating areas of exploration:

Vocabulary

Butterfly and moth Life Cycle

Butterfly and moth Similarities and Differences

Migration and/or Hibernation of Butterflies and Moths

Each entomology group will present their Power Point Presentations to the class."

Process

The Process section of the WebQuest outlines how the students will achieve their task. The Process provides the structure or basis necessary for successful Web-based inquiry. The Process section includes: what needs to be accomplished, the Web resources to be used, as well as the

tools and graphic organizers needed for coordinating the
information.

The Process section of the WebQuest was the
lengthiest to create in terms of research and assemblage.
There are four lessons and quiz in this section. The first
lesson was a butterfly and moth vocabulary tutorial
constructed using a PowerPoint Presentation and saved as a
Web Page. Lesson two was an investigation into the life
Cycle of butterflies and moths. Here the students used a
graphic organizer (Appendix G) to record information
gathered from the Internet resources listed in the lesson.
After gathering this information the students will write
paragraphs about each stage of the life cycle. Lesson
three compares and contrasts moths and butterflies.
Students gather information from the Internet sources
listed within lesson three and record it on the graphic
organizer (Appendix H). Next students will write two
paragraphs, one comparing and the other contrasting the
butterfly and moth.

In Lesson four students investigation the behavior
patterns of these creatures in the cold weather. They
research migration and hibernation patterns of butterflies
and moths using the Internet sites listed in the lesson
and record this information on a graphic organizer

(Appendix I). Next they will write a paragraph in the first person from the perspective of a butterfly or a moth. They will state whether they would prefer to migrate or to hibernate and give at least four reasons why.

The last part of the Process section was an on-line quiz that reviews the information covered in the previous four lessons.

Resources

The Resources are a list of the Internet sources and graphic organizers to be used that are also available in the Process area of the WebQuest. The resources used were reading level appropriate, colorful, educational and easy to navigate.

Evaluation

The Evaluation provides the criteria used to assess the students' performance and the content standards. In this section the students will compose a PowerPoint Presentation showcasing one or more of the lessons they covered in their investigation. The Evaluation assesses the students' performance as well as their ability to meet the state content standards.

Conclusion

The Conclusion brings the investigation to an end and encourages reflection on the part of the student. Also included in the WebQuest are teacher pages that provide lessons and the state content standards. These were the main areas in which a WebQuest investigation was divided.

Organization of Groups

This WebQuest has a variety of Instructional group settings. The introductory lesson was setup as whole group activity to acquaint students with the WebQuest and the navigation of the Internet. Lessons two – four can be structured as individual or small group activities, according to the teacher's preference. The Quizzes can be done individually for students to review and evaluate what they have learned. The final project would be a PowerPoint Presentation, which would be to be done in a small group setting. Overall there would be great flexibility in the instructional grouping possibilities based on the needs of individual classes.

Allocation of Time

A Long Term WebQuest was selected. The instructional goal of a longer term WebQuest extends and refines student knowledge. After completing a longer term WebQuest, a learner would have analyzed a body of knowledge deeply,

transformed it in some way, and demonstrated an understanding of the material by creating something that others can respond to, on-line or off-line. A longer term WebQuest will typically take between one week and a month in a classroom setting (Dodge, 1997).

A 30-day Unit calendar was created with a proposed schedule of lessons incorporating all the WebQuest lessons to be completed. The introduction and the first four lessons are to be completed within the first twenty days. The last ten days are used for students work in small groups to review and refine what they have done in each of the four lessons. Students use this information to compose and finally present the PowerPoint Presentation to their teacher and classmates.

Allocation of Space

In this project access to computers, the Internet and software programs would be necessary. Students as individuals or in small groups need computer access. The ideal setting for a WebQuest investigation would be in a computer lab where each student has equal access to a computer, the Internet and software programs. Since not all schools are equipped with computer labs this may not be possible. The alternative would be to have groups with rotating computer use time. When students are not using

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the computer they would plan for their future computer use time and review what they have discovered cooperatively.

Selection of Resources

The Butterfly resource pages were selected by using Yahooligans and Ask Jeeves Kids as a search engines. Yahooligans and Ask Jeeves Kids are search engines geared for children. The content of the sources found using either of these search engines was appropriate in its subject matter, reading level and appeal. The Web site sources found and utilized were colorful, informative and user friendly. The reading level of the Web sites was appropriate for third grade students.

The following Third Grade California State content standards in Science, Language Arts and Technology were covered in the WebQuest (Appendices O, P, Q):

Content Standards

Lesson 2 Butterfly Moth Life Cycle Reading Standards: Comprehension & Analysis of Grade Level Appropriate Text 2.3, 2.4, 2.5, 2.6.

Writing Standards: Writing strategies 1.0, Organization & Focus 1.1, Research & Technology 1.3, Revising & Evaluation Strategies 1.4, writing Applications 2.0, 2.2, 2.3.

Written & Oral Language Conventions: 1.0, Sentence
Structure 1.1, Punctuation 1.6, Capitalization 1.7

Life Science: 3.0 Adaptations in physical structure
or behavior may improve an organism's chance for survival.
As a basis for understanding this concept:

a. Students know plants and animals have structures
    that serve different functions in growth,
    survival, and reproduction.

Lesson 3 Compare and Contrast Butterflies and Moths

Reading Standards: Comprehension & Analysis of Grade
Level Appropriate Text2.3, 2.4, 2.5, 2.6

Writing Standards: Writing strategies 1.0,
Organization & Focus 1.1, Research & Technology 1.3,
Revising & Evaluation Strategies 1.4, writing Applications
2.0,2.2, 2.3

Written & Oral Language Conventions: 1.0, Sentence
Structure 1.1, Punctuation 1.6, Capitalization 1.7

Life Science: 3. Adaptations in physical structure or
behavior may improve an organism's chance for survival. As
a basis for understanding this concept:

a   Students know plants and animals have structures
    that serve different functions in growth,
    survival, and reproduction.

c. Students know living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organisms, and some are beneficial.

d. Students know when the environment changes, some plants and animals survive and reproduce; others die or move to new locations.

Evaluation of Performance

Several educational groups evaluated the content of the WebQuest investigation: a Grade Level committee of third grade teachers, the Technology coordinators at the district office, as well as the school site science committee. The third grade committee was comprised of six third grade teachers. They were all veteran teachers having taught at various grade levels as well as having a minimum of four years teaching at the third grade level. The Technology committee was a group of teachers on special assignment working to coordinate and implement the Technology and standards used by the district's teachers and students. The science committee was a group of science teachers that attended regular science curriculum meetings at the district. The individuals from these committees reviewed and critiqued the WebQuest. The feedback from

these committees was evaluated and used to improve the quality and usefulness of the WebQuest investigation.

