



The Denver Post / Glen Martin

Paul Harris, a GW student, shows Nancy Meyer of Atari the computer graphics he created.

# Students at GW Operating Unique Computer Facility



Irwin Hoffman: master computer teacher and scrounger.

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Few local persons may realize it, but there is nothing in America quite like the computer laboratory at Denver's George Washington High School, says Irwin Hoffman.

To be sure, Hoffman is prejudiced. The lab is his baby, started back when computers were rare and costly. By persistent scrounging over 22 years he has slowly built it up to the point where:

✓ It is the only place where you can hear the overture to Handel's "Messiah" performed by two computers — programmed by high school students.

✓ It is also the only place where high school students, paid by a \$200,000 federal research grant, have written the programs and created accompanying graphics so computers using Span-

ish, Vietnamese, Laotian or Hmong can teach students to speak English.

✓ And it is the only place where one of the students has just been hired by the Dade County (Miami), Fla., schools to show them how to run Pascal computer language on Atari computers.

Why will Chuck Tucker, 17, a George Washington High junior, be paid probably \$100 a day in consultant fees by the Miami schools?

Because, Hoffman explains, Tucker did the research and figured out how to run Pascal on an Atari machine — a feat which came as somewhat of a surprise to the Atari people.

The school's computer lab doesn't look all that impressive to a casual visitor. In a long, fairly narrow room on the school's second floor are 36 computers and accompanying equipment — 20

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# Students at GW Operate Unique Computer Lab

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## COMPUTER From 1-B

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of them Ataris, but also several other makes. During a typical 11-hour day, 470 students use that room, Hoffman said.

Among them are not only the school's computer math whizzes, but handicapped students, slow learners, students from the "Hold Youth" classes for potential drop-outs and students of art, architecture, business, geography and other subjects.

But what is unique at George Washington is that high school students are doing the kinds of research that professors and highly paid professionals do elsewhere.

"Students with advanced training are asked to research techniques that the instructors at George Washington need," Hoffman explains. "Quite often, these students are asked to produce a manual or users' guide after they master the assigned problem. These guides then become the textbooks of the courses offered.

"As the students' expertise grows, they are hired to write curriculum units," he continued. "Currently, we are writing 40 bilingual lessons for a (federal) Title VII research grant."

Negotiations also are under way, Hoffman said, with two software companies and the Colorado Department of Education to translate and produce new educational software. (Software is the name for the instructions and information used to program a computer.)

"The companies want us to translate their software from Apple to Atari," Hoffman explained. "The state department wants us to produce original software for lessons designed by other school districts."

As an example of what his advanced students do, Hoffman cited one of Tucker's achievements. "Chuck took the four disks and four specification manuals of Atari's user-unfriendly Pascal and reduced the system disk to one two-sided disk, and the operating instructions to a small, clear, compact handout. Now all advanced students in the lab study Pascal on the Atari," Hoffman said.

Another student, Steve Kelly, is trying to develop ways to overlap images on computer screens in ways that can be used by the school's art and home economics departments.

This sort of activity isn't widely known yet in Denver, but it is in educational and computer circles around the nation.

Recently, the Atari company brought 45 officials and members of its philanthropic institute's advisory board to Denver to show them what's going on at George Washington.

Twenty of the lab's 36 computers, plus eight or 10 disk drives, were donated to the lab by Atari. "They've given us maybe \$80,000 to \$100,000 worth of stuff," Hoffman estimated, "apparently because they want to dispel any idea that their computers are only good for playing games."