

A PROJECT BASED LEARNING UNIT ON HOW THE
AMERICAN INDIANS ADAPTED TO THEIR ENVIRONMENT IN
RELATIONSHIP TO SHELTER, FOOD AND
HOW THE CUSTOMS WERE IMPACTED BY THE ENVIRONMENT.

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CHAPTER 1

The instructional project that I created and implementing for my fifth grade classroom will show how the various American Indians adapted to their environment in relationship to shelter, food and how the customs were impacted by the environment. I will be focusing on five different American Indian tribes. These five include Plains, Woodland, Northwest Coast, Southeast and Pueblo Indians. I have chosen to focus on these specific American Indians because they are the ones that my fifth grade students need to know as stated in the Kansas State Standards. I will create my unit over the American Indians using a web site that I will develop using project-based learning.

CHAPTER 2

Markham (2003) explains that project-based learning begins with curriculum standards and uses aligned assessments to determine what students have learned. Project-based learning is designed around a driving question, which intertwines the intended outcomes and student activities. McGrath (2003) stated that although there are different ways of viewing what constitutes project-based learning, she shows the important features as described by other authors (Krajcik, Blumenfeld, Marx & Soloway, 1994) and focused on five:

1. A driving question or problem that sets the scene for the project.
2. Student construction of an artifact and presentation to a non-classroom audience.
3. Students' collaboration research often over an extended period of time.
4. Community of inquiry.
5. Use of technology-based cognitive and communication skills.

As I began gathering research about project-based learning I discovered that there were various meanings but that they all seemed to be basically the same but stated a little bit differently. Buck Institute for Education (BIE) is a research and development organization that works to make schools and classrooms more effective through the use of problem and project based instruction

(Markham, 2003). The Institute defines standards-focused Project Based Learning as a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks. Ramsey and Fitzgibbons (2005) stated as for students, in these kinds of learning environments, compliance is not enough. Cooperation will not carry the day, and students need to bring commitment, an enthusiastic involvement in their own learning and the learning of others (Ramsey & Fitzgibbons, 2005). Students and teachers engage in an exploration of ideas. In these classrooms, questions are valued more than answers. The reason that the questions are valued more is because the question is the key to the lesson. The students become very aware of the question while they are searching for information to answer the specific question at hand. In an era of accountability, with the importance of testing and keeping in mind the "No Child Left Behind" act, our students' performance on standardized tests is on the minds of parents, educators, and students. The use of PBL lessons will be beneficial because all students in my classroom were engaged in the lesson and wanted to learn with the use of computers and technology items. I think that project-based learning will help to not leave those students behind. PBL according to Chen, and McGrath, (2004) provides a way of learning that seems to

be particularly attractive to students who are struggling with conventional school assignments. An article in the *Journal of Research on Technology in Education* (2002) found that at-risk students became active learners willing to engage in cognitively challenging tasks when presented with a PBL opportunity. Children working on lessons based on PBL are given the power to lead or follow on specific assignments. Project-based learning support gifted children's emotional and social development along with academic achievement (Diffily, 2002). He further states that it is imperative that all instructional methods incorporate high standards, thorough challenges, and valid assessment methods. Diffily, (2002) states that projects are: student directed, connected to the real world, informed by multiple resources, research based, embedded with knowledge and skill, conducted over time. Diffily's work is a good summary of what PBL stands for in today's classroom. The teacher is no longer the center of the classroom but a mentor, model, or classroom facilitator and the students have a larger role in their learning.

CONCERNS

I had several concerns about using PBL. One concern I had was the potential benefit for my students. Typical difficulties in the learning process stated by Chen & McGrath (2004) found these areas of weaknesses:

1. Conceptual difficulty: students have difficulty when their inexperienced insight comes into play.
2. Foreign knowledge: students can experience difficulty in understanding numerous viewpoints.
3. Knowledge transfer: application of learning to new problems.
4. Self-regulation: students have problems taking charge of their learning processes.

Chen and McGrath, (2004) propose that with the use of PBL and appropriate technologies, we can move learners toward greater understanding and the ability to apply that new understanding. Thomas & MacGregor, (2005) find that project-based learning is a highly compatible way of learning that is essential for effective implementation into the classroom. Incorporating these types of learning activities to everyday classrooms will not only challenge the students but the instructor as well since the instructor is stepping back and letting the student take control of their learning. Professor McGrath (2003) shows that one of the most critical changes PBL will create is that learning will grow out of the questions you and your students' raise, not out of a prescribed list you must cover. This is probably the scariest part for teachers. What if students miss something and do poorly on a standardized test? Therefore, I wanted to create a Project Based Learning unit that would teach standards

that would be assessed at some point. McGrath suggests trying something small that does not use up all of your valuable time and resources and then study what happens. Keeping notes about what is working and what is not in order to determine what will need to be done in a later project-based learning lesson. To facilitate an instructional learning project with PBL more time will need to be allotted to get the project implemented. The students will need encouragement and positive feedback from the instructor as with any type of learning.