Analysis of Feedback

The individuals from the above noted committees reviewed and critiqued the WebQuest. Their feedback in the form of evaluations, comments and suggestions were integrated into the WebQuest to refine and improve the quality and usefulness of the WebQuest investigation. After the analysis the refining process begins, starting with the specification of content and the specification of objectives, the revisions are made where necessary. The WebQuest format was implemented effectively using the Gerlach-Ely Design Model.

Culmination of the Project

The purpose of the project was to develop a WebQuest investigation to facilitate student Internet use and proficiency at the third grade level while at the same time integrate the teaching of State and District content standards in the areas of Science, Language Arts, and Technology. The student objectives and goals set forth at the beginning of the WebQuest.

Summary

The steps used in the development and design of this WebQuest investigation were explained in this chapter. The Gerlach-Ely Design Model was used to create this project. Each stage of the development and design of the project were explained in this chapter.

In the Specification of Content the preliminary phase of the project was explored including the research and information gathering. In the Specification of Objectives area the purpose of the project, which was the development of a WebQuest investigation that would facilitate student Internet usage was explained in detail. A WebQuest investigation is an inquiry-oriented activity in which most or all of the information that learners interact with comes from resources on the Internet. In the assessment of Entering Behaviors section the population served by the WebQuest investigation was explained as well as how the students' reading proficiencies were assessed. In the Determination of Strategy section, the use of a WebQuest format for the design layout was discussed. A step-by-step look at the development of the WebQuest was explained.

In the Allocation of Time section a Long Term WebQuest was explained. A long term WebQuest extends and

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refines student knowledge. The use of a 30-day Unit calendar was discussed with a proposed schedule of lessons. In the Allocation of Space section the necessity of having access to computers, the Internet and software programs was discussed. The Butterfly resource pages were explored in the Selection of Resources section. These sources were selected by using Yahooligans and Ask Jeeves Kids search engines. The content of the sources found was appropriate in its subject matter, reading level and appeal. Several educational groups evaluated the content of the WebQuest investigation; this process was looked at in the Evaluation of Performance section. Next, in the Analysis of Feedback section, the integration of the aforementioned feedback to refine and improve the quality and usefulness of the WebQuest investigation was discussed. Finally in this chapter, after the analysis the refining process begins and repeats itself until all the necessary revisions are made.

CHAPTER FOUR

CONCLUSIONS AND RECOMMENDATIONS

Introduction

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

Conclusions

The Butterfly/Moth WebQuest investigation was developed to facilitate third grade students' Internet use and proficiency, while at the same time integrating the content standards in the areas of Science, Language Arts, and Technology. This author believes that this Butterfly and Moth WebQuest would meet the goals stated in the beginning of this project. It would facilitate third grade students' Internet use and proficiency, and integrate the content standards in the areas of Science, Language Arts, and Technology set forth at the beginning of this project.

WebQuest investigations motivate students, giving them a desire to learn. WebQuests are project based learning activities that link technology with higher order thinking skills. A well-written WebQuest challenges

learners to use critical thinking skills. Students need to learn to analyze and synthesize information in order to succeed in most professions, thus WebQuests can impart valuable life skills. A well-written WebQuest will go beyond retelling and engage students in problem solving.

The experience of researching and creating the WebQuest as well as writing this Master's Project, although exhausting at times, proved to be a scholarly and rewarding journey in Instructional Technology.

Recommendations

WebQuests are an excellent vehicle for instructors to use to motivate students in a variety of subject areas. WebQuests integrate the curriculum, are able to meet state content standards in a variety of subjects, develop students' Internet proficiency, and at the same time build critical thinking skills. Computer literate instructors, whose students are reading at or close to grade level and have regular classroom access to the Internet, would benefit from a WebQuest investigation. WebQuest investigations have great potential for both students and teachers.

Bernie Dodge's WebQuest Page has many example WebQuests to visit and explore. Before creating their own

WebQuest, it would be advisable to experience teaching with one or more of the sample WebQuests and adapting it to meet the needs of the instructor and their students. There are a variety of examples available in a matrix of different grade levels and subject areas. The grade levels range from Kindergarten through Adult. The WebQuest matrix of examples, range alphabetically by subject from Art & Music to Technology.

WebQuests are not only educational they can be fun. In a well-organized classroom teachers can integrate the curriculum, meet the content standards, build critical thinking skills and simultaneously motivate their students. WebQuests can be a Win-Win situation for both teachers and students.

Summary

Chapter Four reviewed the conclusions derived from the writing this project. Lastly, the recommendations resulting from the project were presented. The overall consensus was positive in relationship to WebQuests. The initial objectives of facilitating third grade students' Internet use and proficiency and integrating the content standards in the areas of Science, Language Arts, and Technology would be met and likely to be exceeded.

APPENDIX A

BUTTERFLY MOTH WEBQUEST HOMEPAGE

Butterfly & Moth
Webquest

composed by

Tricia D. Allen
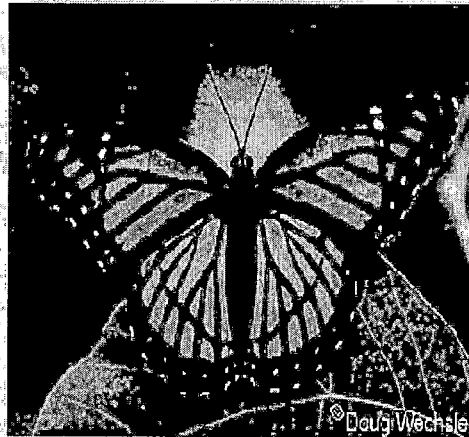
Photo by Doug Wechsler

APPENDIX B

BUTTERFLY MOTH WEBQUEST

INTRODUCTION PAGE

Introduction   Task   Process   Resources   Evaluation

Teacher notes

Introduction

Your mission here is to discover extraordinary things about butterflies and moths. You will investigate the strange and mysterious world of these insects; you will learn about their life cycle and discover why they are important to us and helpful to our environment. In doing so you will investigate and discover the similarities and differences of moths and butterflies.

APPENDIX C

BUTTERFLY MOTH WEBQUEST

TASK PAGE

Task

At the end of this Mission (Webquest), entomologists (people who study insects) will have surfed the Internet and researched using the Internet. Using the valuable information they have gathered they will create Power Point Presentations depicting one of these fascinating areas of exploration:

- Vocabulary
- Butterfly and moth Life Cycle
- Butterfly and moth Similarities and Differences
- Migration and/or Hibernation of Butterflies and Moths

Each entomology group will present their Power Point Presentations to the class.

