Exploring the Lewis and Clark expedition in an eighth grade social studies class using multiple intelligences

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Abstract
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EXPLORING THE LEWIS AND CLARK EXPEDITION IN AN EIGHTH GRADE SOCIAL STUDIES CLASS USING MULTIPLE INTELLIGENCES

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Division of Middle Level Education
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Howard Gardner’s Theory of Multiple Intelligences (Armstrong, 1994) has created many new ideas about how people think and learn, as well as how instructors should deliver activities and lessons to students. In this paper Gardner’s theory and his seven intelligences are defined, a discussion of the five basic formats for teaching, and implementation strategies using multiple intelligences are shared. An eighth grade social studies unit on the Lewis and Clark Expedition using multiple intelligences is examined by comparing student turn in rate and motivation in comparison to other assignments given in the class. Project ideas, presentation rubrics, student conference sheets, as well as samples of student work are included.
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Exploring the Lewis and Clark Expedition in an Eighth Grade Social Studies Class Using Multiple Intelligences

Chapter 1

INTRODUCTION

A growing number of educators have begun looking at alternative ways to deliver important concepts to students. One method involves giving students several avenues to arrive at the same conclusions or absorb the main ideas using a variety of learning styles. Many educators believe that students can and do learn using various types of intelligences (Checkley, 1997; Emig, 1997). This style or ideology is called multiple intelligences.

Using this idea of multiple intelligences I created a unit of study, which used the textbook as the primary base of information while attempting to move students toward a research project that incorporated their preferred intelligence or learning style. Students could then create a project, with a few rules as a guide, to show the knowledge they had attained using this intelligence.

The idea for this project began when I noticed that the traditional text reading and lecture format was not reaching my students. Scores on tests that emphasized major concepts were low and the attitudes of my students were negative towards social studies. As I looked for various ways to deliver the content area concepts, the multiple intelligence strategy seemed to be the one that suited the widest variety of students.
The developed project was an attempt to stimulate student interest in the Lewis and Clark Expedition and give students opportunities to use different abilities and talents to increase their achievement in this project. In order to understand how the theory behind multiple intelligences were incorporated one needs to have a clear understanding of a description of the types of intelligences possible.

Definitions

Multiple intelligences is first described in the 1983 book entitled *Frames of Mind* by Howard Gardner, a professor at the Harvard Graduate School of Education (Checkley, 1997). The theory states different types of intelligence can be localized in the human brain, and that humans can and do learn in a variety of ways (Gardner, 1983; 1991). Gardner, with others including David Lazear (*Seven Ways of Teaching*, 1991 & *Multiple Intelligence Approaches to Assessment*, 1994) and Thomas Armstrong (*Multiple Intelligence in the Classroom*, 1994), argued that recent discoveries about the nature of intelligence have changed our understanding of humans, their capacity to learn, and how exactly humans can and do learn (Checkley, 1997; Emig, 1997). Gardner also stated that people use many intelligences at the same time to solve problems and these areas, while separate, work together to form a unique way to solve problems and think.

The seven basic types of intelligences are bodily-kinesthetic, interpersonal-social, intrapersonal-introspective, logical-mathematical, musical-rhythmic, verbal-linguistic, and visual-spatial (Checkley, 1997; Silver, Strong, & Perini, 1997). Below is a brief definition of each intelligence adapted from definitions from Nelson, *Nurturing Kids' Seven Ways of Being Smart* (1997);
**Bodily-Kinesthetic**—includes the ability to express emotion, play a game, or create a new product. This is essentially learning by doing. These learners are highly skilled at using their bodies to learn and create.

**Interpersonal-Social**—refers to people with the ability to work with others and to understand them. These learners have the ability to communicate verbally and nonverbally with others and sense the feelings of others.

**Intrapersonal-Introspective**—these learners are deeply aware of inner feelings and goals. These people are self-reflective and intuitive. They can step back and watch themselves as an outside observer might do.

**Logical-Mathematical**—are learners who have the ability to reason deductively or inductively. They also recognize and manipulate abstract patterns and relationships.

**Musical-Rhythmic**—refers to those who are very responsive to music. They can be sensitive to pitch and the rhythm of sounds.

**Verbal-Linguistic**—are learners who are at ease with reading and writing skills. This is the area focused on by many educators.

**Visual-Spatial**—these learners have the ability to create visual-spatial representations of the world. They are able to take these representations and think in terms of pictures.

