

Society of Women Engineers
North Country Section (SWE-NC)
Final Report for DR085

November 1, 2001

The SWE-NC program targets elementary school students for weekly classroom instruction incorporating computer curriculum and technology. In addition, an after school computer club was initiated.

By supporting this program, the following strategic goals of the Society were achieved:

Education - Provide programs that encourage girls and women to enter engineering, and encourage members to attain high levels of achievement in their fields.

Visibility - Increase visibility of SWE and its programs to members, the technical community, and the general public.

The grant was approved to support an early elementary computer laboratory project. Additionally, the grant was used to initiate and sustain an after school computer club.

Methodology to realize project goals:

The grant was used to support classroom instruction, reimburse startup costs and support district wide computer instruction after school in the formation of a computer club. In retrospect, the Computer club is an equally tangible result to the execution of in class computer instruction on a district wide basis. The in class instruction is more formal. The after school club is less formal and more free form. Both operations provide students to learn at their pace and taps into their strongest learning styles.

Principal result of this project:

The emphasis on learning basic computer concepts and incorporating technology was supported under this grant.

Evaluation:

Students were quizzed verbally, but not graded. Students were required to demonstrate their imparted knowledge by identifying parts of a desktop computer, peripherals, and concepts, such as: desktop window, icons, file structure, directory structure, software application programs (word processing and drawing), and saving and retrieving personal files. Students built and programmed computer robots.

Lesson Plans:

Fifteen lesson plans were created and implemented.

- Lesson 1 Basic identification of computer parts and peripheral components.
- Lesson 2 Understanding order on which computers are to be turned on and turned off.
Understanding left hand and right hand operation of specific keys.
Understanding what is hardware and what is software.
- Lesson 3 Hands on learning about semiconductors and building computer chips.
- Lesson 4 Learn about how computers work
Destruction and reconstruction of a laptop computer.
- Lesson 5 Understanding of icons, folders, files, windows, directories, applications
Understanding how to open applications, find personal directories and files.
- Lesson 6-7 Keyboarding
- Lesson 8-11 Play computer games targeted to practice
- arithmetic
- reading and vocabulary
- drawing
- keyboarding
- Lesson 12-15 Refine skills, create picture based on a classroom theme.

After school Computer Club:

A five week computer club of ninety minute sessions was made available to students on a lottery basis. Consecutive sessions were offered of 12-15 students in grades K-5 . Approximately fifty students participate annually.

The significance of the project was proven to expand the awareness of parents and educators about women in engineering and that opportunities for young women are available. Young women were encouraged to continue studies of math and science curriculum. This includes Computer curriculum and technology.

In retrospect, more visibility about SWE could have been made possible using a banner or providing students with a trinket identifying SWE mission. One possibility would have been to Purchase notepads, pencils with SWE LOGO and mission statement to students. Another Possibility would have been to purchase T-shirts to wear.

The primary difficulty in completing this project within one year was in the late procurement of funding. Sponsorship was secured after school winter break. It was difficult to implement in the midyear of a school calendar year. As such, the project was begun in concert with a school calendar of the following year.

Budget

Expense Details:

Postage, copies, paper	\$ 300.00
CD production	1000.00
Dacta-Lego Robotics Kits	1137.00
Batteries	70.00
CD reproduction	1000.00
Three CD ROM burners	960.00
Total	<u>\$4467.00</u>