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AUTHOR Stuckman, Ralph; And Others
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ABSTRACT

This paper examines three distinct features of an educational methodology course which combines social studies and science methods. Sixteen students were enrolled in this methodology class during the spring semester of 1994. The first feature involved the use of video. Students at Urbana University in Urbana, Ohio videotaped science experiments and used the tapes to review the teaching strategies and their effectiveness. They were also able to observe group behavior and student achievement. The second feature involved a map schema experience. The class was given four key works of map, local environment, map scale, and distance, and were asked to place each key work on a shape provided and explain this placement. The results of this exercise showed that learners take information from their own experiences and backgrounds, and that they may need a framework to discuss similarities and differences of their schema results. (The map schema experiment is described in some detail.) The third innovation in the course involved the use of the Internet. Two students who volunteered to work outside of class time with the professor to become familiar with cyberspace accomplished some minor achievements in that they used electronic mail to observe a bulletin board and conducted simple navigation through Gopher and Veronica. It is expected that future classes doing research on the Internet will accomplish more than exploratory work. (JLB)

Videotaping, Map Schema, and Internet

in

an

Educational Methodology Course

Urbana University

Urbana, Ohio

An Original Manuscript

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By

Ralph Stuckman, Professor

Monica Stevens, Student

Linda DeWeese, Student

Edwin G. Corwin, Assistant Professor

Urbana University in Urbana, Ohio teaches a combined course in social studies and science methods. This combined class, Education 326, requires a field experience consisting of a 50 to 100 hour block of time with an assigned cooperating teacher and a supervising college instructor. Class participants studied science for the first half of the semester and social studies for the latter part of the schedule. A videotaping project of science experiments overlapped the content area and provided a bridge between them. Objectives were broad and pertained to both method areas.

Student comprehensions of the learning strategies for discovery, inquiry, and problem-solving became a priority for the class events. Lectures and hands-on approaches to learning situations emphasized structural concepts. Participants described how students learn in cognitive terms and received demonstrations on these learning theories. These undergraduates also understood the acknowledged experts in the disciplines and realized their major contributions. Lastly, materials were analyzed for their appropriateness to potential classroom applications.

Sixteen students enrolled in this methodology class during the spring semester of 1994. The vast majority of the learners fell in the 18-24 age range with two students in the 36-45 category. Class participants had travelled to other states with the minimum of three states with even distribution up to 35 states. Class members were somewhat divided on languages. Nearly half spoke one language and most knew a second language. The most common additional languages spoken were French and Spanish. One class member knew sign language.

Most students had very limited involvement in ethnic activities other than their own culture. Three students participated in black awareness sessions. Nearly all the students participated in extracurricular activities on campus with the Student Education Association and sports being the leading categories. 50 percent of the class performed volunteer work off campus in a variety of capacities. All but one could trace their family trees back two generations with even distribution spanning eleven generations.

The highlights of this manuscript will deal with three distinct features of this class - videotaping, map schema, and Internet. These features possessed the most original aspects of this course and all three areas needed the patience, trust, and cooperation of the students and professor.

The 16 class members each had to determine how to conduct a science experiment in class. Six students chose to carry out experiments before a video camera in the newly developed television studio at Urbana University. Two students decided to use the field experience as the site of their taped experiments with their assigned elementary students. Eight students did their experiments in the college classroom without the taping option.

One class example provides a basic understanding of what happened in their experiments. This example included both science and social studies. What started out as a science activity involving a second grade class, clay, water, and patience ended with the involvement of social studies. The experiment began with the construction of boats and testing their buoyancy. Right away, some learners had the advantage of having a base knowledge about boats, while other children had no previous background in these concepts. The demonstrator provided books that contained pictures of boats in them. This practice aided

children who had little comprehension of boats. Student differences became reduced as inclusion students blended with the class activities.

This video gave the undergraduate student a chance to realize behaviors that went unnoticed during the actual instructional process. Two learners who did not get along during most activities were working side-by-side! They were actually helping each other and cooperating! Through the videotaping, the potential teacher realized how much could be learned about behavior and cooperation. Social studies tell us how people interact and how different situations cause changes in both action and perception. The interest in the science experiment became the key variable contained in this mini-society. Social studies emerged from science.