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APPENDIX D

BUTTERFLY MOTH WEBQUEST

PROCESS PAGE

File   Edit   View   Favorites   Tools   Help

Address http://www.dsusd.k12.ca.us/users/triciaa/butterfly/buterflymoth1.html

Process

The **underlined words** on these pages will take you to another page or area of the page. These underlined words are called **links**. Click on the underlined words when you want to move to that link.

- Learn some Butterfly/Moth Vocabulary Words

  Directions - How to use Lesson 1

  Skip the directions go directly to Lesson 1
- Lesson 2 - Investigate the Butterfly/moth life cycle
- Lesson 3 - Uncover the mystery of the similarities and differences between butterflies and moths
- Lesson 4 - Discover what Butterflies and Moths do when the weather gets cold
- Quiz - Test yourself to see what you have learned.

  Take the Butterfly/Moth Quiz.

Start   Instructional sept14..   Untitled - Micro...   WebQuest Task - P...   8:42 PM

APPENDIX E

BUTTERFLY MOTH WEBQUEST

LESSON 2

Butterfly & Moth
Life Cycle
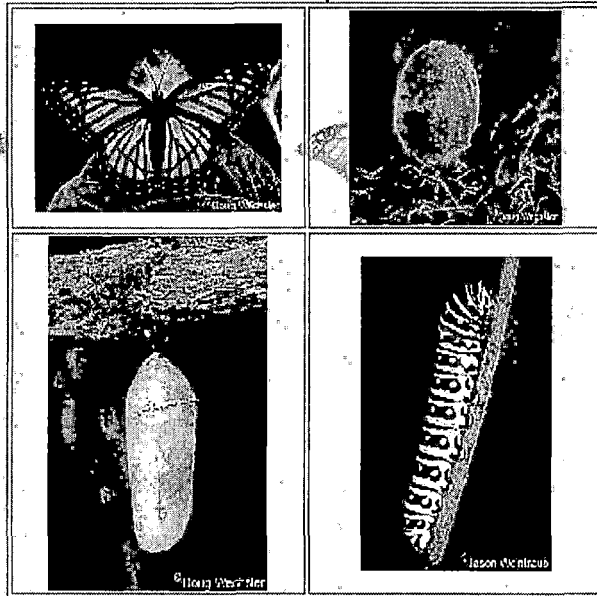
Photos by Jason Weintraub and Doug Wechsler

- Printout the butterfly/moth lifecycle paper.
- Use the websites below to fill in the each area in the butterfly/moth lifecycle paper.
- Each area should have at least **four facts** about each stage of the life cycle.

- Websites and Information
  - All About ButterfliesWebsite
  - Children's Butterfly WebsiteSite
  - Painted Lady Life Cycle Handout

- Have your lifecycle paper checked by your teacher before proceeding.
- Write four paragraphs - one paragraph about each stage of the butterfly/moth lifecycle.
- When you are done edit your work (self editing reminder) then your teacher will edit your w
- Your final draft will be typed on the computer.

- Edit your work. Self editing paper

Return to Webquest

APPENDIX F
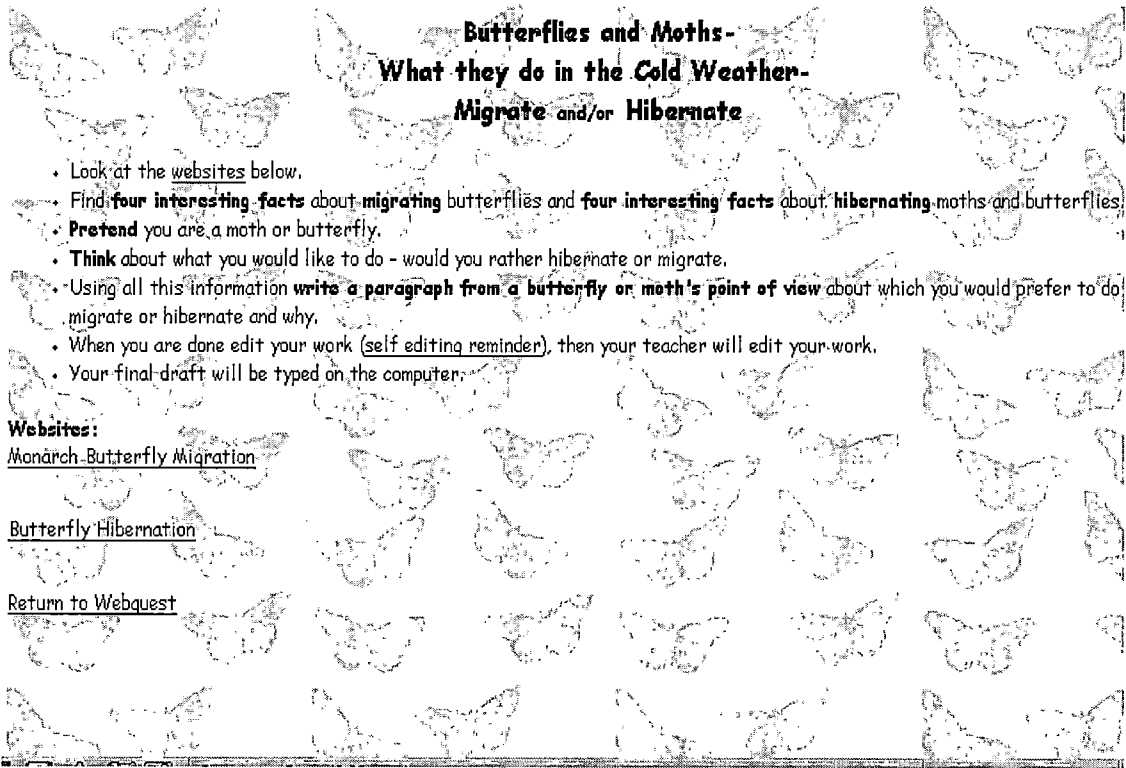
BUTTERFLY MOTH WEBQUEST

LESSON 3

Simmilarities and Differences
of the
Butterfly and Moth

- Uncover the mystery of the similarities and differences of Butterflies and Moths.

- Use the following websites and information page to complete the fact sheet.

- Begin by printing and filling in the fact sheet on how butterflies and moths are alike and how they are different.
- Using your completed fact sheet you will write two paragraphs.
  - One paragraph will compare how moths and butterflies are alike.
  - The other paragraph will contrast how moths and butterflies are different.
  - When you are done edit your work (self editing reminder), then your teacher will edit your work.
  - Your final draft will be typed on the computer. Insert clip art or a picture into your final draft.