BENEFITS

Some of the benefits I have found in the Project Based Learning Handbook (Markham, 2003) were:

1. Overcomes the separation between knowledge and thinking, helping students to both "know" and "do."
2. PBL encourages the development of habits associated with lifelong learning, and personal success.
3. Integrates curriculum areas, along with thematic units.
4. Creates positive communication and collaboration relationships among the varied groups of students.
5. Meets the needs of learners with discrepancy skill levels and learning styles.
6. Engages and motivates bored or uncaring students.

7. Increases problem-solving ability.

The International Society for Technology in Education indicated that research on improving students' higher-order cognitive skills emphasizes the need for students to engage in problem-solving tasks and the need for specific instruction on how to attack and solve problems (Moursund, 1995; Perkins, 1992).

Another benefit would be the increased resource-management skills. Part of becoming an independent learner is taking responsibility for completing complex tasks. Well-implemented project based learning gives students' instruction and practice in organizing projects, and in allocating time and other resources such as equipment to complete tasks on schedule (ISTE, 1997).

Project-Based Learning encourages students to use computers to investigate real-world issues while learning practical technology skills. These technology skills can involve researching on the Internet, using digital cameras, editing videos with software, web page design, online communication skills, desktop publishing, learning spreadsheet and database applications and digital media (Williams, 2003). Included in computer skills are several of the various technology aspects that students will use when creating a project-based learning lesson or unit. Williams 2003, stated that educators in Miami, Florida believe that Project-Based Learning experiences have provided students with a

great proficiency in computer skills. Some teachers attribute the interesting and diverse project experiences with the rise in standardized test scores.

The author claims that with project-based learning, the teacher can generate a powerful learning community which focuses on achievement, and self-mastery. The classroom instructor can create engaging and challenging activities in the classroom and support self-directed learning among the students. Wolk, (1994) talked about success for all. The most important foundation for learning through projects is that they serve as an outlet for every child to experience success. By having confidence in allowing children to choose and explore they become motivated and desire to produce the highest quality of work. Wolk, (1994) followed professor, William Heard Kilpatrick, who was an advocate of basing schools on child-chosen projects. Wolk's students would present a topic, write a plan, and have the ideas approved before continuing with their project. Wolk does not go by the book and lets students choose what they are going to study. He mentions that not all students will challenge themselves; therefore, teachers must help students along while creating a challenging project. A key component of Kilpatrick's legacy: classrooms full of teachers, not just learners. According to Chen & McGrath, (2004) the focus of project-based learning should be on

guiding learners to go beyond the information given. This will assist the learners in developing higher-level thinking skills. Experts in the field of social studies agree that learning is more powerful when it is meaningful, integrative, challenging and active (Diffily, 2002).

McGrath (2003) indicates that one of the surprising outcomes of PBL is that students rise to the challenges. Even students who may have seemed uninterested in more traditional classroom work develop technology and inquiry skills, ask tough questions, design and carry out research, and persist through frustrations to produce high-quality work.

GUIDELINES

Once the learning goals are established, teachers (or teachers and students working together) can begin designing and scheduling activities. One time-tested set of project planning guidelines, developed by Al Rogers of the FrEdMail Foundation, comes out of educational telecommunications, where teachers have been developing multi-site projects for many years (Rogers, et al., 1990). Among other characteristics, successful projects:

1. Have specific goals, tasks, and outcomes aligned with instructional objectives.
2. Have specific beginning and ending dates, and intermediate deadlines.

3. Provide examples of the kinds of writing or data collection that students will submit.

As I begin producing my project-based learning unit, I will follow some basic steps by Markham, (2003). The first step is to begin my project with the end in mind. I constructed the driving questions which will turn to be the results I want my students to accomplish once completing the project. McGrath (2003) stated that perhaps the most difficult aspect of choosing a topic and driving question for study is to get away from the more traditional sort of questions such as "List five properties of ...", "What is..." Write a report on..." Students generally don't take ownership of questions and assignments of that sort. To really engage learners, you have to set up a situation in which they want to ask questions, want to learn more, need to know something they do not already know, and believe it is really important to them and, especially to the larger community to find out. A good project will be extended investigation in which students design the sub-questions and the ways of trying to answer them because they believe in what they are doing. The state standards for Kansas assisted me as I thought about possible topics that could lend themselves to a PBL. I will select standards that will be taught throughout the American Indian project. The second step will be to plan the testing within the unit. I will be developing rubrics for the students' assessments.

The students need to be aware of what is expected of them at the completion of the unit as they are working through the PBL. The third item for my project will be mapping out the learning process. I located a project planning form by BIE (Markham, 2003). I will go through the process of filling out the form and making the necessary changes to create a worthwhile project for my students. I will monitor the enthusiasm level of my students as we begin the unit and all throughout the unit to monitor if they learn more using PBL versus the daily lecturing used in previous years. Feedback can be a powerful source of learning. I revised the unit based on listening to the opinions and feedback from my students and took their input into consideration for ways to improve the project based learning units.

CHAPTER 3

The instructional design model that I picked to accompany my project was the ADDIE Model (See appendix A). The ADDIE Model can be described in five phases.

