10 tech skills every educator must have in 2015

In a national survey, we asked teachers, administrators and tech leaders to tell us what it takes to run a successful 21st century classroom. Here's what they said. **BY DIAN SCHAFFHAUSER**

Educators literally have a "world of knowledge and resources" at their fingertips, as one director of curriculum and instructional technology declared in response to *THE Journal*'s national survey. "What better way to learn about the situation in Syria than tweeting #Syria and receiving a tweet from someone there?" But guiding your students in learning new concepts, gaining in-sights and building their skills requires you to be comfortable with the technologies that can make all of that happen.

Where do you start? We asked your colleagues that same question, and they re-sponded in multitudes. Their recommendations covered the alphabetic gamut, from adaptivity and apps to wikis and a willingness to learn. We compiled and consolidated 121 different results to develop this year's list of 10 must-have tech skills for 2015.

Although the responses are ranked in order of popu-larity, you can begin your self-improvement plan any-where on the list. No matter which one you decide to start with, these skills, sensibili-ties and products can keep your classrooms lively, your instructional practices fresh and your students (and you) personally engaged.

1) Acing Productivity Applications

Whether your school uses Google Apps for Education, Microsoft Office, Office 365 Education or something else, learn the fundamentals of word processing, spreadsheets and presentation applications and

(AZ). "Students don't always share school information with their families, so let parents retrieve it at their convenience."

MaryAnn Powell, instructional technology facilitator at **Edgecombe County Public Schools** in Tarboro, NC, concluded, "Whether [we're] working with a co-worker

searching strategies," you'll save time and frustration. You can start, added Laura Lynch, technology director for **Norfolk County Agricultural High School** (VA), by studying the use of Boolean operators and symbols in your searches — such as using "-" before a keyword to tell the search

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then go beyond the basics. Expertise in these staples will help you with communication and collaboration among students, colleagues and parents. Plus, they'll make you more effective.

As Joy Lopez, director of technology for **Sacred Heart Schools** in Atherton, CA, put it, "By modeling the use of these and incorporating them into their lessons, students will utilize them in their projects and daily lives."

"Communication is crucial for keeping parents on board and informed," added Amy Downs, instructional technology coach at **Scottsdale Unified School District**

next door or around the world, whether [we're] getting together across a table or via a shared Google doc, it is essential that students learn to work together. We have placed way too much emphasis on 'Eyes on your own paper — go!' "

2) Mastering Search, Research and Internet Literacy

You spend a lot of time on Google, Bing, Yahoo and other sites hunting down "good stuff" for your students, said Penny Pearson, coordinator at the Sacramento County Office of Education (CA). By learning "effective, fast and targeted

engine to ignore that term.

If you can instill those search skills in students, all the better. "Being fluent in the world of digital resources allows teachers to open students' eyes to more than Wikipedia," explained Scottsdale's Downs. "Teaching skills for the evaluation of sources is something that will have long-term effects on the child's learning."

Wendy Johnson, director of library services and e-learning coordinator at River Parishes Community College (LA), agreed. "If there is one very common problem among students entering college from high school, it is the lack of information-literacy skills, including proficiency in browser use, critical evaluation skills regarding resources and search skills to find resources as efficiently as possible."

3) Connecting Through Social Media

Today's students live on social media, whether it's Twitter, Instagram, Pinterest, Facebook, Snapchat, Google+, YouTube or various blogs. As Bill Pratt, technology integration specialist for **Clover School District** (SC), put it, social media "permeates our students' lives. Therefore, teachers need to understand how it works and what is being done online. Social media is running the world right now."

Fortunately, teachers are figuring out how to use social media to best advantage. Maria Elena Yepes, director for the learning assistance center at East Los Angeles College, suggested, "We should consider using social media as a vehicle for captur-

4 TECH SKILLS EDUCATORS DON'T NEED ANYMORE

WONDERING HOW to make room in an already crammed schedule for skill-building and new practices? It's time to take inventory and decide what you can *stop* doing. Here are some suggestions.

1) Printing documents or worrying about disk space. As Donna Kline, IT director and instructor for **Ocean View Christian Academy** in San Diego, pointed out, "the ability to use those technologies needs to grow into an understanding of external drives and cloud space."

2) Carrying flash drives or a day planner. "With Gmail you have storage for everything you need," suggested Jennifer Rushing, a digital resource coach at **Richland School District Two** (SC). Likewise, she added, you can stop "carrying around a day planner and writing every appointment in it." Better to put those meetings and to-do's into a digital calendar and have reminders sent right to your phone.

