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Field Notes for January 19, 2001
Edu 201
Dr. Wagner

The Mother Lode Blueberry Lab
Observation of George Powell, Technology Curriculum Specialist

Dominant themes and sub-themes

Physical set-up

- [Structure of the Blueberry Lab]
- [Equipment set-up]

Applications

- [Application software]
- [Multimedia]
- [Facilitation applications]

Access

Makers

- [Preparation]
- [Preparation of students]
- [Preparation of teachers]
- [organization]
- [Login procedures]
- [Security]
- [Schedules and Scheduling]
- [Access issues]
- [Allocation of time]

- [Technology aides]
- [Other jobs for Technology Curriculum Specialist]

Users

- [Lab rules –training of students]
- [Training of users –teachers, aides and students]
- [Technology aides –training of other users]

This theme deals with access to technology. It has two main sub-themes which come from the thinking of Howard Becker in Telling about Society: Makers and Users (Becker, 1986). The makers deal with both the people and the procedures that allow access. Issues such as the speed of the network and scheduling need to be explored under this sub-theme. The users are the people who enter the lab with a purpose. They require understanding of the system at various levels depending upon their assignments and goals. Without that understanding, access is curtailed.

Problems

- [Problem solving]
- [Problem solving – types of problems]
- [Trouble shooting]
- [Responding to students' needs]

Mother Lode Intermediate School is situated about 100 miles northeast of Sacramento, California. It is located in a foothills community with a predominantly rural setting. The school has about 800 students in grades six through eight. My visits to Mother Lode over the last month have been frequent, and my presence there does not seem to interrupt procedures. Since I had taught sixth grade at Mother Lode until June of 1999, many eight graders recognize me and call out to me at lunchtime or walk over and visit. [The school is a friendly place where I feel like I know most of the teachers well enough for them to allow me to observe them working in the technology center (see video).]

In preparing to observe at the Mother Lode Technology Center, I formulated first some overall questions I had been considering for some time. How do teachers learn about technology? How do teachers learn to integrate technology into their lesson plans? These are questions anyone can ask about most teachers in almost any middle school setting. With respect to Mother Lode, I would like to know how teachers there are learning about technology. I would also like to learn if the abundance of technology at Mother Lode is affecting the way teachers at Mother Lode think about teaching. What does the presence of technology mean to the teachers at Mother Lode? And what is the purpose of technology at Mother Lode? Specifically, I would like to know the following:

- Is there a pattern to the way teachers learn about technology?
- How do teachers interact with technology leaders?
- What's the comfort level like for teachers who utilize the Blueberry Lab?
- What's the comfort level like for teachers who utilize the Bondi Lab?
- How is the physical arrangement of the technology in the Blueberry Lab conducive to a teacher's willingness to use facility?
- Is that comfort level the same when the technology coordinator in not present.

[OC] I decided to observe the setting and the interaction that goes on in the technology center. The setting could be studied as a separate physical feature or as the context to a wider learning environment that gets created, it seems, by the minute, as I will describe below. The setting also determines the behavior of teachers, technology aides, specialists, and students in a complex learning and problem-solving atmosphere.

In the description that follows, I was struck by the speed with which the Technology Curriculum Specialist responded as a teacher, troubleshooter and director.

At 12:40 pm I entered the Blueberry Lab in the Technology Center at Mother Lode and greeted Mr. George Powell who was working at his instructor station at the back of the lab. There were two or three students in the lab working or playing educational games at some of the machines. [[Do students frequently enter the lab to play educational games? Are they allowed to do this?]] I announced to George that I was just here to do some observing for a class that I am taking at a local university. George knows me well. He was my student teacher over ten years ago and understands that I am interested in studying how the educational culture of the school has been affected by technology and that broad questions that emerge from this observation and a follow-up interview may direct my long-term research focus. George has also been a key teacher and visionary in establishing the role of technology within the curriculum at Mother Lode. Since it was the 7th/8th grade lunch period, most students were just outside the Technology Center in a large courtyard eating lunch. George directed the few remaining students to leave, and they did.

I took the next few minutes to document the scene by making a digital video recording of the setting. The physical features of the Blueberry Lab are recorded in that document and in still images I have captured, but I will describe the peripheral scene briefly here. The Blueberry Lab is part of the Mother Lode Technology Center which includes the school library, an intermediary computer lab between the Blueberry Lab and the library and a small, and very crowded, server area which includes George's desk and the desk of Diane Taylor, the District Technician. The Blueberry Lab was appropriately

named when new iMAC computers were installed. Their color was Blueberry. There is another computer lab at the school appropriately named the Bondi Lab after the iMAC color purchased for that facility.