1. The Analysis Phase

- a. State the learning objective for the project.
- b. What are the content area learning objectives?
- c. What will be the timeline for the project?
- d. What are some problems that may occur?
- e. What are the potential benefits of the project?

I began my analysis phase by thinking of a state standard that could be taught using a Project-Based Learning lesson or unit. I was also searching for something that would be meaningful and of interest for my students. The Kansas History Standard I focused on was: The student uses a working knowledge and understanding of significant individuals, groups, ideas, events, eras, and developments in the history of Kansas, the United States, and the world, utilizing essential analytical and research skills.

Benchmark 1: The student uses a working knowledge and understanding of individuals, groups, ideas, developments, and turning points in the age of exploration.

The student:

1. (K) explains how various American Indians adapted to their environment in relationship to shelter and food (e.g., Plains, Woodland, Northwest Coast, Southeast and Pueblo *cultures* in the period from 1700-1820).

This particular standard is also an item that is tested on the Kansas State Assessment. I wanted the students to learn how the American Indians adapted to the environmental factors that could lead to their destruction. The basic timeline for the project would be a couple of weeks. The potential benefit that I wanted to witness is that the students would become engrossed in their work and would take the lead as I would to be there for assistance instead of lecturing daily.

2. The Design Phase

- a. Create the beginning, middle, and the end of the project.
- b. What type of learner interaction will take place?
- c. How will the project progress?
- d. Who will be included in this project?

The Design Phase prompted me to begin looking at the project as a whole as I looked to create a beginning, middle and an end to the project. I needed to create the learner interaction that would take place for the students. I had to decide at what rate I wanted the project to progress and who I would need to include in this particular

project to make it come alive for the students. The design phase took a lot of time to begin creating the project with the end in mind.

3. The Development Phase

- a. Obtain information for project and standards to be taught.
- b. Search for appropriate resources for students.
- c. Create a website for classroom use.

I was overwhelmed with the amount of information that was out there for my particular state standard. I did not want my students to feel that overwhelming feeling when they began searching for information for the project. I felt it was in everyone's best interest if I would find appropriate websites for the students that were of high quality. I would need to develop a website that my students could access at school and home as they progressed through the PBL lesson.

4. The Implementation Phase

- a. Implement the project in the classroom.

Once I spent the time to design and develop the project-based learning lesson for my students and researched for appropriate and quality websites, I was ready to implement my lesson.

5. The Evaluation Phase

- a. How will the instructional objectives be achieved?
- b. How will data be collected from student feedback?

- c. Did the students' enthusiasm levels change from the project?

The evaluation phase is an important phase as I took into consideration the objectives and whether or not they were achieved. I collected data from the students' assessments, attitudes and questionnaires as we progressed through the lesson. I wanted the students to feel free to express their feelings without the fear of my knowing what they actually thought about the project. I informed the students that I did not want their name on the questionnaire. I could monitor their enthusiasm levels by watching them as they worked on the project.

CHAPTER 4

The students learned a great deal from the PBL lesson. They were excited to explore and learn information about the American Indians with this new method. The level of enthusiasm was found to be high for my students. They were completely engaged in their work which I believe enhanced the quality of the work that was handed in to be graded. The students were proud of their work and were excited to share the information they discovered about the American Indians. I gave the students a questionnaire (Appendix B) about the PBL lesson so I could understand what they thought about using project-based lessons in the classroom. I was not surprised with the results because I could immediately see that the students were more engaged with the PBL lesson rather than a lecture provided by myself. The results of the questionnaire are listed below.

The first question was: Do you prefer to learn through classroom lectures? Each student was very clear when stating that they did not prefer to learn this way. Our students are growing up in a technology rich society and the original lecture becomes boring and uneventful for them.

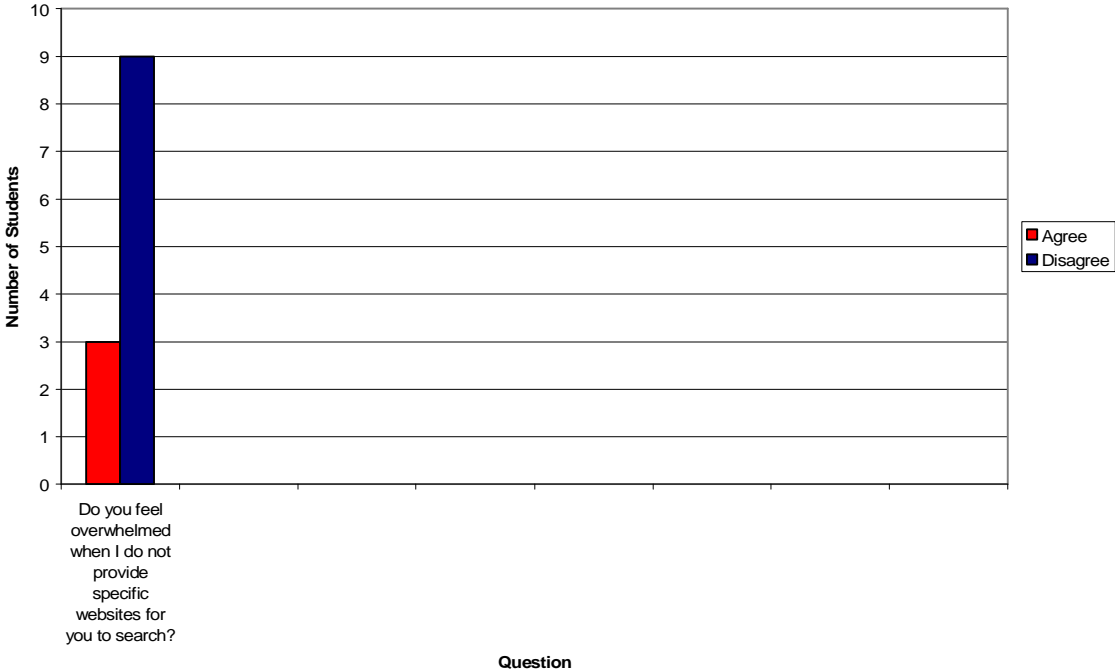
The second question was: Would you rather learn through PBL lessons? The students were all in agreement that they would prefer to learn in