3) Editing documents by e-mail. "Editing and sharing is a skill of the past and takes a lot of time," declared Johnathan Clark, a director for **DeKalb County Schools** (GA). Adopt cloud computing, he said, so that students "can post work to a cloud solution, [then] teachers and peers can log in, review, edit on the fly [and] share."

4) Signing in with multiple logins. Stop wasting time logging into online programs one by one, advised Laurie Wolfe, director of curriculum and assessment at **Idaho Distance Education Academy**. Use the single-sign-on tool provided by your district, and if IT doesn't provide one, ask for one. Even better, she said, choose an environment "that allows programs from different vendors to share data both ways, while protecting student data privacy."

ing the attention of those students who live glued to their mobile devices."

Marjorie Wagner, technology integrationist at **Pulaski Academy** in Little Rock, AR, declared that social media has become the "communication tool of our time!" not only for reaching students but also their families.

Social media also helps instructors to "connect with other educators and share knowledge and resources," said Donna Teuber, the team leader for technology integration in **Richland School District Two** (SC).

When it comes to reaching beyond the school, said Chris Anderson, K-12 tech integrationist at **Spencer Community School District** (IA), blogging and microblogging can be effective ways to "allow teachers to contribute to their local communities as well as the greater educational community."

Besides, said Robin McCants, digital resource coach for Richland School District Two, "Teachers need to promote

reconnect to WiFi and how to recover a password."

Clover's Pratt suggested learning how to turn a device "off and on again, checking cables, rebooting, running a virus scan on the computer."

Ultimately, however, educators need perseverance and a "willingness to poke and prod," said Cynthia Cornwell, technology resource teacher for **Loudoun County Public Schools** (VA).

If all else fails, suggested several educators, ask your students for help. "Teachers can learn anything they need to know," insisted Scottsdale's Downs. "They are a well-educated, intelligent and caring group of people."

5) Finding and Sharing Files

"As teachers, we are natural-born creators," declared Andrea Earl, math teacher and technology coordinator for **Santa Ana Uni-**

Similarly, Mark Lushenko, a teacher at **Elk Grove Unified School District** (CA), suggested that his colleagues learn how to "find a file without knowing its name."

6) Embracing Curiosity

Being a lifelong learner requires curiosity, a quality worth modeling for students. According to teacher Heather Scott from **Academy District 20** in Colorado Springs, "One of the things I love about technology and incorporating it into my classroom is the fact that it is ever-changing, never stagnant, rarely involves only one 'right way' of doing things, and [is] full of new great ideas and possibilities." As a teacher, she added, "It is my job to offer my students the same fresh perspectives, newest information and best tools for their purposes and readiness level."

Of course, curiosity can be risky, since it means teachers stop being the sole

According to tech coordinator Shawn Pennell, educators need to master video tools so that "students can engage in digital storytelling where they create stories and bring them to life while using the writing process to storyboard."

themselves, their schools, their students, and their students' work," and social sites provide an "easy, ubiquitous and free" platform for doing that.

4) Troubleshooting Your Own Tech

No matter how great your school's IT department is, there are times when you need to handle troubleshooting on the fly; otherwise, learning time in the classroom evaporates. For Sacramento County's Pearson this means "fixing printers, connecting to the Internet, uninstalling and reinstalling needed software, understanding security issues with computer updates and district filters."

Stryker Ostafew, district technology integrator at **Williamsville Central School District** (NY), would throw into that list "knowing which cords go where, how to

fied School District** (CA). "Teachers need to know how to share resources with each other, including documents, spreadsheets and presentations. Teachers also need to understand about permissions when sharing documents. Many a teacher has lost an important document that has been dragged out of a Dropbox by another user."

Moreover, commented Sacramento County's Pearson, "If you can't find your stuff, you waste a lot of time. Using the 'search' option doesn't always solve the problem, especially with new cloud-based services."

Jim Rose, director for career and college pathways at **Oxnard Union High School District** (CA), went one step further, suggesting that "an awareness and understanding of file formats and extensions" will help you assist students "in their manipulation of technology."

repository of knowledge in the classroom. "Educators need to get past their fear of the unknown or lack of confidence and charge forth bravely," insisted Anne Reardon, an instructional technology coach at **Mechanicsburg Area School District** (PA). "There's a wealth of learning out there, but you might have to be brave to find it."