- **Websites:**
  - Wildlife Research Center
  - All About Butterflies
  - The Butterfly Website

Information Page -Venn Diagram

Return to the Webquest Page

APPENDIX G

BUTTERFLY MOTH WEBQUEST

LESSON 4

Butterflies and Moths-
What they do in the Cold Weather-
Migrate and/or Hibernate

- Look at the websites below.
- Find **four interesting facts** about **migrating** butterflies and **four interesting facts** about **hibernating** moths and butterflies.
- **Pretend** you are a moth or butterfly.
- **Think** about what you would like to do - would you rather hibernate or migrate.
- Using all this information **write a paragraph from a butterfly or moth's point of view** about which you would prefer to do, migrate or hibernate and why.
- When you are done edit your work (self editing reminder), then your teacher will edit your work.
- Your final draft will be typed on the computer.

Websites:

Monarch Butterfly Migration

Butterfly Hibernation

Return to Webquest

54
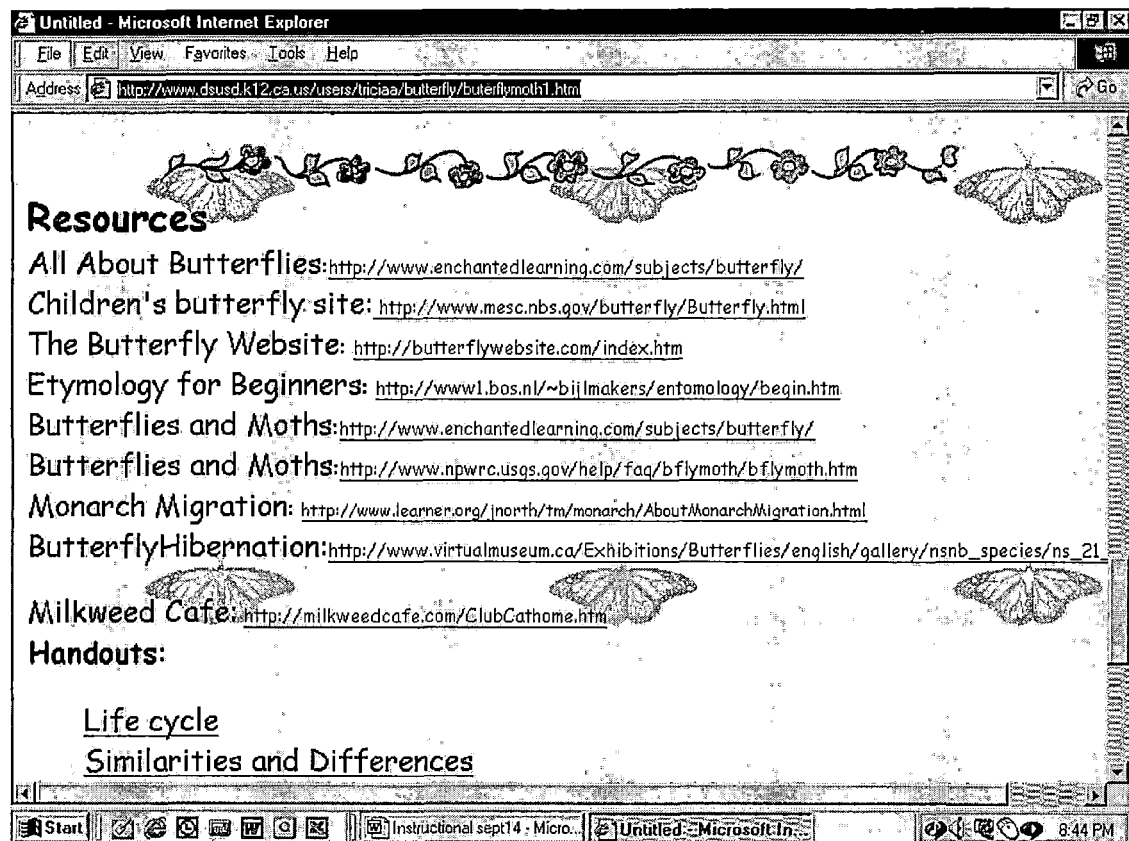
APPENDIX H

BUTTERFLY MOTH WEBQUEST

BUTTERFLY/MOTH QUIZ

Butterfly/Moth Quiz

Click on the arrows below or the page names to the left to move to the next slide.

APPENDIX I

BUTTERFLY MOTH WEBQUEST

RESOURCES PAGE

Resources

All About Butterflies: http://www.enchantedlearning.com/subjects/butterfly/

Children's butterfly site: http://www.mesc.nbs.gov/butterfly/Butterfly.html

The Butterfly Website: http://butterflywebsite.com/index.htm

Etymology for Beginners: http://www1.bos.nl/~bijlmakers/entomology/begin.htm

Butterflies and Moths: http://www.enchantedlearning.com/subjects/butterfly/

Butterflies and Moths: http://www.npwrc.usgs.gov/help/faq/bflymoth/bflymoth.htm

Monarch Migration: http://www.learner.org/jnorth/tm/monarch/AboutMonarchMigration.html

ButterflyHibernation: http://www.virtualmuseum.ca/Exhibitions/Butterflies/english/gallery/nsnb_species/ns_21

Milkweed Cafe: http://milkweedcafe.com/ClubCathome.htm

Handouts:

Life cycle

Similarities and Differences

APPENDIX J

BUTTERFLY MOTH WEBQUEST

EVALUATION AND CONCLUSION PAGE

Evaluation

Power Point Presentation:

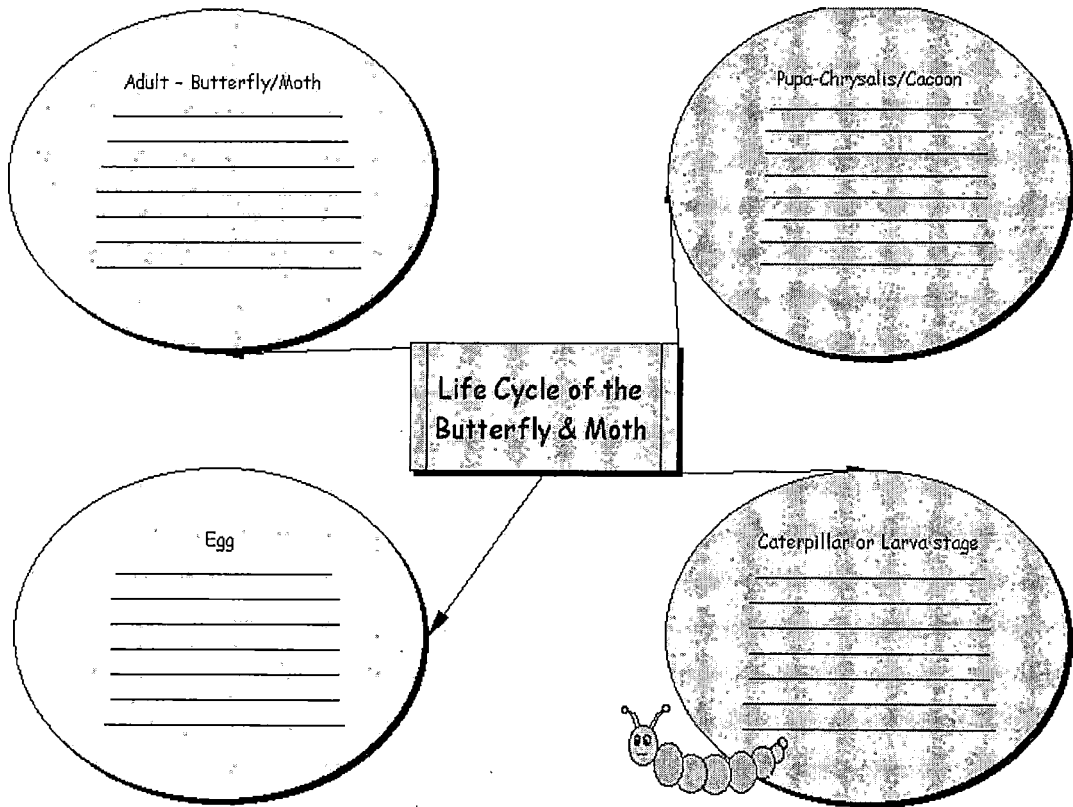|	
5 Power Point slides required	20 points
3 graphics required	20 points
Information in the presentation is correct	40 points
Organization of information	20 points

Conclusion:

Congratulations! You did it!

Now that you are an expert in the study of the lives of butterflies and moths. You are well on your way to the road of exploration and investigation. Keep up the good work. I hope you have enjoyed this WebQuest investigation. Good luck your future investigations.

Teacher notes

Back to Science page

APPENDIX K

BUTTERFLY MOTH WEBQUEST
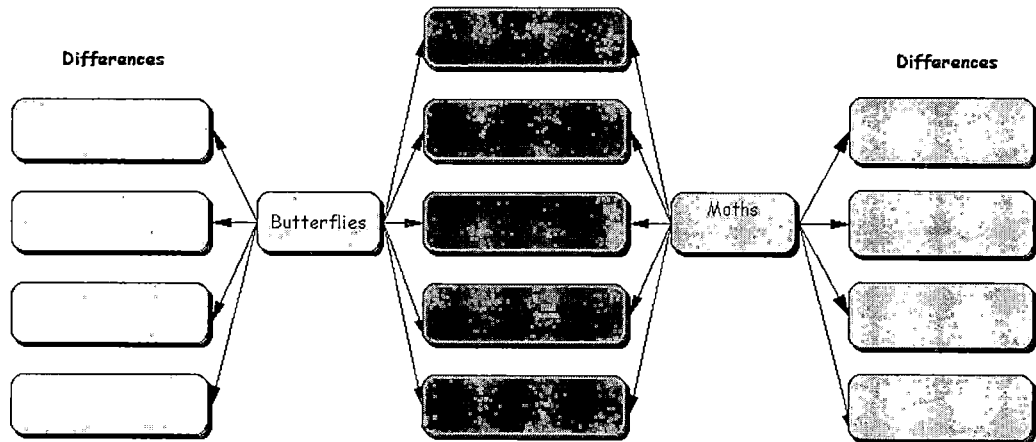
LIFE CYCLE GRAPHIC ORGANIZER

Adult - Butterfly/Moth
_____
_____
_____
_____
_____

Pupa-Chrysalis/Cacoon
_____
_____
_____
_____
_____

Life Cycle of the
Butterfly & Moth

Egg
_____
_____
_____
_____
_____

Caterpillar or Larva stage
_____
_____
_____
_____

APPENDIX L

BUTTERFLY MOTH WEBQUEST

COMPARE AND CONTRAST

GRAPHIC ORGANIZER

Name : _____

Butterflies and Moths.