this particular way instead of lecturing. I didn't think everyone would be totally for PBL lessons but it is definitely nice to know.

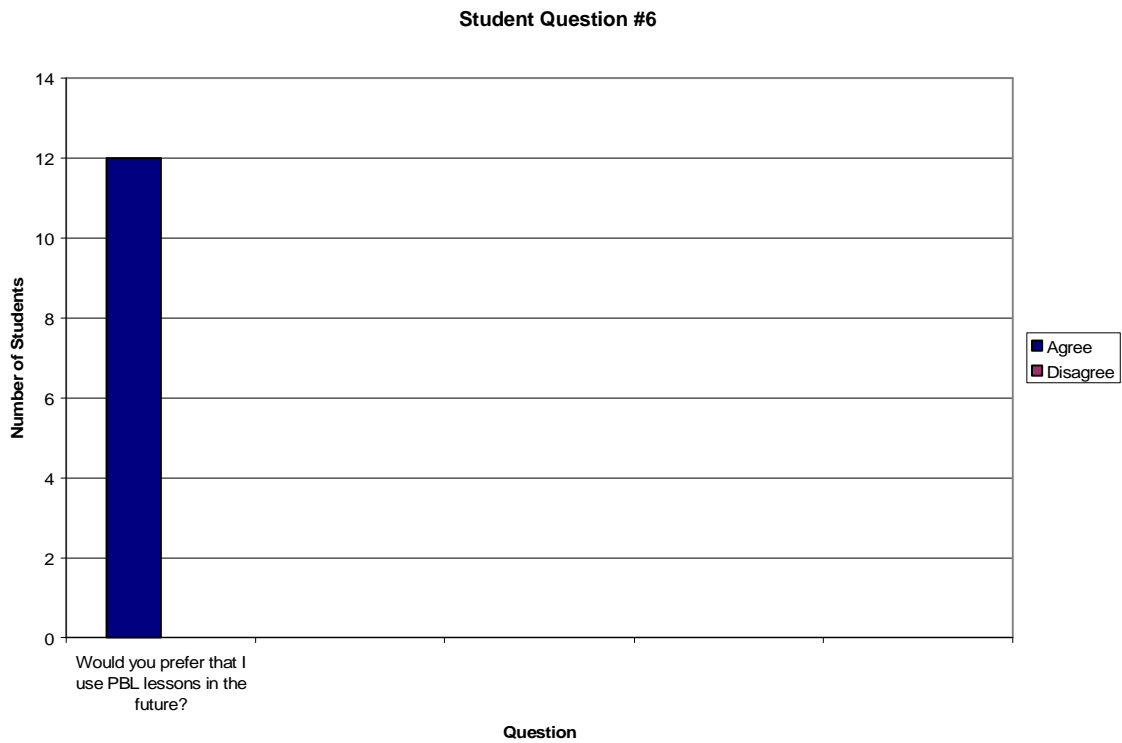
The next question pertained to whether they learned more with PBL lesson versus lecturing. One hundred percent of the students felt like they learned more with the PBL lessons. The students felt like they were more in charge of their learning and in turn were more responsible during their lesson.

A question that I felt was important to know for me as the teacher was: Do you get overwhelmed when I do not list specific websites for your research? I had already chosen the websites for my project but wanted to know out of curiosity how this affected my students. Three students replied that they were overwhelmed with all of the information on the Internet and it was difficult for them to find websites that had quality information. Nine of the students did not feel overwhelmed with all of the information on the Internet. I was surprised by these numbers because I can become discouraged when searching the Internet and come across hundreds of websites for the particular item that I am researching. I now understand the importance of locating the websites along with web quest for my students. In the future I will do this for the majority of all the technology incorporated lessons.