These definitions helped give me a clear picture of the different types of intelligences. This also provided me with the general guidelines needed to create a unit that incorporated all seven intelligences.
Chapter 2

METHODOLOGY

A Lewis and Clark unit was developed incorporating our library and computer lab. It would have a culminating activity giving students seven different types of project choices, each incorporating one of Gardner’s intelligences. After the projects were completed, students would give a presentation on their project. The final unit used (1) a textbook, (2) a library and computer lab session, (3) a project incorporating multiple intelligences, (4) a classroom presentation on the project, and (5) a conference sheet to guide students through the project.

As a teacher in the Omaha Public School District, one area I had to address was to create a project that would incorporate the content standards established by the district. Social studies in the eighth grade has ten basic content standards that guide teachers in the delivery of their lessons and classes. The standards, while somewhat detailed, leave the method of delivery of content up to the teacher. This allows teachers to create lessons and units that will meet the academic needs of their students. Three of the district standards matched very well with the academic expectations for a Lewis and Clark unit.

Standard 8 02—Examine historical events and issues from different points of view.

Standard 8 03—Examine historical events in various time periods in American history using a variety of sources.

Standard 806—Read, infer from, and construct visual representations used in the study of American history (Omaha Public School District, Eighth
Grade Social Studies Educational Outcomes, 1995).

The multiple intelligences unit I constructed gave me a method to provide my students with a new way to look at the curriculum, spark interest in the content, and increase the student turn in rate.

As this unit was completed I hoped to answer the following hypothesis: Designing a unit using multiple intelligences should increase student's work completion and motivation in social studies. I would answer this through monitoring the turn in rate for my unit projects and comparing the results to other assignments, as well as any anecdotal information or observations I could gather. I then set forth to create the Lewis and Clark Expedition unit using multiple intelligences.
Chapter 3

USING THE MULTIPLE INTELLIGENCES THEORY IN THE CLASSROOM

After reading several sources from various books and journals I found many ideas regarding multiple intelligences. Many sources stated that multiple intelligences should be a flexible structure for teaching (Campbell, 1997; Hoerr, 1997; Latham, 1997). The freedom to pursue the intelligences and not be slowed by too many guidelines or rules is suggested (Hearne & Stone, 1997). According to an article by Latham, Quantifying MI’s Gains (1997), Howard Gardner suggests that multiple intelligences lessons should have some basic goals to be effective: (a) cultivate skills valued in the community and society; (b) approach new concepts in a variety of ways; and (c) personalize instruction as much as possible. This ideology could be put into motion using five basic formats (Campbell, 1997). These formats could help as a starting point when considering the way one would like to use multiple intelligences in the classroom setting.

Five Formats for the Teaching of Multiple Intelligences

Multiple intelligences can be used in the curriculum in a number of ways, which can be categorized into five general areas (Campbell, 1997, p. 15-16):

1. Lesson designs—Using learning stations with an intelligence stressed at each station or rotating the types of homework using a different intelligence for each assignment.

2. Interdisciplinary curriculums—Using various disciplines to emphasize an intelligence that is connected to the curriculum area of each teacher involved with
the unit of study. Frequently used in interdisciplinary units of study.

3. Student projects—Using student ideas and self-directed learning to reach a desired outcome in a variety of ways using one or many intelligences.

4. Assessments—Using various levels of thinking skills to show what students have learned, (i.e. portfolios with audio or video tapes, writing, and/or pictures).

5. Apprenticeships—Allowing students to pursue interests within and outside school that use more than basic reading and writing skills, and involve real world activities.

Provided the format in which to teach my unit on the Lewis and Clark Expedition, I next examined the implementation process of the multiple intelligences theory.

Implementation

There is no preferred implementation model for a multiple intelligence lesson or unit (Campbell, 1997). The various ways in which these lessons can be designed and how they are implemented varies by teacher, subject, and lesson (Hoerr, 1997). So much of what I did to design the unit or lesson was a matter of personal opinion and teaching style informed by the theory of multiple intelligences.
Chapter 4

CREATING THE LEWIS AND CLARK MULTIPLE INTELLIGENCES
UNIT

The best starting point for the unit was the information base every student had access to: information about the Lewis and Clark Expedition of the Louisiana Territory in our Houghton Mifflin American History textbook, America’s Past and Promise (Mason, Garcia, Powell, & Risinger, 1995). The text gave basic starting information about the Lewis and Clark Expedition: who, what, when, where, why, and how.

