

Technology Alliance Survey: A Follow-up Analysis of Technology in Washington Schools in 2000

Report Excerpts

In 1998, the Technology Alliance sent a fax-back survey to Washington State's 296 school districts. The survey was intended to give a descriptive overview of the state of technology in the schools, and to provide baseline data for future analyses. Some of the key findings from the 1998 survey were:

- There was approximately one computer for every five students, and one "networkable" computer for every 13 students.
- 64% of classrooms had Internet access.
- Spending on technology in Washington State averaged \$133 per student during 1997-98.
- Districts with higher per-pupil property assessments were likely to spend more per student than those with lower per-pupil property assessments.
- Availability of and time for training were cited as impediments to the effective use of technology in the classroom.

The 2000 survey, sent and returned predominantly over e-mail, is the first follow-up study. In addition to providing an updated view of technology in the schools, it is the first benchmark for change.

This follow-up survey is nearly identical to the original to maximize opportunities for meaningful comparison. A few improvements were made in the questions, and a substitute question was added, asking superintendents to identify key changes in the last two years.

Of the 296 district superintendents surveyed, 125 responded to the survey (42% response rate). This response represents 56% of the total student population. While this response rate did not match the original of 78%, it allows for the same confidence level as in 1998. As in 1998, supplementary data from OSPI on participation in a free or reduced lunch program and per-pupil property assessment was appended to the survey data.

WHAT HAS CHANGED?

- One in four students have access to a computer now as compared with one in five students two years ago, and many of the computers are now "networkable." This does not mean they are in networks, just that the schools have more newer machines and higher percentage of the machines are capable of being networked.
- 87% of the classrooms have Internet access, as compared with 64% in 1998.
- Per-pupil spending on technology has remained nearly the same: \$133 in 1998, and \$120 in 2000.
- Property assessments and spending on technology remain positively correlated (+0.48 in 2000)

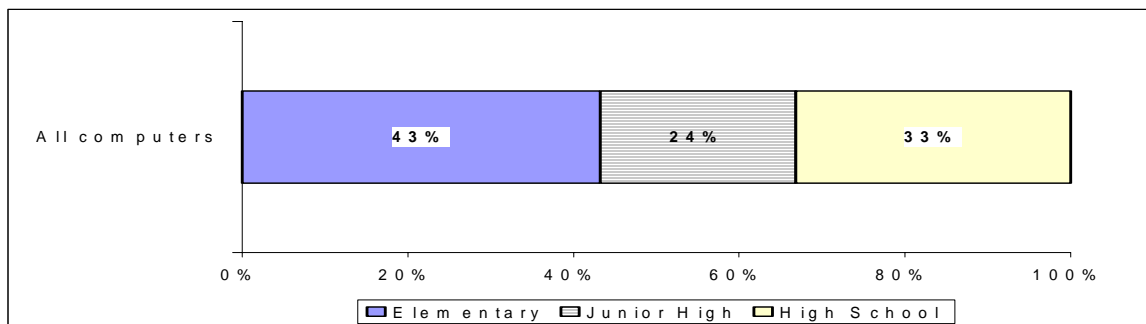
- There are no districts without connectivity, compared with 5% without in 1998.
- Principal concerns were sustainability -- having adequate support staff to maintain present equipment and resources to replace obsolete equipment -- as well as training.

HOW IS TECHNOLOGY DISTRIBUTED?

The average spending on technology per pupil is roughly \$120. This average masks a very large range, from a low of \$8 in North Beach to nearly \$667 in Easton. The top 10% of districts spend an average of \$357 per student; the middle 20% spend an average of \$93 per student, and the bottom 10% spend only \$22 per student. Interestingly, there is a very weak correlation between per student spending overall and Internet access by district ($r=.10$). This reflects the nearly universal access to Internet in schools.

There is a positive correlation (+0.48) between district property values and technology spending per pupil, just as was observed in the first survey. Of increased concern is a moderately strong negative correlation between the percent participation in free and reduced lunch and level of technology spending per pupil (-0.21): as participation in free and reduced lunch increases in a district, spending per student on technology decreases. However, there is some cause for optimism: it appears as though there may be an aggressive program of catch-up. In districts with 50-75% students eligible for free and reduced lunch, in 59% of the schools more than half the computer stock is new, and this percentage grows to 67% in districts where more than 75% of the students are eligible for free and reduced lunch.

Comparisons by type of school are instructive. Consider the age of the computer inventory. In elementary schools, 57% of the computers are new, compared with just about half (51%) in the junior high schools and 48% in the high schools. Elementary schools also have the lion's share of the overall stock of computers (43%), as compared with junior high schools (24%) and high schools (33%), but of course they have the majority of students, as well.



