

Some Suggestions for Maximizing Student Time on Classroom Computers

All teachers realize what a challenge it is to have students working in numerous locations (inside and out of their classroom) throughout the day. And during any school day, students are busy working on a variety of assignments and activities.

Having students work with technology independently is one of the most challenging parts of student time & task management. For those teachers familiar with the Waterford™ computer-based Early Reading Program used in many LAUSD K-2 classrooms, the task of managing students on these computers has, for the most part, been eased by both the well-designed Waterford™ software, and the fact that LAUSD has *mandated* that students use these systems for a prescribed number of minutes each day.

For those teachers who do not have Waterford™ systems in their K-2 classrooms, or for teachers at other grade levels, managing students at computers and maximizing their time there remains a challenge. This

challenge also affects teachers who have Waterford™ and additional computers in their rooms providing access to other software. In order to improve academic achievement, teachers want to provide as many effective tools as they can for students. Some of these tools are listening centers, science centers, dramatic play areas, reading centers, etc.... Computer technology is just one of these types of tools.

Today there is quality software for Macintosh & PC-Windows™ based computers for students, at all grade levels, at reasonable costs. The major obstacles for most teachers are no longer cost or access to equipment. The difficulty lies in maintaining order in the classroom and keeping all students on task, while meeting instructional mandates in regards to minutes of instruction.

Teachers are troubled by the requirements of Open Court Reading™. They struggle to meet the mandated number of minutes for Math. Teachers forever have had to deal with interruptions throughout the school day, ie: bells, recess/lunch, assemblies, parent visits, discipline problems, IEP meetings, etc.... And how can teachers

provide adequate instruction in Social Studies, Science, Health, Music, Visual Arts, and PE in the last two hours they may have with their class after lunch each day?

I have dealt with most of these issues myself in the classroom, and struggle to find solutions for teachers to get more use out of their classroom computers. My goal with this article is not to give teachers more to do, but rather help teachers get more out of their students with what the resources they have.

Our state and federal governments have made tremendous financial investments in hardware and connectivity in recent years.¹ Colleges and universities, as well as the business community have expressed to our state's school districts that students need to come to them with adequate (or excellent) technology knowledge and skills. We need to find solutions to providing them.

Setting up a Rotation Schedule¹

Setting up a rotation schedule in the classroom can be done as simply as using an alphabetized list and rotating the students through computers in their work in ABC order. Make sure that both you and your students

¹ Let's not forget that the moneys for e-rate and other state and federal educational technology mandates comes from everyone who pays taxes, including teachers.

understand that flexibility will be needed at times using this schedule. We need to develop patience in our students when their turn is missed in situations when specific lessons are conducted or when interruptions occur.

Try to make the rotation order visibly available on a chart, name cards, etc... above the computer center. Make students aware of the rotation order and make the students responsible for calling the next student in the rotation without interrupting the teacher.²

If you have several computers in your room, it's probably easiest to have a separate rotation list for each workstation. This is also helpful if your procedure is to have students save their work to the computer's hard drive, rather than a fileserver.³

To keep complaints by some students about equal access to the computer to a minimum, the teacher can add some accommodations and conditions to the rotation plan. For example, instead of beginning with the

² Keep it simple! Make it so simple and efficient, that the turn-taking could run smoothly even when your classroom is covered by a substitute teacher.

³ Using the school's server, is however, the preferred place to save and manage student documents, as it is the system used at higher levels of education and in the workplace.

top of the alphabet, another letter could be chosen randomly as the starting point. When a student misses his or her turn due to going to an outside program such as speech, OT, chorus, orchestra, student council, etc..., the student could be allowed to make up that missed time during a block of time that you set aside (on Friday afternoons, for example) when needed. At your discretion, this accommodation can also be provided for students who are absent. Accommodations should also be made for students who may have disabilities such as dyslexia, ADD, or Autism. Providing additional time, utilizing an adult aide or peer tutor are some common accommodations that can be used to help special needs students complete an assigned task such as typing a report.

Customizing a Schedule

In an effort to maximize specific student's time with the class during certain lessons, students can be assigned their computer time within certain hours of the day, ie:

Miguel during Language Arts, Shirley during Math, José after lunch. This would be done to ensure that

certain students do not miss lessons they need most.⁴

⁴ In the examples above, Miguel would be a student with a reputation as a strong reader/writer, Shirley someone who could complete most Math assignments at home, José someone who should not miss lessons in those core subject areas.

No Schedule

In an effort to provide service to students on an *as needed* and/or *on demand* basis, some teachers use no schedule at all. But, to be sure that they are utilizing the resources available to their utmost, they simply use a triage tactic and make sure that the computer stations are never vacant. But the student's need to use the computer is evaluated by the teacher throughout the day, and the students with the greatest need to work are given priority.⁵

Assigning Partners

You can schedule students to go to the classroom workstations in pairs. This pairing can be done in many ways:

- students who are working on a project together
- students paired to support the language learning of a new arrival
- students paired viewed by the teacher as mentor - mentee
- strong writers w/ weaker writers (also

⁵ Admittedly, this requires constant attention, and does not sound *simple* to many teachers.

strong math skills w/ weak, etc...)