Discussion and Available Materials

After a short discussion on the expedition, focusing on the major players in the expedition and the general background of the Louisiana Purchase (see Appendix A), I took the students to the school library and computer lab. The librarian gave a brief overview of the materials available in the library as well as available web sites. Students spent one class period browsing the various materials. This was a good way to spark some interest and get students familiar with their resources.

The Multiple Intelligences Project

The following day the students received a sheet listing several different project ideas that could be completed on the Lewis and Clark expedition (see Appendix B). Each idea focused on at least one of Gardner’s seven intelligences.

Choice One

Construct a board game with rules about the Lewis and Clark expedition. Students would also teach the class during their presentation how to play the game. This
fit the bodily-kinesthetic intelligence by having a project that shows learning by doing.

**Choice Two**

Write a two to three page paper on the Lewis and Clark expedition. This fit into the basic verbal-linguistic intelligence involving the use of reading and writing skills.

**Choice Three**

Create a display or model dealing with some aspect of the expedition. This was a visual-spatial project as it involved the use of visual or spatial representations to convey learning.

**Choice Four**

Compose a song that would teach the class about the expedition. This use of sound and rhythm is in line with the musical-rhythmic learner. Music could be used to teach others about the expedition as well as the student composing the song.

**Choice Five**

Write an interview with either Lewis or Clark. The interview would include at least ten questions and the possible answers given by the member of the expedition interviewed. This would be an interpersonal-social project involving communication ability, which would be displayed using the questions created by the student. The ability to sense the feelings of others by the answers given would also be demonstrated with this project.

**Choice Six**

Create a journal describing the Lewis and Clark expedition. The student would assume an identity of someone in the expedition or be an anonymous member.
The journal would describe the character’s adventures. This would be an intrapersonal-introspective project. This deals with the journal writer putting down in words their feelings and reflections as an expedition member. Reflection and feeling are the foundations to the writing of this journal.

**Choice Seven**

Create a supply list for the expedition. Students would have to decide what types and amounts of materials would be needed to complete the journey. Students would also compare this to a “modern” expedition supply list that they would create. This is an example of a logical-mathematical project. Students completing this project would have to use reasoning skills and possible manipulative activities (packing a prototype canoe or boat) to decide what types of materials would make sense and would be viable for an expedition of this type.

After the discussion of these projects the students were informed they would be expected to choose one project and complete it as a final activity for the Lewis and Clark Expedition. I also informed them that each student would give a short 2 to 3 minute presentation to the class about the project they completed. The presentation would be graded on length of the presentation, speaking clearly and making eye contact with the audience, relaying the importance of the project to the class, and having a well organized presentation (see Appendix C for presentation rubric).
Gauging Progress  Students had five forty-minute class periods of library and lab time to gather information and get a sense of the general direction they wanted their project to go. Afterwards, I had individual conferences with each student. During each conference, the conference sheet was used to document progress and any problems to that point (see Appendix D). During the conference, the others in the class worked on putting together their projects for display and worked on rehearsing their presentations (see pictures Appendix E). Three additional class periods were given to finish all work on the projects. The final three class periods the students gave their presentations.

Project Outline

November, 2  Textbook reading on Lewis and Clark
November, 3  Classroom discussion of Lewis and Clark Expedition
November 4  Visit to library and computer lab/ browse materials
November 5  Hand out and discuss multiple intelligence project ideas
November 8-12  Work on projects in library computer lab/ conferences
November 15-17  In class work on projects/ last minute conferences
November, 18,19,22  Presentations of projects to class
Chapter 5

SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

I found that the project itself was an improvement over past projects. I have had a problem in the past with about 10% of my students not completing projects or turning them in very late. This was not the case with the multiple intelligence projects. All of the sixty-six eighth graders I had in class turned in their project completed and on time. This, in my experience, was an amazing accomplishment. All of my students also created projects, which followed the basic guidelines that I set up (see pictures Appendix F). This was also unusual as my students tended to complete assignments that did not meet all of my expectations and requirements.

