

The Media Center: Assessing Teacher Technology Skills

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The technology is well used; staff development is ongoing; most teachers have attended staff development classes. But teachers skilled? Are they using technology effectively and efficiently? Is technology used in meaningful ways? Why would we want to know? How can we assess how well staff are using technology?

Why assess? Competent technology using teachers are the doorkeepers to providing technology rich learning experiences for their students. An assessment of their skills is one way of measuring if technology is used effectively in teaching or for professional productivity. An assessment provides a measure of the return on the investment made in hardware, software and training. It provides a way to plan for program improvement and provides information to administration, school boards and community. Media and technology specialists involved in staff training should also be involved in assessment.

Before conducting an assessment, decide what you are going to assess. Are you going to measure the results of training? The level of curriculum integration? The level of instructional management, or attitudes and beliefs about technology? There are different reasons and results for each. Determine who the stake holders are. Curriculum directors and administrators are interested in the level of integration and appreciate solid data; parents are interested how their children are using technology. Trainers need information to help them plan ongoing staff development.

What do you want to see happen as a result of the assessment? Are you using it to plan for future training, make spending decisions or give rewards? Use a planning worksheet to help answer the questions and develop the assessment plans accordingly.

Assessments can be informal or formal. Informal assessments include anecdotal observations and conversations; formal assessments include interviews, focus groups, surveys, portfolios, and personal growth plans, or observations during the formal teacher evaluation process. We'll look at examples of informal observations and interviews, and formal self-assessments in this article.

Informal assessments include observations by administrators, media specialists, technology coordinators and others who invest time and energy in seeing that the school's technology is well used. Can you guess who made the following accurate, but different observations?

She's an expert; she knows all there is to know about technology.
My teachers are all using technology.
We're well ahead of other districts.
We all have a long ways to go.
He had unread email messages that were 3 years old.
Many teachers how how to do; they don't how know to integrate.

The first three statements are actual statements made by proud, well meaning administrators. Like the citizens of The Lake Wobegone, they believe everyone is above average. The last three statements were made by media and technology specialists who see more first hand-reality. Each observer has a different but accurate perception and a different reality.

Day-to-day interactions with staff offer a snapshot of the reality. Some possible clues to a teacher's skill level include:

The type of questions asked and the number of questions asked. Is the person asking for basic how to skills or is the person asking about a complex piece of software or process? The most highly skilled teachers tend to be those those that ask the most questions and continue to learn. People who seldom ask for anything often are those who are using their computers only for basic tasks such as word processing or email.

The level at which the teacher is involved in the students' use of technology. Are the activities authentic and engaging or are just just doing them to meet a requirement that students do something with technology?

The frequency of requests for additional materials or reporting problems. Staff who seldom request supplies, report problems long after they occur, or stack materials all over their computers are probably not using their computer on a regular basis.

The type or level of assistance a person offers their peers. People who are excited about what they learn are often eager to help others. There's no better way to apply what you've learned than to teach.

Formal assessments. A common type of formal assessment is the self-administered survey. There are many assessment tools available in the literature and on the web. Assessments typically ask people to measure their level of skill, literacy, integration, and attitude towards technology and learning. Our district technology committee conducted a staff assessment in 1997, two years after we had first received a major influx of technology and implemented district wide staff development efforts. We knew it was time to begin formalizing our observations of staff growth and obtain data that would help us make plans for the future. We modeled our assessment < http://www.winona.k12.mn.us/wms/WMSTechnology/assessment/staff_tech_assessment.html > on those already in use in other districts, but modified them to meet some of our unique needs. We shortened existing surveys to create a document that would fit on two pages, a length that would probably draw a higher percentage of responses than a longer survey. All staff--teachers, administrators, secretaries and paraprofessionals--were included and asked to return their answers to the building office. Office staff kept track of who turned in a completed survey; responders only had to identify themselves on the survey by building and job classification. Over 2/3 of the teachers and almost 100% of the administrators, paraprofessionals and secretaries responded. Responses to nine multi-part questions were indicated on scan forms. Our district's information systems director compiled the results and printed them in bar and

pie charts using AS/400 statistical analysis software. Building level reports were prepared for each building and principals were asked to share the data with their staff to begin planning for further training.