As the videos were replayed, a participant became compelled to write a synopsis. As a teacher, one may review the variety of teaching strategies used and the effectiveness of each. The classroom environment is seen as a whole so that you may realize the class diversity and gain a multicultural perspective. Furthermore, the teacher observes how learners work independently and cooperatively. It became a reality of how people use different learning styles in these varied activities. In addition, the viewer connects sociology by watching group behavior and the evolving values of students become apparent. Videotaping has vast potential for student learning and will be increased in scope and importance in this next school year throughout the curriculum of Urbana University.

The second major breakthrough for this university class involved a map schema experience. The professor gave the class the four key works of map, local environment, map scale, and distance as an introductory activity. Students then placed each key work on a shape provided for this exercise which included one blank space for a total of five given shapes. Each class participant then wrote an explanation for

why each key word was placed in the given schema shapes. The initial results developed into a sharing time in which these learners realized that varied arrangements and explanations became valued dialogues.

The original material and response by one student are given as the following:

MAP SCHEMA STUDY

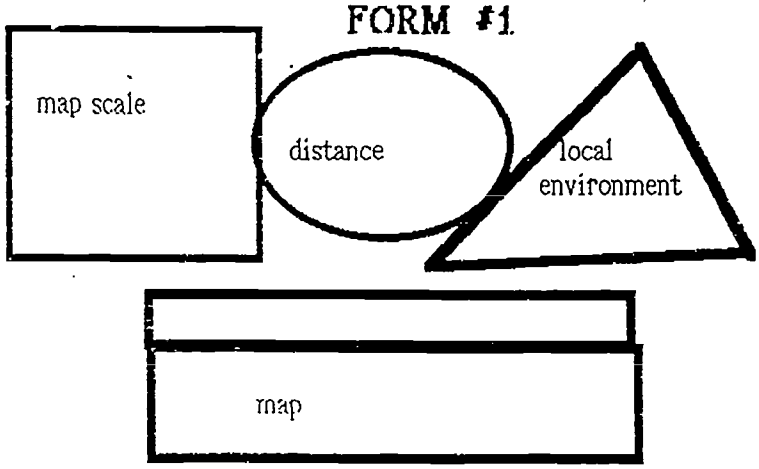
NAME: Shelley _____

1. The professor will give you four key words to fill in the blanks.

   Key Words: 1) map 2) local environment
   3) map scale 4) distance

2. Write each word on a shape on form #1. There will be one blank shape.

FORM #1



3. Write your explanations for your arrangement.

   A. Map was placed in the long rectangular shape because of its strong foundation for the other three things which can be found on a map.

   B. I picked the triangle for local environment because it has three sides and things that make up a local environment.

C. I picked a square shape for map scale because it is a shape that has a small length on each side.

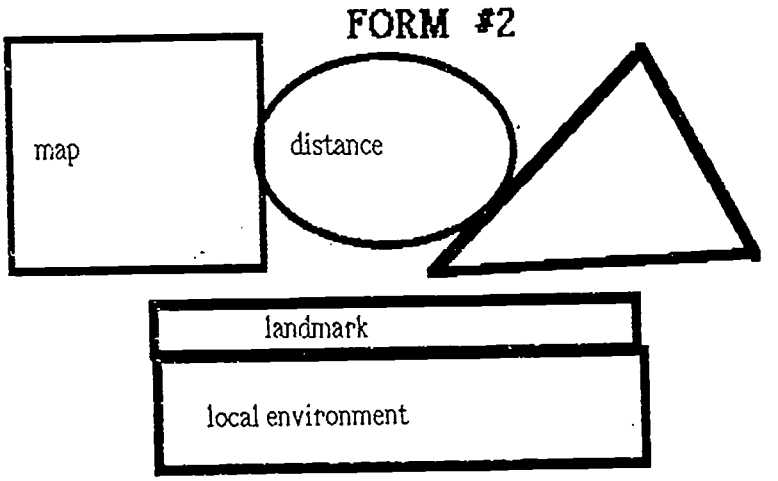
D. Distance is on a circle which represents the world and distance between places.

4. Oral discussion of our travel (near or far) to classes at Urbana University. One person drove 66 miles to class and some students came from their dorm rooms.

We discussed how we could make a map showing our local environment from this travel. We noted how different map scales would indicate our travels to class. We looked at the text for possible map illustrations.