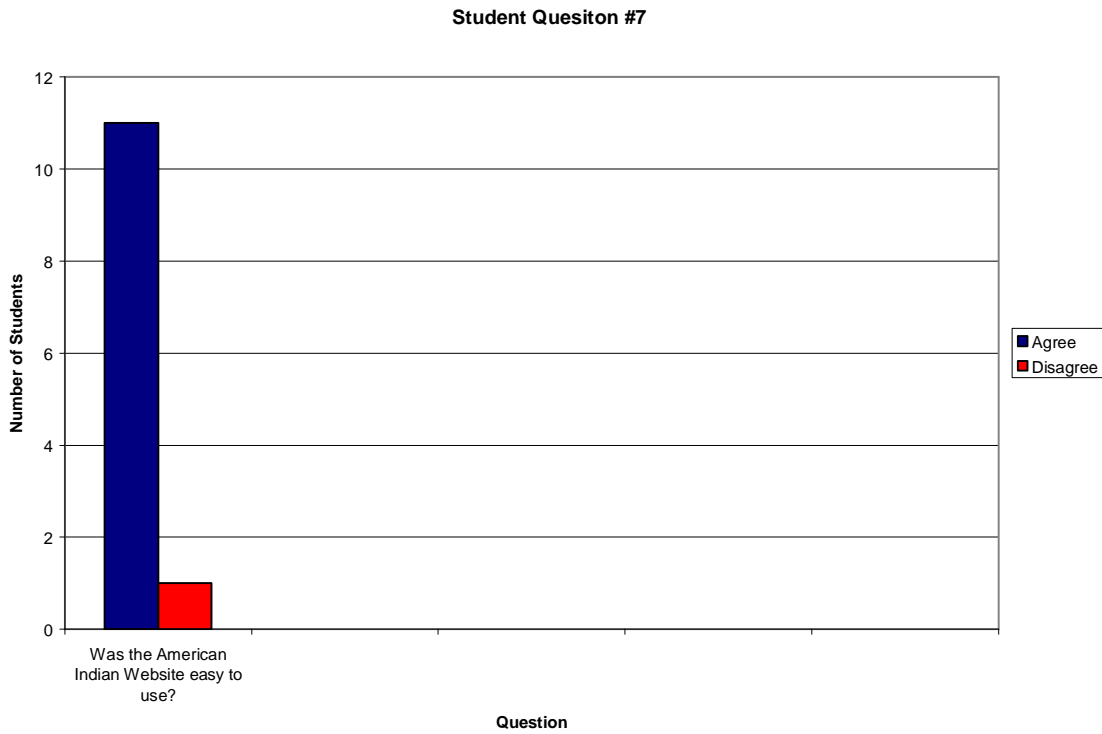
Student Question 5



I was curious if the students would prefer to have more PBL lessons in the future. They were all in unison when saying that they agreed to more project-based lessons in the near future. They really enjoyed working on the lessons and not sitting and listening to lectures.

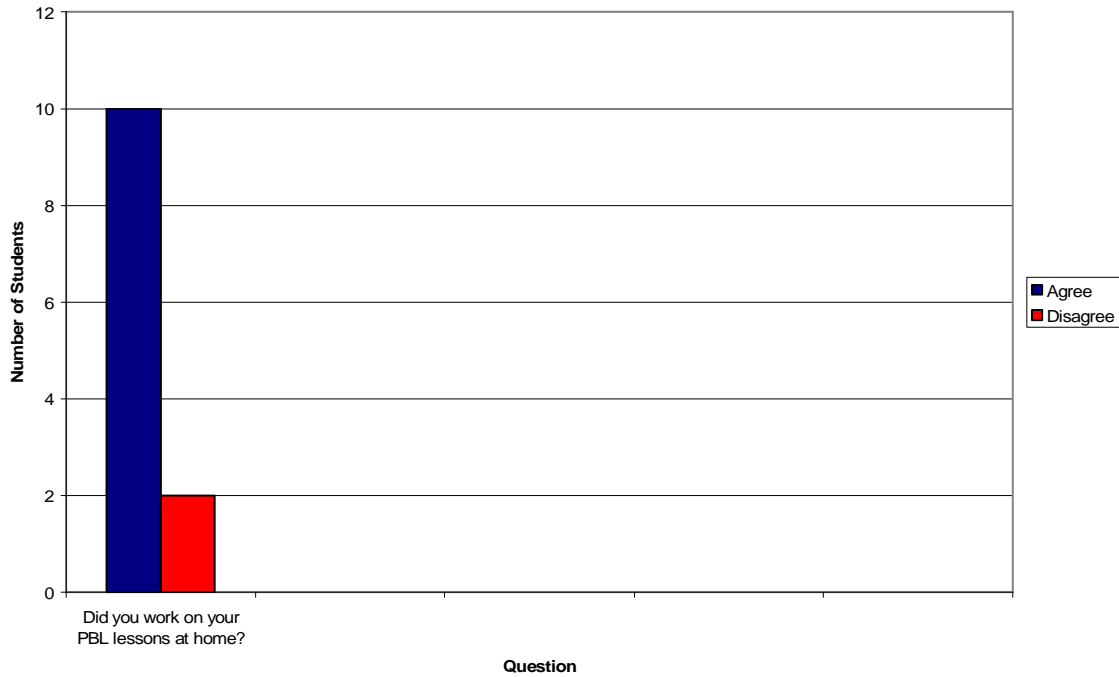


I wanted to know if the website information that was given to them was easy to follow. I want to make sure that everything is easy to understand and free from stress for the students. If there are items that are not easy to comprehend, In the near future I will make adjustments so it is better for them.