The presentations were also excellent. Students confidently presented to their peers explaining the Lewis and Clark expedition using the project that they created. I found myself learning things from my very own students. Even the lower achieving students who normally had difficulty completing assignments were up to the task. They took great pains to complete and share their well-researched projects with the rest of the class. One student who turned in half of his assignments up to that point turned in a Native American village that he said took him four hours to complete. His presentation was filled with facts detailing his research. Another traditionally shy student who was underachieving stood up and spoke to the class for over five minutes explaining how to play her Lewis and Clark Expedition board game. The student had never spoken at any length in class and had often kept to herself. I believe that she could open up to peers because she had completed an activity that matched her intelligence and made her feel at
ease and confident.

A third student in my class became interested in studying Lewis and Clark in more detail after researching for the game option. He asked me where to find more resources on the topic and his desire to want to know enriched his understanding and knowledge.

Motivation also seemed to be increased with this project. As we worked in the library and computer lab students remarked often that this was an interesting and fun way to do school work and they hoped we would keep doing these types of activities. Students also came into class and began work with no cues or reminders. Many of the students worked up to the end of class and remarked how class had gone by so fast.

**Recommendations**

I plan on using this project with my classes next year, but there are several items I would change that would make the project even better. First, I would give my students more freedom in the choices for the project. I would keep the list of possibilities as a guide but give the students the opportunity to come up with their own ideas for projects. This freedom falls within the multiple intelligences theory. Students can use their type of intelligence to the fullest if not hindered by too many guidelines or roadblocks stifling their own creativity.

Second, I did not really go into detail about what multiple intelligences are and how it would be used in the project. I only informed them that the choices would reflect different interests they might have. A more detailed explanation would have been more beneficial and given students opportunities to learn more about themselves and their
differing areas of interest and strength. I would also like to give my students a multiple intelligences interest survey to guide the discovery of individual intelligences or abilities.

Third, I would stress more to the students the option of working on the project more at home, and possibly with the assistance of parents. This could get parents involved in their children’s education and might foster communication and understanding. I had one young lady who constructed a canoe from wood and clay figures of the expedition members with her family. Her father remarked to me that it was a fantastic time and that he got to spend a lot of time with his daughter and find out what was happening at school and elsewhere. To aid with the possibility of enhancing family time, I would inform parents about the details of the project so that they could become more involved. I also would write a parent letter explaining the project.

Even though I believe the unit on the Lewis and Clark Expedition was a success, I cannot directly attribute this to the use of multiple intelligences. There are several other possible reasons my students may have succeeded.

First, my students may have enjoyed this subject matter over other units of study. It may have been this change to a more individual look at historical figures that appealed to them.

Second, having some choice in the project may have motivated students rather than using their particular intelligence. Students may have felt more ownership with this activity and this could have contributed to their accomplishments.
Finally, the fact that I was very excited about the unit may have turned students onto the subject matter. If I thought this was fun and interesting students may have been more open to the project. I have no way to directly tie this student success and motivation to multiple intelligences.

Conclusions

Overall, I found the multiple intelligence projects to be very successful. It engaged the students in a new way and allowed them to pursue a topic in a fashion that they felt comfortable with and enjoyed. My students generally liked working on this unit and asked if we could do more of these types of projects in the future. When I asked for a show of hands in each class as to who enjoyed this project, all but one or two in each class raised their hand. A final surprise came on the last day of school when I asked each student a number of questions including what was their favorite activity or lesson this year. About 80% of my students mentioned the Lewis and Clark Expedition project in some fashion. In May, they still remembered what they had done in November.
References


Appendix A

Lewis and Clark Discussion Lesson Plans
and Background Information
LEWIS AND CLARK LESSON PLAN #1

**Topic:** Lewis and Clark Expedition

**Objective:** The students will explore basic facts of the Lewis and Clark Expedition

**Materials needed:** Textbook America's Past and Promise pgs. 322-324, paper

**Procedure:** In class reading of text pgs. 322-324

Discussion/Notes on:
1) Louisianna Purchase
2) Explorers Lewis and Clark
3) Sacajawea and slave York
4) Route taken by Lewis and Clark
5) Importance of expedition
   - opens up area to settlement
   - geographic and scientific info.
   - contact with other peoples

**Student Questions/Answers**

**Closure:** Review of major people in expedition (Lewis/Clark/Sacajawea/York)

**Evaluation:** Successfully completed notes on above topics and teacher observation of students to check for understanding
Student Notes and Background on the Lewis and Clark Expedition

Louisiana Purchase
--US bought large piece of land from France for $15 million
--Area today includes much of the Midwest and parts of the Rocky Mountains
--President Thomas Jefferson needed someone to explore and map out the territory