After all, conceded math teacher Jamie Back at **Cincinnati Country Day School** (OH), when you're trying something new, "Things don't always go as planned or can take longer than expected." The advantage of that, however, is that "students may discover unexpected relationships that we as teachers don't immediately understand."

7) Capturing Attention With Video

Whether your approach uses video, podcasting, audio or screencasting, it's

time to dabble with flipped curriculum as a homework replacement for the worksheet. It's just a matter of playing to the crowd, remarked East Los Angeles' Yepes. "Our students spend hours viewing and forwarding videos they find interesting to their friends and classmates. Incorporating videos as instructional tools could increase student interest and participation in class."

Furthermore, said River Parishes' Johnson, "Students and parents are more likely to watch a two-minute video than read a printed four-paragraph announcement." She believes that "[a] video — when done

"or even some simple third party apps, projecting wirelessly from any device is simple and something every educator should master. No fumbling necessary, and no need to stand behind a podium anymore."

Let's not forget management of student devices. "Without the ability to appropriately manage technology use, technology is often inappropriately used, lost, broken and becomes more of a classroom disruption than an effective tool for student learning," insisted Phil Hardin, IMPACT project director at **Iredell-Statesville Schools** (NC).

formation isn't lost." The goal should be to learn how "to present the text in a fashion that is legible, useful and easy to navigate."

Mark Emmons, technology coach for **Leyden High School District 212** (IL), put it concisely: "Turning data and related concepts into concise and cogent graphical representations streamlines learning."

10) Managing Learning and Students

The learning management system has been around for a very long time in higher ed, but it's finally gaining a foothold in K-12.

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correctly — catches attention better than most print sources."

And nobody says you have to go it alone. University of Nevada, Reno Technology Coordinator Shawn Pennell recommended getting students involved. "Students can engage in digital storytelling where they create stories and bring them to life while using the writing process to storyboard."

Williamsville's Ostafew concurred. "Screencasting with apps like Explain Everything allows students to demonstrate mastery, and it allows teachers to record lessons and post them online where students can access them anywhere."

8) Juggling Multiple Display Devices

All it takes is a teacher futzing with a piece of wayward technology for students' attention to wander. Karolyn van Putten, a psychology professor at Peralta College (CA), said that, to minimize the performance opportunities for your class clowns, make sure you know how to use the interactive equipment in your classroom, including projectors, interactive whiteboards, document cameras and digital playback devices.

Microsoft certified trainer Heather Ackmann pointed out that, with programs such as Apple AirPlay and the Miracast standard

Make sure you mix it up, too. Cameron Mount, an instructor of English for Brookdale Community College (NJ), said, "Just about everything available in the room to use should be used. Variation in modes of instruction is not just a good idea; it's practically compulsory in the day of the [individualized education program] and multimodal learning."

9) Perfecting Presentations

According to Oxnard's Rose, educators shouldn't stop at learning how to use PowerPoint or Google Slides. He suggested that they pursue "the ability to use a variety of presentation devices and software to convey ideas and information."

Steven Fournier, tech integrator and math teacher for **Shaker Regional School District** (NH), agreed, recommending that teachers use "multiple presentation Web tools such as Prezi [and] Animoto to vary how material is presented."

Brookdale's Mount said, "Simply plopping text into a giant Word document doesn't cut it. And 'tarting up' PowerPoints with a hundred words per slide is exhausting and misses the point of the software completely." Teachers should look to "convey your information, but do it in a way that makes sure the most important in-

For example, Johnson said that River Parishes, which runs an early college program on campus, uses its LMS as a central spot for posting course materials, announcements, reminders, supplemental materials, links to library and Web resources, events and expectations. The advantage of going that route is that the LMS is a "secure and comparable choice," which avoids "student privacy issues and/or school policies preventing use of social media."

Whether the software is Blackboard, Moodle, Canvas, Edmodo or something else, the advantages of the LMS don't stop there. Brookdale's Mount noted, "Students can reference important documents even if hard copies are lost in the shuffle."

Richland's Teuber found that using an LMS "allows students the opportunity to have anytime-anywhere access to digital resources."

Frank Kohler, student technology assistant for the division of student affairs at Bowling Green State University, agreed. The LMS, he said, is a great place to "create and deliver asynchronous or synchronous presentations and training sessions." THE

Dian Schaffhauser is a senior contributing editor based in Nevada City, CA.