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Power Up! / Technology Skills Every Teacher Needs

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What technology skills do all teachers need? Although educators have asked this basic question for years, we still do not have a definitive answer.

Standards developed by the International Society for Technology in Education (ISTE) divide teacher technology use into five broad practices: (1) Facilitate and inspire student learning and creativity, (2) Design and develop digital-age learning experiences and assessments, (3) Model digital-age work and learning, (4) Promote and model digital citizenship and responsibility, and (5) Engage in professional growth and leadership.¹ It's hard to argue with this ambitious, comprehensive list. But I suggest that instead of starting with technology skills and applying them to education, a better approach would be to start with good teaching practices and consider how technology can strengthen those practices.

In an effort to describe some specific ways teachers can use technology to support good teaching practices, my colleague Nathan Mielke of the Germantown, Wisconsin, school district and I developed a comprehensive rubric for effective teacher technology use, which can be found [online](#). Our rubric is organized by the four domains of Charlotte Danielson's Framework for Teaching² —a framework that both of our districts use to guide teacher professional development and evaluation. Although Danielson lists "appropriate use of technology" as one of her common themes of professional practice, her teacher assessment rubrics do not specifically describe what constitutes appropriate technology use.

By using a popular framework that our districts have already adopted, our rubric enables educators to describe good technology practices in terms of good teaching and to blend these practices into teacher evaluations. Organizing teacher technology competencies using this framework can move both individuals and districts down progressive instructional paths.

Because effective technology practices are not yet part of the culture of education, teachers and those who evaluate teachers do not understand technology use as well as they understand traditional teaching practices. Thus, our simple guide—which starts with effective teaching instead of technology—might be useful to both those assessing teacher performance and those being assessed. Using such a guide is one way to ensure that the benefits students receive from technology do not depend on the individual teacher's level of personal commitment to technology use.

Here are some concrete examples of the most important technology practices to look for under each of Danielson's four domains.

Planning and Preparation

In this domain, the teacher

1. Creates assignments appropriate to the technology abilities of his or her students.
2. Uses digital resources provided by the district, including online productivity tools, content management systems, e-textbooks, online reference sources, video-streaming sites, and learning systems in reading and math.
3. Designs learning activities that use available technology, including laptops, tablets, computer labs, and interactive whiteboards.
4. Uses digital resources to differentiate instruction, including using devices for students with special needs, such as computer activities and online materials suited to different reading abilities or learning preferences.
5. Assesses technology production in student work when applicable.

The Classroom Environment

In this domain, the teacher

1. Demonstrates a positive attitude toward educational technology during class.
2. Uses technology to help students "publish" their work online for other students, parents, and the public to view, following district safety and privacy rules.
3. Uses technology to facilitate collaborative creation and peer editing of student work.
4. Creates rules for technology use in the classroom, including rules regarding the use of personally owned technology devices, such as cell phones.
5. Monitors student technology use and responds to misuse if it occurs.

Instruction

In this domain, the teacher

1. Uses the classroom sound amplification system, if available.
2. Uses technology to create and project visual images and video that help explain content and concepts.
3. Uses the interactive whiteboard in ways that engage students. These include student use of the board, gaming applications, actions based on student responses, and polling.
4. Encourages students to use online resources to answer questions and explore concepts during class and teaches search and information evaluation strategies.
5. Uses technology to help students produce their own work (writing, designing, creating) and meet the instructional goals of the lesson.

Professional Responsibilities

In this domain, the teacher

1. Uses an online grading and reporting system to maintain information on student completion rates and shares this information through student and parent portals in a consistent and timely manner.
2. Uses an online grading system portal to inform students and parents of upcoming assignments, projects, and assessments well ahead of the date due.
3. Provides current classroom information to students and parents on the district website.
4. Keeps students and parents informed using online communication tools such as e-mail, blogs, and social networks on a regular basis.
5. Uses collaborative online tools to communicate and work with colleagues.

An Evolving Practice

The question, What technology skills do all teachers need? may never have a final answer. Both technology and best practices in teaching will continue to evolve, and no set of competencies will remain constant.

But what should remain certain is that good teaching practices should drive technology use instead of technology driving the practice of teaching. If the use of technology to enrich learning is ever to become effective, we must stop regarding it as a separate entity and see it as part of everyday instruction.

Making It Happen: What School and District Leaders Can Do

- Recognize that best teaching practices should drive technology use in the classroom.
- Collaborate with teachers to identify standard expectations of technology use, especially in the areas of communication and classroom technology deployment.
- Develop areas of teacher evaluation instruments that address teachers' technology use and skill.
- Use aggregated technology use data from teacher evaluations to help focus staff development efforts.

Endnotes

¹ *International Society for Technology in Education. (2000). ISTE National Educational Technology Standards (NETS) and Performance Indicators for Teachers. Retrieved from www.iste.org/docs/pdfs/nets_for_teachers_2000.pdf*

² *Danielson, C. (2007). [Enhancing professional practice: A framework for teaching](#) (2nd ed.). Alexandria, VA: ASCD.*

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