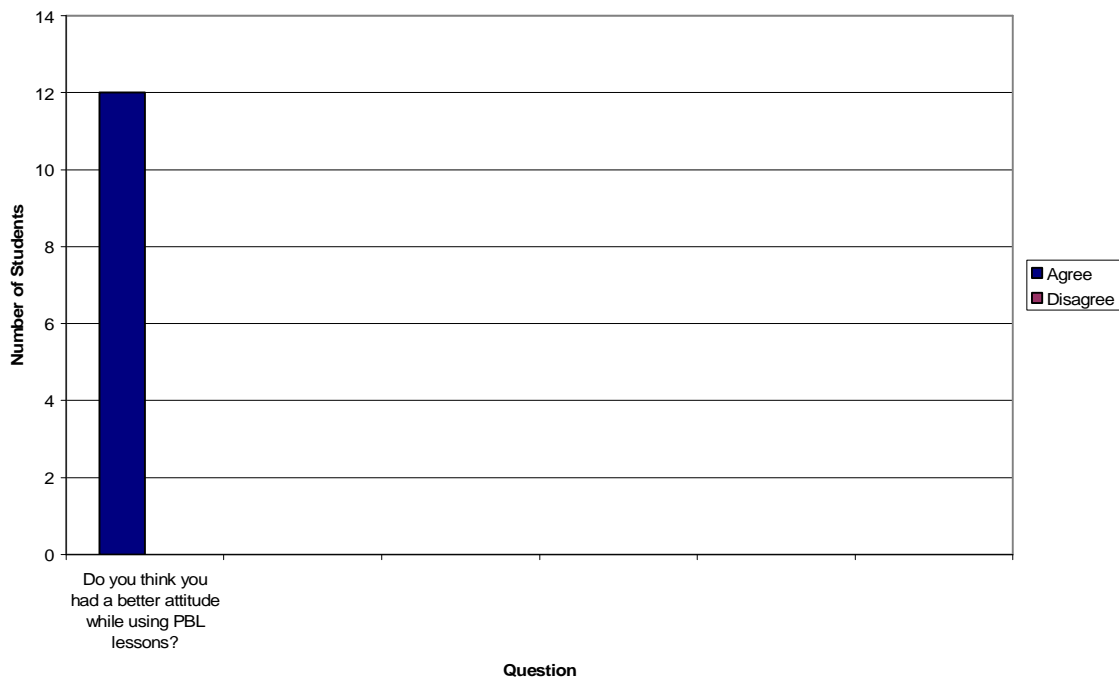
I created a website on the Internet versus one on our school server. Most of my students worked on their assignments at home since it was accessible to them after school hours. The two students who did not work on their lessons at home informed me that they did not have a computer that was on the Internet in their home. I know that there will always be students who do not have computers and access in their homes, so we have to remember to not assign items over night that some students do not have the resources to complete.

Student Question #8

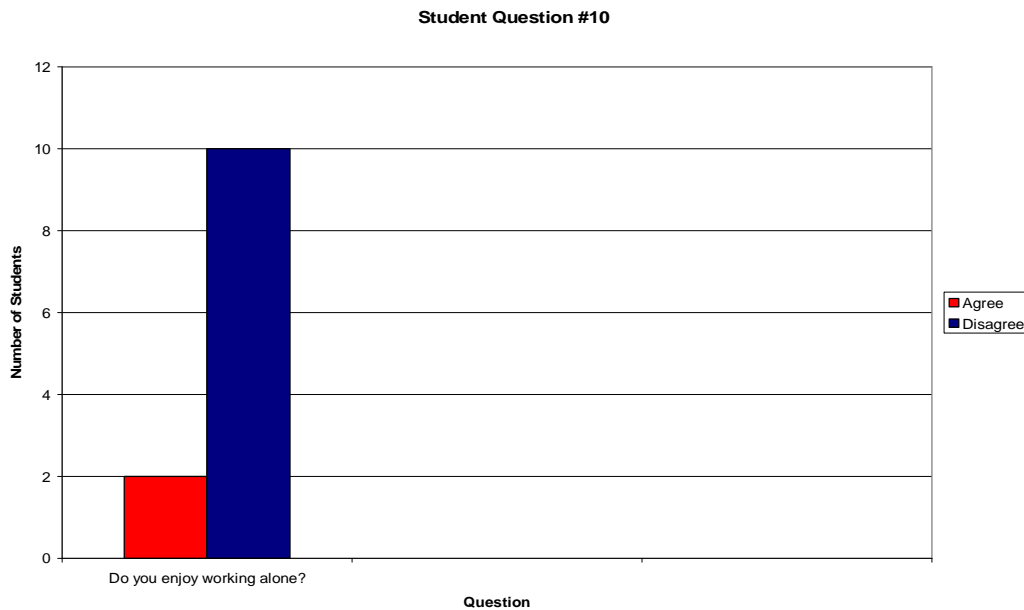


A good attitude is important in my classroom and the students felt they showed a better attitude with lessons created with project-based learning. If the students have a poor attitude in my classroom most generally they produce poor assignments.

