

# Eureka Field Trips

By Gudrun Hutchins

Field trips to various businesses in the Bennington area were an important part of the Eureka science club for female eighth grade students at the Mount Anthony Middle School. We wanted the eighth grade girls to see women working in occupations that required competence in math and science. CJ arranged many of these visits because she worked as a chemical engineer in Bennington and had been involved with the school-workforce partnership founded two years before. She knew a number of women working in STEM occupations in the greater Bennington area and tried to arrange visits during which the students actually participated in some activity with the assistance of these women.

These visits required permission slips from parents to limit liability to the AAUW members participating in the visit, the Middle School, and the business that we visited. The students understood that they could not go unless they brought back the signed permission slip that they received at the Eureka meeting the week before.

## Field Trip to Spectrum Graphics



During this visit, the students designed the logo for their T-shirts with the help of two female designers who gave them an overview of their computer system and graphic design programs.

This was the logo printed on the back of the shirts and they had a smaller logo for the front of the shirt that also identified the school with the letters MAMS for Mount Anthony Middle School.

The girls were surprised by the computers and the possibilities of the graphics programs.

## Field Trip to CAT-TV

This visit was easy to arrange because the Executive Director was a member of our branch. The students learned to use a TV camera to record a live interview of two of our students. Then they learned how to mix the live feed with pre-recorded. Both were difficult and the students needed the help of one of the employees for both tasks.



A TV camera that recorded images and sound was a complicated beast at the time. This student was determined to make it work during the live interview of our two “acting” students. She was successful with a little coaching by a CAT-TV staff member.

These two students provided our “live feed.”





Now it was time to combine the live images of our two actors with some pre-recorded data identifying the station and event.

How do we do this?

There are so many switches! A little instruction by a staff member made it all seem easy.



## **Field Trip to Mack Molding in Arlington**

We were asked not to take photographs on this visit because of customer confidentiality. But we walked along “catwalks” while a female chemical engineer explained what was happening on the factory floor. The students were impressed by the size of the particular piece being molded and by the “catwalks” that made the overview so interesting.

## **Field Trip to the Laboratories and Radiology Department Southwestern Vermont Medical Center**

It took a little negotiation to arrange a visit to the local hospital. The hospital management was primarily worried about patient confidentiality. Students were not to speak to a patient whom they knew or to tell anyone at home that they had seen so and so at the hospital. We finally settled on a signed “confidentiality pledge” from each student and the three adults accompanying them. These pledges were collected at the entrance to the hospital. No photographs could be taken during our visit.

Students first visited the laboratory that completed all the blood analysis for patients in the hospital and patients who were sent there for blood analysis by their doctors. Some of the analysis was machine operated and took place in a huge drum shaped machine that sampled individual vials of blood and printed out results. Some analyses were done manually and we could watch this work only through a glass screen. A hospital intern explained all of the technology to our students and the adults accompanying them.

Then we moved on to the culture lab where cultures were completed on germs collected from various body fluids to check for the presence of foreign organisms that were making people ill. We looked at several different cultures with light microscopes and could see that specific organisms colonized in different shapes as they grew in the special culture medium. The mother of one of the girls worked in this department and was charged with the responsibility of making sure that no one did anything to damage the cultures or the equipment. In actuality she was very helpful in explaining the complicated procedures required for growing cultures in different media.

Our final stop was the Radiology Area which was run by a woman who was also a medical doctor. In preparation for our visit, she had collected a series of x-ray films with various fractures and other patient problems. This was before the age of digital images, so all of these images were on large sheets of photographic x-ray film. She hung these images individually on a large light box while our group, which included three adults, stood behind her and listened to the explanation of the fracture or other injury that required the x-ray. Toward the end she showed an x-ray of the foot and boot of a young carpenter who had driven a nail into his foot right through the boot. After viewing this x-ray, two of our girls felt a bit queasy and waited out in the hall with an adult for the rest of the presentation.

At the end, the chief radiologist introduced us to two young men who were current radiology students. They told us that they were taking courses in human physiology at Southern Vermont College and would earn the equivalent of an Associate Degree from that institution. At the same time they were receiving practical instruction in various forms of radiology at the hospital by assisting licensed radiologists in their work. After this rigorous training they would take a national exam and hopefully become certified radiologists. Although their current schedule left very few hours for doing anything else, the future job and salary potential was very good. They told us that there was a national shortage of trained radiologists and salaries were high as a result.

At the end of the year, the group took a very special all-day Saturday field trip to several sites in eastern Vermont. (In a rented school bus with a driver paid for with grant funds from AAUW). We have many pictures of smiling girls' faces during this field trip and I will share them in a future article in this newsletter.