Similarities

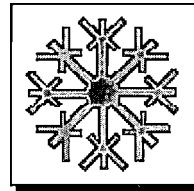**Differences**

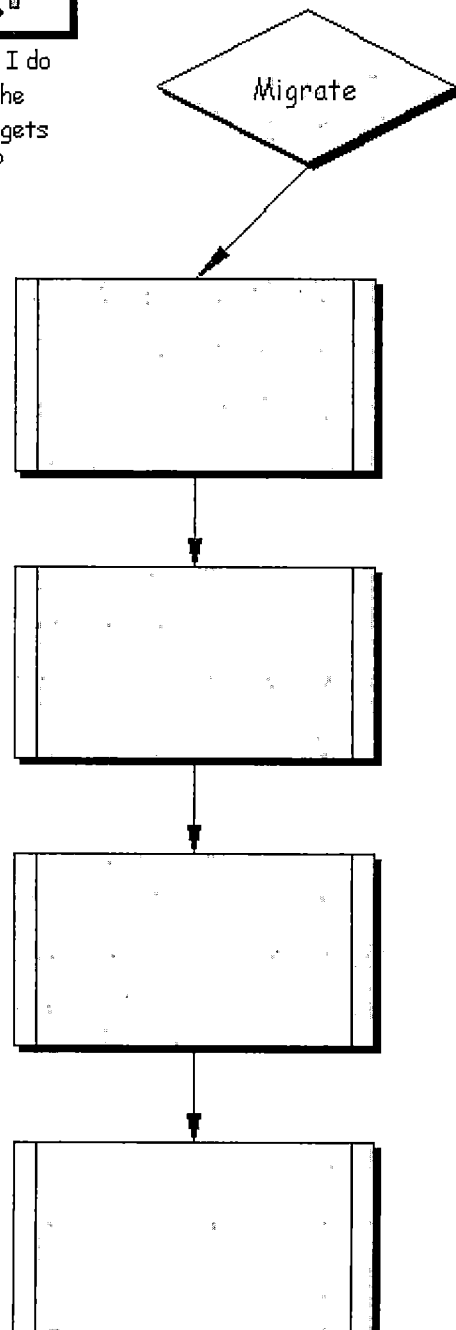**Differences**

Butterflies

Moths

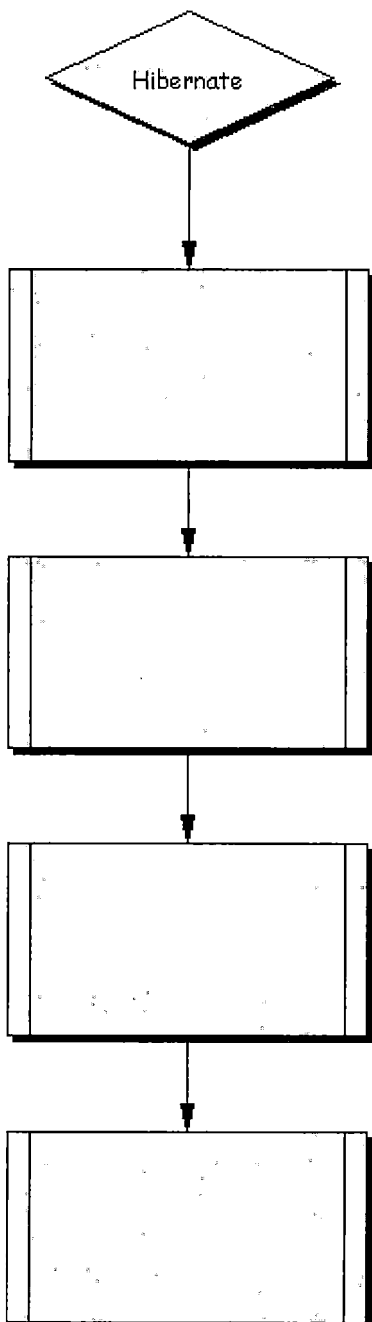64

APPENDIX M

BUTTERFLY MOTH WEBQUEST

MIGRATE OR HIBERNATE

GRAPHIC ORGANIZER

Name :_____

What do I do
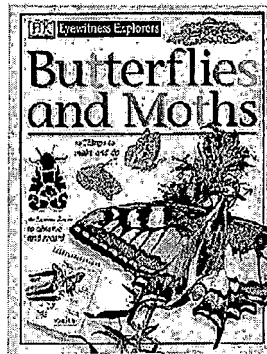when the
weather gets
cold?

Hibernate

Migrate

APPENDIX N

BOOKS OF INTEREST

Berger, Melvin. A Butterfly is Born Newbridge Educational
    Publishing. New York, New York 1993.

Feltwell, John, BUTTERFLIES & MOTHS, Eyewitness Explorers,
    1993.

Getzoff, Melissa. Butterfly Magic Troll Associates, 1996.
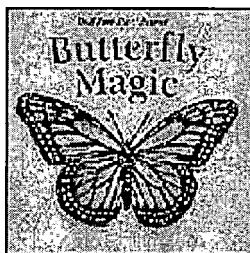
Hickman, Pamela Collins, Collins, Heather A New Butterfly
    Kids Can Press, Ltd. Buffalo, NY, 1997.

Goor, Ron & Nancy, Insect Metamorphosis From Egg to Adult,
    Aladdin Paperpacks, New York, NY 1998.

Zoobooks, Butterflies the March 1995 Volume 12 Number 6 of
    Zoobooks a monthly publication of Wildlife Education
    Ltd., San Diego, CA.

APPENDIX O

CALIFORNIA STATE CONTENT

STANDARDS THIRD GRADE

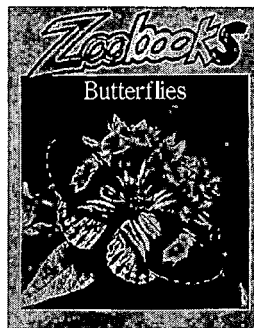LANGUAGE ARTS

Grade Three

English-Language Arts Content Standards

Reading

1.0 Word Analysis, Fluency, and Systematic Vocabulary Development
Students understand the basic features of reading. They select letter patterns and know how to translate them into spoken language by using phonics, syllabication, and word parts. They apply this knowledge to achieve fluent oral and silent reading.

Decoding and Word Recognition
1.1 Know and use complex word families when reading (e.g., *-ight)* to decode unfamiliar words.
1.2 Decode regular multisyllabic words.
1.3 Read aloud narrative and expository text fluently and accurately and with appropriate pacing, intonation, and expression.

Vocabulary and Concept Development
1.4 Use knowledge of antonyms, synonyms, homophones, and homographs to determine the meanings of words.
1.5 Demonstrate knowledge of levels of specificity among grade-appropriate words and explain the importance of these relations (e.g., dog/ mammal/ animal/ living things).
1.6 Use sentence and word context to find the meaning of unknown words.
1.7 Use a dictionary to learn the meaning and other features of unknown words.
1.8 Use knowledge of prefixes (e.g., un-, re-, pre-, bi-, mis-, dis-) and suffixes (e.g., -er, -est, -ful) to determine the meaning of words.

2.0 Reading Comprehension
Students read and understand grade-level-appropriate material. They draw upon a variety of comprehension strategies as needed (e.g., generating and responding to essential questions, making predictions, comparing information from several sources). The selections in *Recommended Readings in Literature, Kindergarten Through Grade Eight* illustrate the quality and complexity of the materials to be read by students. In addition to their regular school reading, by grade four, students read one-half million words annually, including a good representation of grade-level-appropriate narrative and expository text (e.g., classic and contemporary literature, magazines, newspapers, online information). In grade three, students make substantial progress toward this goal.

Structural Features of Informational Materials
2.1   Use titles, tables of contents, chapter headings, glossaries, and indexes to locate information in text.

Comprehension and Analysis of Grade-Level-Appropriate Text
2.2   Ask questions and support answers by connecting prior knowledge with literal information found in, and inferred from, the text.
2.3   Demonstrate comprehension by identifying answers in the text.
2.4   Recall major points in the text and make and modify predictions about forthcoming information.
2.5   Distinguish the main idea and supporting details in expository text.
2.6   Extract appropriate and significant information from the text, including problems and solutions.
2.7   Follow simple multiple-step written instructions (e.g., how to assemble a product or play a board game).

3.0 Literary Response and Analysis
Students read and respond to a wide variety of significant works of children's literature.
They distinguish between the structural features of the text and literary terms or elements (e.g., theme, plot, setting, characters). The selections in *Recommended Readings in Literature, Kindergarten Through Grade Eight* illustrate the quality and complexity of the materials to be read by students.

Structural Features of Literature
3.1   Distinguish common forms of literature (e.g., poetry, drama, fiction, nonfiction).

Narrative Analysis of Grade-Level-Appropriate Text
3.2   Comprehend basic plots of classic fairy tales, myths, folktales, legends, and fables from around the world.
3.3   Determine what characters are like by what they say or do and by how the author or illustrator portrays them.
3.4   Determine the underlying theme or author's message in fiction and nonfiction text.
3.5   Recognize the similarities of sounds in words and rhythmic patterns (e.g., alliteration, onomatopoeia) in a selection.
3.6   Identify the speaker or narrator in a selection.