Student Question #9

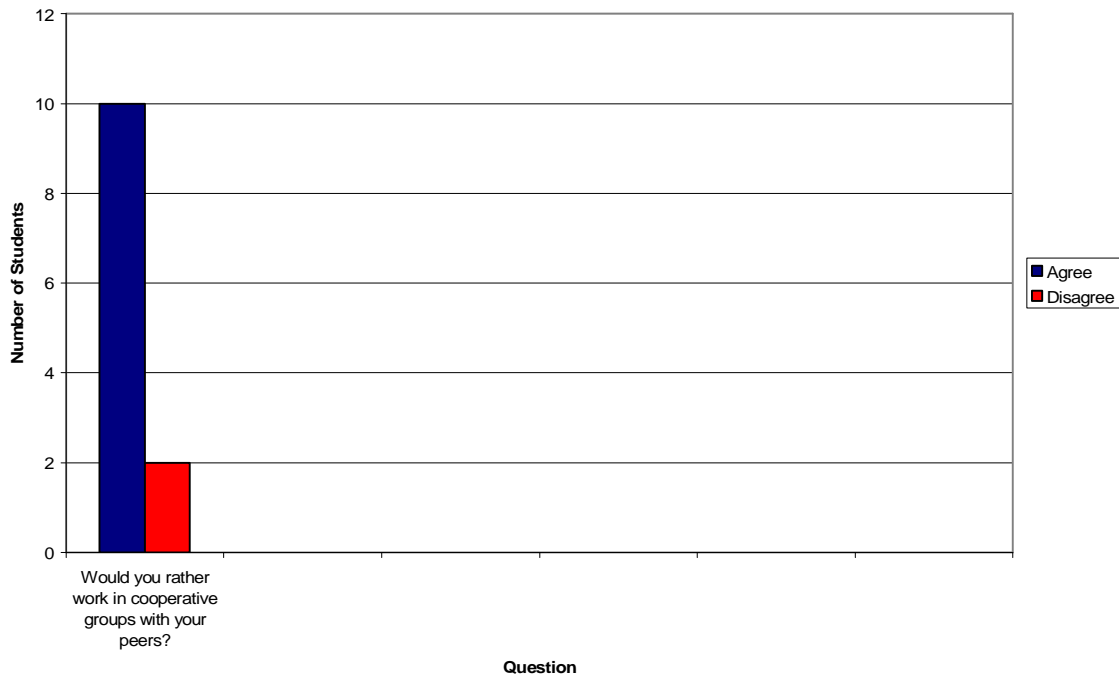


I think it is important to know if your students enjoy working alone on projects. I had two students who replied that they preferred to work alone but not all the time. I asked those students why they wanted to work alone and their reply was that their partners do not always do their share of the work. I can relate to this problem when working in cooperative groups. I was always the one in my groups as a child that would put out a lot of effort and be paired with students who did not care about the assignment. I know that goes for any age because that happened a semester or two ago when one of my cooperative team members did not do anything to help out. I know and understand the frustrations of working in small groups. I have had wonderful experiences in cooperative groups so I think it all depends on your team members.



This question was just the opposite of the previous question and once again most people enjoyed working in small groups but stated that some days they just liked to work alone. I think we can all relate to wanting to be left alone from time to time.

Student Question #11



CHAPTER 5

In conclusion, as I researched information about project-based learning, I became confident that project-based learning could become beneficial to my students. I felt that all the materials I have read up to this point showed many positive benefits of project-based learning. I will continue to incorporate project-based learning for the continuation of my teaching career. The Project-Based Learning Handbook was a great tool to use as I created my American Indian unit. I am confident that the students did learn more by working with PBL Lessons as compared to classroom lecturing. The students verified this for me by the output of information gained along with they told me in the questionnaire that they did learn more by using project-based learning. My students were excited and hungry to learn more and to find information in order to gain more knowledge. This excitement and willingness to learn was evident in their attitudes, their responses on questionnaires and the quality of work they created in class. The one item of difficulty in PBL lessons is finding time to design, develop, and implement them into the classroom. Time is just a large issue for teachers but by finding the time to create PBL lessons, students will learn and retain more information. Learning and retaining information is very important in this day and age of state assessments and the "No Child Left Behind" act. I think it is important

to remember the students will have to learn what it is to do research by doing it, as Krajcik et al. (1994) suggest, you will have to learn what it means to do PBL by doing PBL. Project Based Learning takes time to create but I believe it is worth my time by the learning that took place in my classroom during our lessons covering the American Indians. My students were enthusiastic about discovering and learning the information. I watched them become intrigued in their work and oblivious to what was happening in the classroom. They discussed their findings with one another and were eager to share new information learned with me. I was thrilled with the learning that took place during my American Indian project. I will spend time over the summer creating more Project Based Learning units for my students next year.

