

Exploring Life Field Observation #4

Submitted by Betsy Price

Teacher Pat Berger

School: Souderton Area High School

Location: Souderton, PA

Dates 4/20/01

Number of observation days: 1

Classroom characteristics:

Number of students: 20

Level of students: regular biology

School socioeconomic level: Middle class, suburban school

Length of class period: 42 minute class period

Number of computers: 19 operating PC

Computer setting: computer lab

Grouping: 1 student per computer, one computer short and two girls paired, one computer went down which resulted in two girls pairing up to share a computer. Even though students worked with their own computer there was a great deal of exchange of information.

Class Content:

EL materials used

8.1 chromatography simulation

Prerequisite materials

The class before, the teacher had done a chromatography lab with the students. They had calculated their results and were comparing their results with the simulation to determine the type of chlorophyll.

Teacher adopted materials

None - students were writing answers to the questions because the response was not set-up by Peregrine.

Evaluator Description

During this participant observation, the researcher discussed Exploring Life with the students.

The following questions were asked:

- How is the navigation on the Website?
- What do you like about Exploring Life?
- What do you not like about Exploring Life?
- Overall, what do you think of Exploring Life?
- How could Exploring Life be improved to help your students learn the biology concepts?
- How did the students react to Exploring Life?

Additional sub-questions were asked during student interviews as the students brought up diverse questions and comments.

Summary of findings:

Student attitude about learning

- One girl was answering the questions. She complained to the researcher that she always got the answers wrong. When asked if she liked getting the answers right away, she said yes, "It helped me learn."
- When asked if they liked the Website, three female students and one male student said they preferred the textbook. One girl felt that all the movements on the page were distracting. She could not determine what she was to focus on.
- The students click before they read the material to determine what the page was to do.
- The students were pleasantly animated as they settled down with the computers.
- Many of the students were accessing the materials at home for review.

Teacher attitude

- The teacher expressed some anxiety with having the students on the computers. The students were much more comfortable.
- The teacher said that sometimes she felt useless as the kids worked on the computer. It was a positive, friendly remark but she did feel the students did not need her as much when they had questions.

Navigation

- The students were very comfortable navigating to the section where they needed to go. Two students were helping the ESL students. None of the students observed needed help from the teacher to find the page they needed.
- Some of the students were working together. One would have the experiment on and the other was scrolling down giving the other information on what to do.
- The students liked that they could repeat things until they understood them.

Evaluator Recommendations:

- More needs to be understood about the student's initial reactions to how they focus on the important issues of the page. When the students described that all the color and movement confused them, they were describing the "novelty effect" which is described in the literature of instructional design and exhibit development.

Discussion

- Immediate feedback was popular with the students. In focus groups and discussion with teachers, some of the teachers commented that they were concerned that the students were just guessing at answers or just randomly typing in order to get to the correct answer. Teachers were concerned that students were playing rather than answering the question and then comparing answers. Immediate feedback is a powerful tool for rote memorization. We need to understand more if the benefit to learning would outweigh the teachers need to make the students accountable for doing the activity correctly.
- The students were describing the novelty effect, a term used in museum exhibit design and instructional design, that is used when the learner becomes transfixed on flashing lights, color, etc. This can be a positive element when the novelty directs the learner immediately to the learning objective. It can be negative when the learner is distracted by too many novelty items or leads the learner away from the learning objective.
- Two D average students did very well with the Website. Their grade improved to a "B" since they had been using the Exploring Life materials. One student had a learning disability and the other was not "registered" but the teacher felt he did have

learning challenges. The students and the teacher were convinced that the Web-based materials were a factor that contributed to the improvement of the students' grade. It might be worth exploring further how the Web-based materials increase academic performance of low-achieving students. Additional observations could focus on how the Web-based materials might increase the diversity of ways students can learn.

- The students seemed to be doing well with the simulation exercise. They had just completed a hands-on lab the day before. We need to find a group who does the simulation and not the lab to determine the students' actual comfort level.

Final observations

Teacher attitude

The teacher was positive with the program but was apprehensive at using the computers. It is unclear if this is her personality or that she is truly apprehensive. A follow-up phone call may clear this up.

Text

Four students preferred their textbook to the Website materials. Three were familiar with how textbooks work and liked the comfort. They did say they liked the Web more as they continued to use it.

Student use of Computers

The students were comfortable with the navigation and the computers. Even when the computer went down the students adjusted with little difficulty.