- boys with girls

Partnering students up has the benefit of completing work more quickly (one student reading quietly from a draft to the student typing), checking answers in

a Math activity, etc.... Make sure however, that the students are on task and do not take the opportunity to chat or otherwise distract one another.⁶

Facilitating Student Work

Most children do not know how to touch type. Most adults these days, especially most teachers, don't either. In this year, 2003, speech recognition is still not widely used as a means to type text. But it will be common soon. "Speech-to-text" software will most likely be an integrated part of basic computer operating systems (both Windows™ PC's and Macs) by the year 2005. That said, I don't advise teachers in elementary schools to fret too much about speed, or how long it takes for a student to type a page of text.

If the work students are doing at the computer in the classroom is word processing, there are several things you can do to facilitate their work....

- You can create templates for your students that have many of the elements common to the work your students do. The template you create can include the following:
- Title of Story, Report, Biography, Poem, etc...

⁶ If that happens, change your student pairings accordingly.

- Name of Student, Date, Period
- Size, Font, Style, Color of text you prefer (that you can read)
- Headers for items in a book report (title, author, illustrator, etc...)
- You, or another person, such as an aide, volunteer, skilled student, can type a portion, at your discretion, of the document for the student, so long as the author of the work does some of the work.
- Post helpful charts that show the procedure for creating, laying out, revising, saving, printing the document.
- Use additional technologies that may be available, i.e: *AlphaSmart*TM keyboards⁷

Creating your Own Tech Support Staff

You can really ease the burden of dealing with interruptions caused by minor technical problems by training, or asking an expert teacher to train, your students to diagnose and resolve problems. These might include computer crashes, connecting to the

⁷ AlphaSmartTM is just one of several brands of text entry keyboard tools that schools can purchase. It is the brand I recommend, as they have the most durable product, with the most supported software. My experience with their customer service has been good. The company continues to innovate with products like the “AlphaHub” and software applets like a keyboarding program. The cost is under \$200 per unit, runs for a year on 3 AA batteries, and can hold lots of text that can be quickly transferred to a Mac or WindowsTM PC.

server or Internet, printing, locating a file, WP skills such as spell check, or typing special characters (ñ, é, ¿, ¢, ©, etc...).

Investing four or five recesses in training these students with each new class will more than pay for itself in time saved daily. When trained students are working independently, problems are more likely to be fixed by the students themselves. And when less knowledgeable students are working and encounter a problem or need help, they can quietly call upon a helper to solve the problem, if possible.

If the problem is *not solvable* at that point, students should be trained to return to the activity or lesson they would otherwise be doing, and notify the teacher of the problem at recess, lunch, the end of the day, etc.... The teacher, or possibly a tech support person on campus, can try to fix the problem later when time allows.⁸

What Your Student Experts Should be Trained to Do

⁸ Most schools have a paraprofessional, teacher or administrator who is officially or unofficially designated as the tech support person. Some are given time away from students to serve in these roles. If no one is available to fix the problem, or if it is beyond his or her capability to repair, you can call Henry Anker at Local District F (323)224-3114, or e-mail at hanker@lausd.k12.ca.us for assistance.

Ideally, your troop of experts, which should number at least 3 students initially (include boys and girls), and whose numbers and skills should grow through the year, will provide the following services:

- turn computers on and off
- connect cables for
- mouse, keyboard, power, headphones
- network, printer, disk drive, scanner
- restart a crashed computer
- force quit⁹ a frozen application
- adjust volume, monitor color/resolution
- basic software installations, maintenance of media (CDs, disks)
- finding lost files
- open, save, print, move a file
- basic word processing skills
- text size, style, font, color, alignment
- spell check
- inserting a graphic, also resize, duplicate, etc...
- copy paste
- access school server, network printer
- Internet skills
- type in URL addresses
- copy/paste text and images to another program

⁹ "Force quit" means to stop one program from running and going on with other work without having to restart the computer, which generally takes 2 to 3 minutes.

- search for web pages, images, ie: using **www.google.com**

Another strategy commonly employed at elementary schools is to bring students in *from outside* your class to support *your* students. This can take a variety of forms. I have seen upper grade students volunteering to assist another teacher's younger students while on off-track vacations, or during their recess or lunch play periods. Some primary grade teachers will specifically solicit the help of their former students.¹⁰

There are other strategies that teachers have employed to get more use out of their computers, and starting with some of the ones here may lead you to a strategy you invent that works best for you. Ask your colleagues how they manage the use of computers in their classrooms. You may find that you have many experts at your own site.

Good Luck!

¹⁰ This is great for the student helper and the teacher, as the student feels valued, and the teacher receives the benefit of help from a student he or she formerly taught.