Writing

1.0 Writing Strategies
Students write clear and coherent sentences and paragraphs that develop a central idea. Their writing shows they consider the audience and purpose.

Students progress through the stages of the writing process (e.g., prewriting, drafting, revising, editing successive versions).

Organization and Focus
1.1   Create a single paragraph:
    a.   Develop a topic sentence.
    b.   Include simple supporting facts and details.

Penmanship
1.2   Write legibly in cursive or joined italic, allowing margins and correct spacing between letters in a word and words in a sentence.

Research
1.3   Understand the structure and organization of various reference materials (e.g., dictionary, thesaurus, atlas, encyclopedia).

Evaluation and Revision
1.4   Revise drafts to improve the coherence and logical progression of ideas by using an established rubric.

2.0 Writing Applications (Genres and Their Characteristics)

Students write compositions that describe and explain familiar objects, events, and experiences. Student writing demonstrates a command of standard American English and the drafting, research, and organizational strategies outlined in Writing Standard 1.0.

Using the writing strategies of grade three outlined in Writing Standard 1.0, students:

2.1   Write narratives:
    a.   Provide a context within which an action takes place.
    b.   Include well-chosen details to develop the plot.
    c.   Provide insight into why the selected incident is memorable.

2.2   Write descriptions that use concrete sensory details to present and support unified impressions of people, places, things, or experiences.

2.3   Write personal and formal letters, thank-you notes, and invitations:
    a.   Show awareness of the knowledge and interests of the audience and establish a purpose and context.
    b.   Include the date, proper salutation, body, closing, and signature.

Written and Oral English Language Conventions

The standards for written and oral English language conventions have been placed between those for writing and for listening and speaking because these conventions are essential to both sets of skills.

1.0 Written and Oral English Language Conventions
Students write and speak with a command of standard English conventions appropriate to this grade level.

Sentence Structure
1.1   Understand and be able to use complete and correct declarative, interrogative, imperative, and exclamatory sentences in writing and speaking.

Grammar
1.2   Identify subjects and verbs that are in agreement and identify and use pronouns, adjectives, compound words, and articles correctly in writing and speaking.
1.3   Identify and use past, present, and future verb tenses properly in writing and speaking.
1.4   Identify and use subjects and verbs correctly in speaking and writing simple sentences.

Punctuation
1.5   Punctuate dates, city and state, and titles of books correctly.
1.6   Use commas in dates, locations, and addresses and for items in a series.

Capitalization
1.7   Capitalize geographical names, holidays, historical periods, and special events correctly.

Spelling
1.8   Spell correctly one-syllable words that have blends, contractions, compounds, orthographic patterns (e.g., qu, consonant doubling, changing the ending of a word from -y to -ies when forming the plural), and common homophones (e.g., hair-hare). 1.9 Arrange words in alphabetic order.

Listening and Speaking

1.0 Listening and Speaking Strategies
Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation.

Comprehension
1.1   Retell, paraphrase, and explain what has been said by a speaker.
1.2   Connect and relate prior experiences, insights, and ideas to those of a speaker.
1.3   Respond to questions with appropriate elaboration.
1.4   Identify the musical elements of literary language (e.g., rhymes, repeated sounds, instances of onomatopoeia).

Organization and Delivery of Oral Communication
1.5   Organize ideas chronologically or around major points of information.
1.6   Provide a beginning, a middle, and an end, including concrete details that develop a central idea.
1.7   Use clear and specific vocabulary to communicate ideas and establish the tone.
1.8   Clarify and enhance oral presentations through the use of appropriate props (e.g., objects, pictures, charts).
1.9   Read prose and poetry aloud with fluency, rhythm, and pace, using appropriate intonation and vocal patterns to emphasize important passages of the text being read.

Analysis and Evaluation of Oral and Media Communications
1.10 Compare ideas and points of view expressed in broadcast and print media.
1.11 Distinguish between the speaker's opinions and verifiable facts.

2.0 Speaking Applications (Genres and Their Characteristics)
Students deliver brief recitations and oral presentations about familiar experiences or interests that are organized around a coherent thesis statement. Student speaking demonstrates a command of standard American English and the organizational and delivery strategies outlined in Listening and Speaking Standard 1.0.

Using the speaking strategies of grade three outlined in Listening and Speaking Standard 1.0, students:

2.1   Make brief narrative presentations:
    a.   Provide a context for an incident that is the subject of the presentation.

b.   Provide insight into why the selected incident is memorable.
    c.   Include well-chosen details to develop character, setting, and plot.
2.2 Plan and present dramatic interpretations of experiences, stories, poems, or plays with clear diction, pitch, tempo, and tone.
2.3 Make descriptive presentations that use concrete sensory details to set forth and support unified impressions of people, places, things, or experiences.

APPENDIX P

CALIFORNIA STATE CONTENT

STANDARDS THIRD GRADE

LIFE SCIENCES

Life Sciences

3. Adaptations in physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept:

    a. *Students know* plants and animals have structures that serve different functions in growth, survival, and reproduction.

    b. *Students know* examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands.

    c. *Students know* living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organisms, and some are beneficial.

    d. *Students know* when the environment changes, some plants and animals survive and reproduce; others die or move to new locations.

    e. *Students know* that some kinds of organisms that once lived on Earth have completely disappeared and that some of those resembled others that are alive today.