5. After this discussion, write the original words on the shapes, and also, add a new word on form #2.

Form #2 appeared as the following with one student sample included.



6. Write your explanations for your new arrangements.

A. Local environment can be drawn on a map showing the distances of places and landscape to a map scale.

B. Map is usually shaped like a square.

C. Local environment is made up of many landmarks which are usually put on maps.

D. Distance is in the circle as previously explained.

E. Triangle is the map scale because a triangle can be the center to hold up a scale.

Some findings from the overall schema work were:

1. 10/13 placed the word "map" in the square the first time through. The same 10 left "map" in the square on the second try.
2. 7/13 placed the term "local environment" in the circle. 9/13 used the circle for "local environment" on the second attempt. The other words placed in the circle were "distance," "man," and two were left blank.
3. 7/13 put the word "map scale" in the triangle. 5/13 used the word "distance". One used "local environment." 9/13 used "map scale" on the second attempt.
4. 4/13 put "local environment" in the top rectangle. 3/13 placed "map scale" in the top triangle. 4/13 placed "distance" in the top rectangle. 4/13 placed "distance" in the top rectangle. 4/13 left this space blank on the first attempt.
5. 9/13 left the large rectangle blank. 2/13 put the word "map." 2/13 used the word "distance."
6. In the second activity the list of words picked included:

landmarks - 6 people	estimate - 1 person
travel - 1 person	highway - 1 person
key - 1 person	experimentation - 1 person
time - 1 person	familiar surroundings - 1 person

7. 6/13 did not change their arrangement from the first to the second attempt.

The results from the map schema work showed us that learners take information from their own conceptions. Individual understandings depend upon the experiences and backgrounds of the people. People may need a framework to discuss openly the similarities and differences of their schema results. Learners need a base of perceptual material in order to progress to more complex forms of knowledge.

We recommend that further schema work be undertaken in method classes to bridge learning theory and actual classroom learning experiences. The forms provided in this manuscript may be used for any subject matter. It would be appropriate for the professor to give the actual words and use a similar approach as used with maps. It is recommended that students undertake the actual study before completing the second form. It may show more changes from the first and second arrangements.

The third innovative aspect to this course dealt with the usage of the Internet. Two students volunteered to work outside of class time with the professor to become familiar with cyberspace. Some minor achievements were accomplished and described to fellow classmates. The most notable achievement turned out to be E-mail. A bulletin board was observed with a few minor postings accomplished. There was simple navigation conducted through "Gopher" and "Veronica". Key word searches and the listing of files in given directories were met with limited successes.

We did learn that future classes doing research on the Internet will accomplish more than exploratory work. Internet searchers, due to time, money, and efficiency, need to plan precisely their research before connecting to Internet. Inter-connect time with Internet will be limited to a 20 minute period. Correct information will need to be given for assignments. Our recommendations will likely become policy

for Internet use at Urbana University. This Internet feature was the most pro-active stance evolving from this class.

One class volunteer gained insights from the exploratory work with the Internet. She described Internet as being the most up-to-date communications technology. It can be a very valuable resource center for students. If participants require information on a particular topic, all they must do is leave a message explaining what they need and then wait to see if someone replies. It is an alternative avenue to use for research. On the other hand, it does take time to learn to use Internet, so patience is essential. It is worth the time it takes when you get on-line and find a message waiting for you. It gives you a real sense of satisfaction. Internet is a valuable tool for the Social Studies because of the millions of people that correspond through this system.

The features of videotaping, map schema, and Internet most likely will be remembered by class members. Videotapes will be played to future class members and may be used with the local cable television channel. Map schema involved thought processes that could be converted to concrete experiences and discussion. Internet became a frontier aspect of our knowledge that has more potential for social and scientific changes than the invention of the automobile. Our class did become involved in explorative study in addition to the normal outcomes of educational methodologies.

Contributors to this manuscript include the following: Michelle Barnhart, Shelley Eades, Angela (Eancheff) Caudill, Marie Galloway, Lois Geopfert, Robert Gibson, Christy Jeter, Danielle King, Deborah Lewis, Linda Snook, Michelle Sowers, Bobbie Stokes, Roberta Taylor, Clint Wiley, and Kirstina Williamson.