No surprises. The results were not surprising,, but now we had data we could share with the curriculum director, school board, and other stakeholders. As expected, people rated themselves the highest on the basics such as word processing, file management and email; they ranked themselves the least skilled in spreadsheets, databases, and curriculum integration.

The most important things we learned from the survey were:

- * The district had made tremendous progress in just two years
- * There were glaring inconsistencies in staff skills between the buildings
- * There was--and still is -- a need for "how to, skill classes"

There was a high level of correlation between skill level, building level staff development efforts, principal involvement, and the length and level of access to technology throughout the building.

Two years after the self-assessment we conducted interviews with principals and media specialists in preparation for a report about the integration of technology into the curriculum. The in-depth conversations provided opportunity to ask questions and dig for thoughtful responses. Progress was evident, elementary teachers who showed little signs of curriculum integration in the self-assessment were now utilizing technology for instruction and productivity. But, there were still gaps and inconsistencies between the buildings and grade levels.

Consider observations, conversations and data such as these as you plan and provide staff development. Instruction is another situation and time for assessment, especially if class size is kept small. Take time while teaching staff development classes to visit with the participants and get to know their needs and skill level. Another effective activity is the KWL activity--what do you know, what do you want to learn and finally, what did you learn? A topic specific, short self-assessment rubric conducted at the beginning and end of class also provides insight.

Other assessment tools

- * The "TechTamers Collection of Bookmarks for Assessing Teacher Technology Skills" <http://www.techtamers.com/free_resources/educational_technology/assessteach.htm > is one place to find a collection of assessment tools including our own survey. Many surveys are powered by File Maker Pro; others are interactive on the the web, and yet others can be simply printed and used as they are. Other links provide information about state and district competency standards. Among the tools accessible via TechTamers are:
 - * The "Learning with Technology Profile Tool" from the North Central Regional Accreditation Laboratory and designed to assess the level of engaged learning. After completing the self-assessment the results are shown in a graph. Windows, Macintosh, and web versions are available.
 - * "The Utah Technology Awareness Project" allows guests to login and participate in an extensive assessment in many categories including troubleshooting, educational leadership, skills. and integration.
 - * "The Mankato Survey" and "The Code 77 Rubrics for Teacher Use," which are considered standards in the area of technology assessment.

Don't forget the administrators. Technology using administrators can and should be role models for their staff. Eric Bartleson and Doug Johnson have developed rubrics useful for measuring the

technological literacy of administrators. (School Administrator, April 1999, <http://www.aasa.org/SA/apr9902.htm>) The self-administered survey asks administrators to assess their personal productivity, information systems use, record keeping, use of data, communications skills, on-line research, visioning and planning, and understanding of ethical issues and competencies for teachers and students. The accompanying article provides a rationale for evaluation and suggests things districts should plan for.

Another example is the the "Administrator Technology Skills" from the Jefferson County, Colorado, Public Schools < <http://204.98.1.2/stss/skills/atsindex.htm> >. It provides a detailed grid of administrator skills broken down by application and the school's grade level.

Be patient. Conducting the assessment is relatively easy; it takes time and patience for desired improvements to really be part of the district initiatives. Think about why everyone isn't where we want them to be. Perhaps some people have been left out of the staff development program. It's quite likely that the need for staff to learn technology skills has competed with other district initiatives such as standardized testing or state standards. Looking back, we know we sometimes competed against ourselves in offering too many staff development opportunities and didn't include a broad enough spectrum of teachers in the early technology training initiatives or the initial acquisition of classroom technology. We know that technology growth occurs in several stages. Typically it takes three to five years for a person to move from the entry level of technology usage to the proficient and exemplary levels of fully integrating technology in the curriculum. Eventually most teachers acquire basic skill or those they have a compelling reason to use on a daily basis. Once basic skills and concepts are in place as technology becomes more a part of daily business the rate of learning accelerates.

Assessment, like staff development and technology upgrades, must be on going. It's time for us to revise and redo our 1997 survey and include more emphasis on newer technologies and integration. New, technology-skilled staff, state requirements, improved technology, and better access are all having an impact on skill, use and integration. We need to come to grips with expectations and competencies for everyone and make sure no one is left behind. Change evolves slowly, but another formal assessment will help provide reason and direction for future action.

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