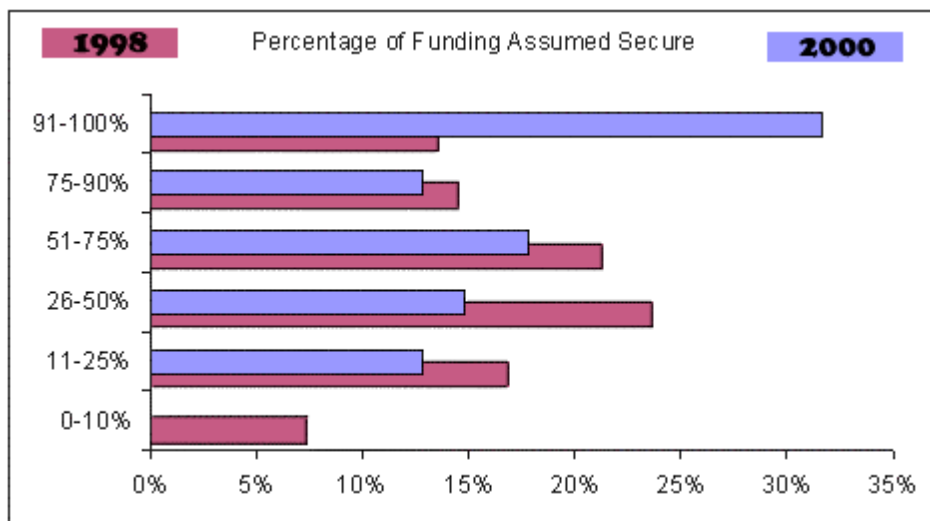
However, high schools have the best student-to-computer ratio, as one might expect. This translates into one computer for every 3.34 students in the high schools, one computer for every 3.7 junior high students, and one computer for every 4.4 students in elementary school. Computers per classroom also follow this pattern. The high schools have, on average, 6 computers per classroom, the junior high schools, 5.2 computers per classroom, and the elementary schools, 4.9 computers per classroom.

SUPPORTING TECHNOLOGY

It is one thing to have computers, and quite another to use them effectively. Effective use depends on at least two components. First, they must be in good working order. Second, people must understand how to use them.

With respect to the infrastructure associated with technology, schools have many worries. 18% indicated that there was no official maintenance plan in place, so that teachers, staff and students maintained the computers on their own time. 77% reported district-level technical support staff servicing multiple schools. 17% report at least .5 FTE technical support at each school, but no district reported achieving a level of 1 FTE per school.

More than half of the school districts consider more than half of their technology funding to be secure; 28% of the districts report that they consider less than half of their funding to be secure. 32% of the school districts report that they consider over 90% of their funding to be secure, and this represents a significant improvement over the picture in 1998.



There is another aspect to maintenance, as well. 41% of the school districts have no plan for depreciating and replacing equipment in a five-year (or less) cycle. Superintendents are worried, reporting that, “The need to constantly update is distressing,” and citing a concern with “The pressing need to fund a technology person to be available daily and the high unfounded cost of such a person.” These concerns were repeated. One respondent boasted a change of “fast Ethernet LANs in 22 elementary schools,” but then lamented, “...but no support staff to maintain them.”

Finally, only 25% of the school districts can meet a “down-time” goal of two days or less. While this is quite low, it is better than the 14% able to meet the goal two years ago.

The question of how to support technology in the schools is clearly a pressing agenda item for the state.

USING TECHNOLOGY

98% of the districts report that their technology plans include training teachers in the use of technology, and 95% report that they have a methodology for assisting teachers with integrating technology into the curriculum. One superintendent reports that 50% of the teaching staff received more than 70 hours training in technology integration. However, this optimistic view has to be tempered with the combined estimate of the average number of hours per staff/faculty person spent on in-service training in technology during the last year: one hour.

Still, with or without formal training plans, teachers and staff are definitely integrating technology into their work. When asked, “What is the most striking change in the use of technology in your district in the last two years?” superintendents most often cited the changes in how teachers, staff, and students did their work. A sampling of quotes:

- *Technology has become an integral part of our students’ and staff lives as they teach and learn.*
- *Internet research is being used in some way in all grades and the computer has become a common tool in the learning process.*
- *All students K-8 access the Internet and use word processing to create reports.*
- *Technology is used by all staff, regardless of position.*
- *The technology is not a new feature but a regular part of how we work and teach.*
- *This has really changed the way people communicate with each other.*
- *Teachers starting to use to improve student learning tying use to WASL.*
- *Teachers are starting to use technology as a learning tool rather than simply for email, word processing, etc.*
- *Student research and group learning, project based learning, presentation skills developed by many staff and students, development of school and district web pages.*

Excerpted from a report written for the Technology Alliance by
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