[Structure of the Blueberry Lab and its equipment set-up]

[Multimedia]

[Application software]

[Login procedures]

[Security]

The Blueberry Lab has 30 iMACs with one Macintosh G3 instructor station at the back of the room. A projection device is connected to the instructor station as are CD and video players, amplifiers, and speakers. The video will show most of this. George describes this as a multimedia lab. What the video does not show is the configuration of the software on the machines that make this a multimedia learning center. [[How does multimedia appear in teacher lesson plans?]] All student iMACs are essentially identical in terms of their software configurations. One machine is prepared with the necessary software, its hard drive is cloned and, using Foolproof Network Administrator Toolkit (FNAT), the cloned hard drive is sent to each machine as often as it needs to be done in order to keep the lab running smoothly. Applications such as HyperStudio, Netscape, AppleWorks, iMovie and QuickTime are on all the machines along with other applications that serve as tools to student creativity and problem solving. The Blueberry Lab is Internet-capable and runs at T-1 speeds. Students save work to the student server where every student has a login name and password.

[Schedules and Scheduling]

[Access issues]

As I was videotaping, a number of students, some of whom knew me from previous visits, entered the lab. I asked them not to enter for five or so minutes because I wanted to videotape the lab without students present. At about 12:50 five students entered when they peeked in the doorway and noticed I was finished. I sat down next to some video editing equipment on the south side of the lab.

[Problem solving]

[Technology aides]

At 1:00 pm George arrived back from some other business. [[I need to know what kind of other business George does. Perhaps this could be an interview question.]] He promptly asked the students what they were doing in the lab and instructed some to leave. Some of the students who entered earlier were technology aides –seventh or eighth graders who are assigned to George as aides for one period a day- and they were allowed to stay as volunteers during lunch. George wanted the volunteer technology aides, referred to as tech aides, to help install a math game called "Quarter Mile" on the network. During this time, tech aides were asking questions like, "You want me to go around and wake 'em [the sleeping computers] all up?" Many relevant, technology-related comments were made as two aides hovered next to George. Questions and answers occurred with amazing speed, and I had no recorder with me other than my observation sheets.

[Technology aides]

[Training]

George casually spoke to me about a concert he and his wife went to last night. As this brief conversation was taking place, the tech aides were watching what George was doing with FNAT as he set up the procedure to send the CD image to the other iMACs. The tech aides then quickly moved around the lab dragging CD images to the trash on other machines so that the installation from the single machine would work properly.

[Problem solving – types of problems]

[Allocation of time]

[Other jobs for Technology Curriculum Specialist]

During this time a tremendous amount of problem solving was taking place. [[Is this problem solving process a normal part of the day for the tech aids?]] The bell went at 1:14 –I heard George say it was a warning bell. They were using an iMAC to the right of the instructor station as a master computer and sending the CD image to the other iMACs from that student machine. It locked up for a few minutes. George [looking frantic to get the software loaded on the 29 other iMACs] held his head for a second or two. He conversed to me about the district's recent installation of new switches and the associated problems with the protocols implying that the locked-up iMAC may be a victim of the problems yet to be solved with the new, faster switches.

By 1:27, a class of 8th graders entered to work on their "President Reports." The "Quarter Mile" installation was silently put on hold.

[Preparation of students]

[Preparation of teachers]

[Scheduling]

[Access]

The entering students had obviously had some preparation for this study. Their teacher, Rene, spoke to me and indicated that the social studies class was doing research on U. S. Presidents. A student sitting next to me told me that they had been working on this for a week.

[Technology aides –training of]

[Problem solving]

[Trouble shooting]

[Responding to students' needs]

[Lab rules]

As this was taking place, the tech aides were now getting instructions from George. Bill, an eighth grade tech aide, for example, got instructions to work on a map of the Blueberry Lab. [[I need to get one from him to help document this description.]] Meanwhile, some students wanted to print to the networked printer located near the back of the Blueberry Lab. Anyone in the school can print to this printer from anywhere in the school, so the switches mentioned earlier also control the information being sent to the printer. Several students began to notice that the printer did not seem to be printing as fast as it normally might. [These same students were not very patient.] George explained to me that students who become impatient when the printer does not work properly will typically send the document to the printer several times thinking that maybe the printer did not spool [queue] their document. George showed me a handful of paper all with the same information and graphics printed on them. George responded to the students by reminding them of this situation and the problems it causes. [[What typical problems occur during instruction time?]]

