

COMPILATION: using laptops in the physics classroom

Date: Sat, 22 Mar 2003

From: Andrew Njaa <Anjaa@aol.com>

Regarding laptops in the classroom, we have a portable lab that we bring in when we want to use computers. It is a disaster. Mainly because it is unpredictable. I am at the point where I am scrounging up 3 year old desktops so I can have a reliable setup.

The trouble with laptops is their unpredictable battery life, and unreliable OS.

Another glitch that has turned up, is that wireless hubs like airports, are points of congestion. Ten laptops logged onto a site simultaneously, especially one that tends to be graphics-heavy like GIS sites, bog down and no one can do work. This issue doesn't come up when the students are logged in via hard-wired internet connection.

Date: Wed, 26 Mar 2003

From: "K. Fincher" <raptor1@ARN.NET>

At my school, we have several mobile laptop "labs" that teachers check out to use. Our entire school is wired with hubs so the laptops can be used anywhere in the school. I have 3 classes in the morning and then a break and then 2 classes in the afternoon, so I have the last class in the morning plug the laptops back into the cart to charge the batteries so they'll be charged up for the afternoon classes. I have found them to work really well. The only time our internet is slow is in the afternoon, for some strange reason, and even then it's faster than my dial-up service at home.

Date: Wed, 26 Mar 2003

From: David Koch <chagrined@EV1.NET>

Students at my school are required to purchase a laptop when entering the school, usually at grade 9. The first year or two I found it somewhat of a nuisance because occasional lab groups would not have a working laptop among them when needed for a lab. However, that is rare the past two years. We have a contract with a local repair company to keep the laptops going and to supply a "hot spare" when a laptop is "in the shop". The girls are pretty competent with them now, and the quality seems to have improved over the four years I've been here, so I'd say they work out well.

This year I gave the girls a CD with the Modeling Worksheets on them (no tests, quizzes, teacher materials, etc.). They print the worksheets at home or on the school's student printers before each unit. Overall I'd say things work pretty smoothly now. Next year we'll be using Blackboard so students will be able to access materials from home via the Web.

Date: Wed, 26 Mar 2003

From: Diehl <diehl5@BELLSOUTH.NET>

A couple of years ago we were lucky enough to get the school to buy a set of laptop computers for the physics classes. After having problems with Toshiba laptops, we returned them after the first year. For the last two years we have a set of Dell Latitude laptops. It is great. My experience has been very positive. They remain in my room in a cart. All the connections are wireless, and there is a fast laser printer in my room. Even though the computers are constantly used, they have been reliable with a minimum of problems. We use them to collect data with probes (Logger Pro from Vernier), for graphing and analysis (Graphical Analysis from Vernier), Internet activities, word processing, etc. The batteries last for about 2 hours (depending how you use them).

It is good to keep a close eye on the computers, however. Everybody needs to sign them out, even if they do not leave my room. If there is any problem, they need to record it in the login book. We have good tech people who respond quickly to any problems.

In the beginning it did take a while to load the software, get the connections correct, etc., but that is not unexpected when starting such a project. We also had a great color deskjet printer initially. Even though the color was nice on occasion, we settled on a B/W laser printer because of speed issues.

Date: Thu, 27 Mar 2003

From: mitchell johnson <johnsonm@LVCM.COM>

I have 10 Dell laptops running XP and am hooked with PASCO 750's by USB. So far more stable than my old IBM desktops running 2000 with scuzzi's. Nice just plug and playing. I have a cart with built in chargers. Once in a while, especially if someone was too busy to plug it in, they have to pull out the cord and plug it in. We run our Dells through Apple air ports with no problems with a novel network. All computers and mine are printing to one Xerox with no problems.

Security is somewhat worrisome. I keep my 10 in a cart, but there are two other carts of ten that are shared by 3 less computer intensive classes this year. (We get the third next year.) Already this year there are two of those stolen. The teacher had one missing this week for 2 days without noticing it. This is the same teacher that has lost my stopwatches and other equipment when we shared a room for 4 years. (I now keep my room locked and am not missing anything) One thing that worries me is that the drives and batteries are super easy to remove and it is hard to remember to check that at the end of every period. Today it was nice having the laptops at their desks while we ran Interactive Physics for review before the quiz instead of moving out into the room to do it with desktops.

Date: Fri, 28 Mar 2003

From: Jon Rockman <Jon_Rockman@SUFFIELDACADEMY.ORG>

My situation is similar to David Koch's: we use student-owned laptops for all labs and other computer work. The program has been in place for 8 or 9 years now, so we've seen several generations of computer models and operating systems (all Mac, for various reasons I won't go into here.) We run into our share of problems, primarily because computer maintenance is left to the kids -- we have a group of students and faculty who handle repairs of all sorts, but it's up to the individual students to know when to ask for service.

In general, freshmen are much better about using their computers than seniors are, mostly because the seniors have the oldest, most out-of-date, and most-broken-down machines. Still, I would say that I can count on at least 3/4 of any given class having their computer when I ask for them, and at least 3/4 of those being in good enough shape to perform a given day's lab. Battery life is only an issue when students forget or don't bother to bring along their power cords. We use both wired and wireless networking, but we rarely do much more than print or share files so I have never run into a bandwidth bottleneck. We take a day or two at the beginning of the year to get software installed (Logger Pro and Graphical Analysis) and after that there are only occasional software and OS problems.

On the whole, it's a good system. Sure, things would run much more smoothly if I had a lab full of desktop machines, maintained by me so that I could be guaranteed of having them in good working order. But on the other hand, I would have to take class time to have kids create graphs, instead of assigning that for homework.