APPENDIX Q

CALIFORNIA STATE CONTENT

STANDARDS THIRD GRADE

TECHNOLOGY

Third Grade

1.0   General Technological Awareness

1.26   The student can identify the active and non-active options in a menu.

1.37   The student can move a window using the mouse.

1.38   The student can resize a window using the mouse.

1.39   The student can change the view of a window using the mouse.

1.40   The student can change the name of a file.

1.45   The student can write-protect a disk.

1.55   The student understands and respects copyright laws.

2.0   Keyboarding

2.11   The student can use formal keyboard skills to learn keys: F, J, D, and K.

2.12   The student can use formal keyboard skills to learn keys: S, L, A, and semicolon.

2.13   The student can use formal keyboard skills to learn keys: G, and H.

2.14   The student can use formal keyboard skills to learn keys: R and U.

2.15   The student can use the formal keyboard skills to learn keys: E and I.

2.16   The student can use the formal keyboard skills to learn keys: W and O.

2.17   The student can use the formal keyboard skills to learn keys: left shift, period, and colon.

2.18   The student can use the formal keyboard skills to learn keys: right shift, Q, and P.

2.19   The student can use formal keyboard skills to learn keys: T and Y.

2.20   The student can use the formal keyboard skills to learn keys: N, M, and colon.

2.21   The student can use formal keyboard skills to learn keys: V, B, and question mark.

2.22   The student can use formal keyboard skills to learn keys: C, comma, and question mark.

2.23   The student can use formal keyboard skills to learn keys: X and Z

3.0   Paint, Draw, and Graphics

3.12   The student can use text box in a paint program.

3.15   The student can highlight a graphic using the frame/marquee or lasso tool in a paint program.

3.16   The student can move a graphic to another location on the screen in a paint program.

3.17   The student can duplicate an object in a paint program.

3.18   The student can draw a picture and type in a descriptive paragraph in a paint program.

3.19   The student can apply special effects to a graphic, such as rotate, stretch, and perspective, in a paint program.

3.20   The student can open a draw program.

3.21   The student can access the draw tools.

3.22   The student can draw and delete objects in a draw program

3.23   The student can use the line tool in a draw program.

3.24   The student can use the pointer to select an object in a draw program.

3.25   The student can use the shape tools in a draw program.

3.26   The student can change the size or shape of an object using the edge handles in a draw program.

3.27   The student can change an object's pattern or color in a draw program.

3.28   The student can use the text tool in a draw program.

3.29   The student can move an object in a draw program.

3.30   The student can duplicate an object in a draw program.

3.31   The student can group objects in a draw program.

3.32   The student can change the stacking order of objects in a draw program.

3.33   The student can apply special effects, such as rotate and flip horizontal/vertical, in a draw program

4.0 Word Processing

4.8 The student can use special keys such as shift, punctuation, and return/enter.

4.9 The student can save and retrieve word processing files.

4.10 The student can highlight text.

4.11 The student can format the text of a document by changing text size, font, and style.

4.12 The student understands the concept of text/word wrap.

4.13 The student can cut, copy, and paste text.

4.14 The student can use the spell checker.

4.14a The student can use the Help menu.

5.0 Information System/CD-ROM

5.7 The student can work through a program on a CD-ROM.

5.8 The student can browse the contents of a CD-ROM like an encyclopedia.

5.9 The student understands how and electronic encyclopedia functions.

5.10 The student can do a title search using a CD-ROM.

5.11 The student can do a single-field word search.

5.12 The student can create an electronic bookmark.

6.0 Network Awareness

6.2 The student can access and open programs on a network.

6.4 The student can access CD-ROM on a network.

6.5 The student can access, save to, and retrieve files from a personal space.

6.8 The student can choose a different printer.

7.0 Internet/Telecommunications

7.1 The student can open an e-mail program.

7.2 The student can retrieve and read an e-mail message.

7.3   The student can reply to an e-mail message.

7.4   The student can delete an e-mail message.

7.5   The student can compose, address, and send an e-mail message.

7.7   The student can use smileys in an e-mail message.

7.8   The student can copy and paste information into an e-mail message.

7.11   The student can participate in an Acceptable Use Policy design.

7.12   The student can open a Web browser.

7.13   The student can enter a Uniform Resource Locator (URL).

7.15   The student can use hypertext links.

7.16   The student can use the tool bar in a Web browser.

7.51   The student can use required software.

7.52   The student can complete required tasks for an online project.

7.53   The student can develop a project using online resources.

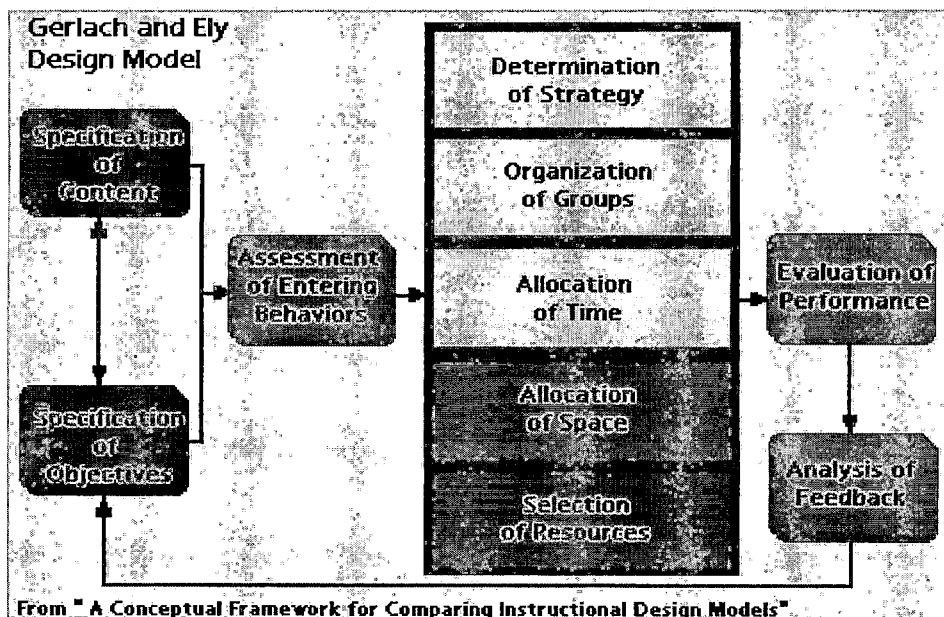7.54   The student can implement a project on line resources.

8.0   Multimedia

8.1   The student can define the basic elements of a multimedia presentation.

8.1a   The student can prepare a storyboard.

8.2   The student can place text into a simple, static screen.

8.3   The student can paste a graphic copied from clip art into a simple, static screen.

8.4   The student can create a graphic using basic graphics tools and place it into a simple, static screen.

8.5   The student can add photos from a variety of sources (CD-Rom, photo CD, disk, etc.) into a simple, static screen.

8.6   The student can add scanned images to a simple, static screen.

8.7   The student can add images from a digital camera to a simple, static screen.

9.0 Video

9.1 The student can explain videotape magnetic data storage.

9.2 The student can explain how television produces images.

9.3 The student can explain the difference between videotape formats.

9.4 The student can identify the parts of a camcorder and a VCR.

9.5 The student can turn the camcorder on and off.

9.6 The student can alternate between camera and VCR functions.

9.7 The student can use the camcorder as a VCR.

9.8 The student can record and pause the camcorder.

9.9 The student can use the zoom and wide-angle feature.

9.10 The student can connect the camcorder to a VCR or television.

9.11 The student can share images from a camcorder.

9.27 The student understands the concept of a storyboard as it relates to video.

9.28 The student can make a storyboard from an existing video.

APPENDIX R

GERLACH-ELY DESIGN MODEL

Gerlach and Ely Design Model

Specification of Content

Specification of Objectives

Assessment of Entering Behaviors

Determination of Strategy

Organization of Groups

Allocation of Time

Allocation of Space

Selection of Resources

Evaluation of Performance

Analysis of Feedback

From " A Conceptual Framework for Comparing Instructional Design Models"

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