Important people
--Jefferson picked Meriwether Lewis to lead the expedition
--Lewis asked old friend William Clark to be his partner
--40 men in the expedition including a slave named York (good hunter, communicated with Native American tribes)

Expedition
--Scientific expedition of Missouri River and its tributaries
--Left from St. Louis in May 1804, by October made way into what today is North Dakota
--While there met French trapper and his wife Sacajawea (Shoshone Indian) she served as a guide and interpreter for the expedition
--Reached the Rocky Mountains but decided to go all the way to the Pacific Ocean
--Reached ocean in 1805
--Spent winter on the Pacific returned the next year

Importance of the Expedition
1. Once area was mapped it was really opened up to American settlement
2. Expedition brought back valuable geographic and scientific information
3. Americans made contact with new Native American groups in the West
Web Sites for Background Information on the Lewis and Clark Expedition

http://idptv.state.id.us/lc/index.html - This is a great site for getting information on the expedition. Includes information from experts on the Lewis and Clark Expedition.

http://nationalgeographic.com/lewisclark - A site that includes stories of adventure from the Lewis and Clark Expedition and encampments.

http://www.bitterroot.net/usdafs/lcindex.HTML - This site contains great pictures of the Rocky Mountains and some of the expedition camps.

http://www.cp.duluth.mn.us/~ - This site reviews the major participants in the Lewis and Clark Expedition.

http://www.lewisclark.net/ - This site contains a timeline, and interactive maps of the expedition.

http://www.ndlewisandclark.com/ - Includes brief biographies and timelines of the expedition.


www.peabody.harvard.edu/Lewis&Clark/ - Exhibit from Harvard's Peabody Museum, which includes many documents and other artifacts.
LEWIS AND CLARK LESSON PLAN #2

Topic: Lewis and Clark Project

Objective: Students will use multiple intelligence ideas to create a project and presentation on an aspect of the Lewis and Clark Expedition

Materials needed: Project ideas handout, presentation rubric, library and computer materials from library/computer lab

Procedure: Hand out project ideas sheet, go over each choice with students, questions on project sheet, hand out and go through presentation rubric, questions on rubric, discussion of project schedule and expectations of project

Closure: Review of project (choices, presentation, schedule and expectations)

Evaluation: Teacher observation of students understanding of directions, student questions, concerns, and comfort level with project
Appendix B

Lewis and Clark Multiple Intelligence
Lesson Ideas
Lewis and Clark Projects

Here are your options for your project on the Lewis and Clark Expedition.

1. Create a board game that traces the Lewis and Clark expedition to better help us learn about the trip. Include the rules on how to play the game.

2. Write a 2-3 page paper on Lewis and Clark. Include a list of your sources (at least three).

3. Create a display or a model on the Lewis and Clark expedition.

4. Compose a song about the expedition to teach us about it. (At least 3 verses)

5. Write and “interview” with either Lewis or Clark. Ask at least 10 questions and write down possible responses.

6. Imagine you are part of the Lewis and Clark expedition. Write a journal describing your adventures. (12-20 entries)

7. Imagine you are planning the Lewis and Clark expedition. List what kinds of supplies you might take and why. Also make a list of supplies that you could take along if you were traveling today and why.

Total points possible 100
Date due November 18

Schedule
Library/Computer Lab days November 8-12
In class work days November 15-17
Appendix C

Presentation Rubric
LEWIS AND CLARK PRESENTATION

Student Name

Project

Your presentations will be graded on the following items...

Appropriate Length (2 to 3 minutes) _______ 10 pts
Speaks Clearly _______ 10 pts
Makes Eye Contact with Audience _______ 10 pts
Relays Importance of Project to Audience _______ 10 pts
Ideas in Presentation are Organized _______ 10 pts

Comments:
Appendix D

Student Conference Sheet
Conference Sheet

Name ____________________________

Project Idea

What is going well with the project?

What are you having difficulty with?

What can my teacher do to give me some help?

Additional Comments or concerns?
Appendix E

Photos of Students Working on Projects
Pictured above are two photographs of students working on their multiple intelligences project in my classroom.
Appendix F

Lewis and Clark Project Photos
The top photograph is a model of Lewis, Clark, and Sacajawea made by one of my students. The second photograph is a model of a Plains Indian shelter and pottery.
This is a photograph of a Lewis and Clark Expedition game created by one of my students.