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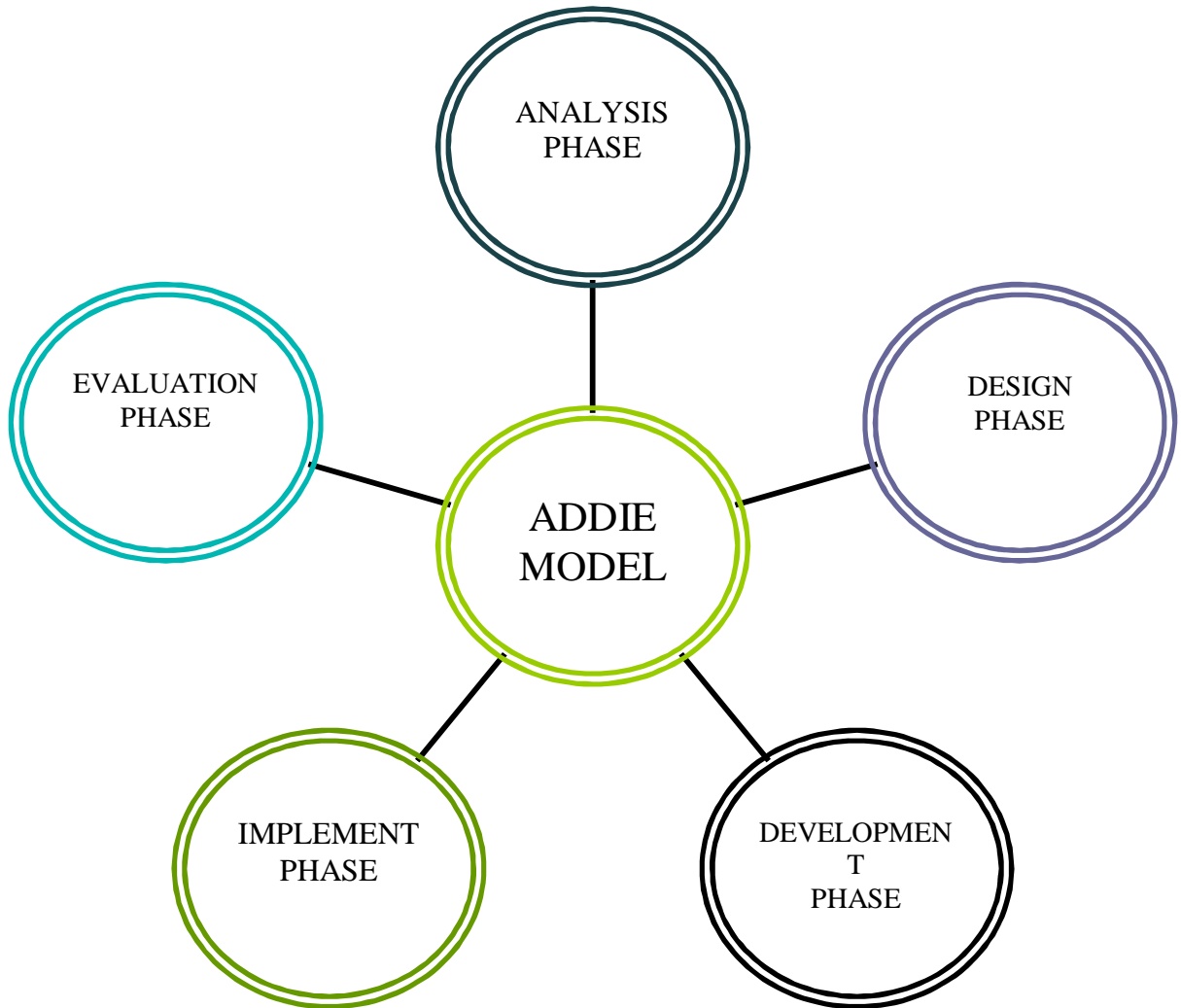
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Appendix A
Instructional Model



Appendix B

Student Questionnaire

Directions: I want you to rate these questions and mark the appropriate box with your answer. You will use the key below to mark your answer. Please do not put your name on the questionnaire. I want you to be completely honest with me so I can make changes to make this PBL lesson better along with future PBL lessons. Thank you.

STUDENT QUESTIONNAIRE	
1-AGREE (YES) 2-DISAGREE (NO) 3-NOT SURE	
1. Do you prefer to learn through classroom lectures?	
2. Would you rather learn through PBL lessons?	
3. Do you think you learned more with the PBL lesson versus lecturing?	
4. Do you think you learn better with PBL lessons?	
5. Do you feel overwhelmed when I do not provide specific websites for you to search?	
6. Would you prefer that I use PBL lessons in the future?	
7. Was the American Indian website easy to use?	
8. Did you work on your lessons from home?	
9. Did you think you had a better attitude while using PBL lessons?	
10. Do you enjoy working alone on projects?	
11. Would you rather work in cooperative groups with your peers?	