[Responding to students' needs]

[Anticipation of problems]

[Anticipation of needs]

At 1:35 the principal entered for a few minutes and observed the class working. He spoke briefly to George at the back of the room about a problem and left. [[I may ask the principal what this exchange was about.]] George was noticeably concerned that students were worried about printing. He addressed this concern by reminding individuals who wanted documents printed to use a small application on each machine called Net-Print. This application allows students to select the material they want printed, clip it and paste it immediately to a word processor. Once the document is in a word processor, students are to put their name on it and same it. Then they can print. Net-Print will stamp the document URL on the clipped piece for the students along with the access date. Now, when students print, they only print what they think they need and their name is on the document. If the printer is slow, they can always print later. This process allows students to continue with their work without waiting for a document to output from the printer. Tech aides check the printer and take the document to the student. The problem of the slow printer was addressed effectively. I noticed that students working at student machines did not get up to retrieve hard copy from the printer. Later George explained that this was a rule in the lab. Tech aides will distribute what outputs from the printer.

[Problem solving]

[Responding to students' needs]

[Anticipation of problems]

[Anticipation of needs]

[Facilitating applications – FNAT; Net-Print]

At 1:46, George recycled (restarted) the printer and locked the students' screens to demonstrate how to make some decorative titles using the graphic application in AppleWorks. Students did not want to stop their work, and many voices objected to the locking of the screens [done with FNAT] but were subsequently impressed with the demonstration. Students learned to create text graphics, change the size and font style, flood fill with gradients of color and transform the final graphic to whatever form they wished. There was further emphasis at this time to save before printing. By 1:51 the printer was ready, the demonstration was complete and students were back at work.

George now was interacting with tech aides. The teacher, Rene, was moving around the lab talking to students. Students were asking questions related to their work content, the technology and various techniques regarding the construction of their graphic titles.

[Preparation of teachers]

At 1:54, I relocated to the back of the Blueberry Lab to get a better view of the computer screens. Most of the students were working on their titles, but some were capturing images of presidents while others were clipping text and saving it. I asked Rene about the work the kids were doing. Her response indicated that students had captured text, saved and printed earlier this week. They had been assigned the task of reading their hard copy and highlighting important text that they might work with later.

[Anticipation of problems]

[Anticipation of needs]

[Responding to problems]

The period was almost over by 2:05. Mary, the District Technician, joined the activity around the printer. Apparently, students from the Bondi Lab were printing documents also. The students in the Blueberry Lab needed documents to take home and were hoping to leave with a hard copy. Documents were emerging continuously from the printer and George, Mary and the tech aides were busy handing things to students. None of the students left his or her machine to get documents reinforcing my idea that they had been trained to remain seated.

[Technology aides]

[Training]

[Preparation]

[Facilitation applications]

[Problem solving – types of problems]

[Allocation of time]

[Other jobs for Technology Curriculum Specialist]

Students left with their teacher. A new group of tech aides entered and George immediately gave them instructions. The "Quarter Mile" math game still was not installed. George called the newly arrived aides over and shared what needed to be done to finish the job. There was no class scheduled to work in the Blueberry Lab for that period, and I asked George why that was so. He indicated that sometimes when a teacher cancels a session, he takes that time to catch up on software installation or preparation for other sessions. [[I could ask George specifically how he prepares for so many teachers who might all have quite different curricular and technical needs.]] Meanwhile, the printer still seemed to be responding slowly, and the tech aides worked on dragging

"Quarter Mile" to a folder on each computer. FNAT will send the image to the machines, George told me, but it just leaves the package on the desktop. The tech aides were given the task of dealing with this while George worked on the logic behind the printer problem. I left at 2:17.

[OC Additional questions: Do students frequently enter the lab to play educational games?
Are they allowed to play games?
What games are installed on the servers? How are they used?
Ask George specifically how he prepares for so many teachers who might all have quite different curricular and technical needs.

Reference

Becker, H. (1986). Telling about society, [Web site]. Available: http://www.lsweb.sscf.ucsb.edu/depts/soc/faculty/hbecker/Telling_paper.html [2001, February 20, 2001].