TRANSCRIPT
June 28, 2007

Digital Directions: The Road Ahead in Educational Technology

Guests:

Jim Hirsch, associate superintendent for academic and technology services for the Plano, Texas, school system; and Susan D. Patrick, president and chief executive officer of the North American Council for Online Learning.

Michelle R. Davis (Moderator):
Welcome to today’s chat following the launch of our newest publication Digital Directions. This is an opportunity to think about how technology in schools and districts is changing, what’s on the cutting edge in education technology, and how it can best be used to help students learn more. We’ll tackle topics that include the latest trends in technology and how to make virtual learning work in your school or district. We have a large volume of questions, so let’s get the discussion started…

Question from ev clements, educational consultant:
What can be done to prevent students from cheating on computerized essays and tests in the classroom? How can they be prevented from IMming etc?

Jim Hirsch:
Short answer – there are no 100% foolproof technologies that exist that can prevent students from engaging in the behaviors you describe. Many students today have become such proficient “thumb-keyboarders” that they can message while their phone is in their pocket. To me the strategy is to make certain that classroom teachers are first of all aware of the options students have at their disposal to use in an assessment situation. Following that, teachers need to attempt to develop a sense of trust and expectation that technology resources will be used responsibly within their class. Without that shared sense of responsibility, no set of policies or technology prevention measures will be 100% successful.
Question from **Ida Lanza, Italian teacher, San Pedro HS, San Pedro, CA:**

What are some practical ways I can incorporate technology in a language class that has wired internet service, one PC, one TV, one VCR and not much else. What should I ask my technology department for so more of my students can use technology in the class to enhance their language experience?

**Jim Hirsch:**

You’re one connection away from having a classroom that will engage students and enable you to provide a wide variety of interactive, collaborative activities. That connection is for large group viewing of your PC video. That can be accomplished fairly inexpensively by purchasing what’s known as a scan converter to connect between your computer and the TV. The picture will be a bit small for entire class viewing, but it’s a step in the right direction. Even better would be the addition of a DLP projector in your classroom with connections to both your PC and the VCR. The size of the viewing screen would then make it easy for students to view images from throughout the classroom.

To enhance the collaborative and engaging aspects of the entire group being able to see the applications, add a wireless keyboard and mouse combination. This allows you or your students to operate the computer from any location in the classroom – imagine that – no one has to get up and move to the spot where the computer is actually located. This allows more natural use of the technology in your classroom and moves away from the old model of having students come to the front of the class to lead the discussion – something even interactive whiteboards require without additional equipment, so I don’t recommend those for purchase. You might also want to purchase annotation software so you can make notes directly on the computer images and then save those for later use by students. The keyboard and annotation software will cost less than $150 and can transform a basic technology-enhanced classroom into a fully engaged learning environment for everyone. You can find more information on these options at [http://k-12.pisd.edu/c@es/overlay.html](http://k-12.pisd.edu/c@es/overlay.html)
Question from Norton Gusky - Coordinator of Educational Technology, Fox Chapel Area SD, Pittsburgh, PA:

How will the refresh of the National Educational Technology Standards impact any digital directions underway or under development?

Susan D. Patrick:

Thank you for your questions about impact on digital directions. I'm not sure what exactly you mean by "digital directions underway"? If you mean projects or programs to digitize curriculum and instruction, I think the new focus on these ed tech standards may be useful for ed tech leaders to focus on tools that enable and allow for students and teachers to collaborate, use critical thinking skills in developing assignments, and put an emphasis on 21st century skills. I would also encourage schools that are becoming more digital to realize the flexibility this creates in the learning space -- to stretch time and instructional interventions possible -- not just in the 50 minutes in a classroom wall, but expanding the resources of time, instruction and feedback to more flexible environments available in a digital world. At NACOL, we are focused entirely on digital curriculum and instruction -- creating virtual schools within existing school buildings and virtual schools that are any time, any place. The results in research when you focus on instruction and content (yes, that is digital) is positive. The focus needs to be on expanding options for students in a digital format.

Question from Deanna Enos/ Teacher:

How do young children benefit from the use of technology in place of free creative thinking? Does it not program them?

Jim Hirsch:

We provide classroom environments beginning in our pre-kindergarten schools where children have an opportunity to interact with technology resources on a regular basis. Many of our adopted software applications provide an adaptive environment for children where they explore primary skills and learn more about topics of interest to them in both individual and collaborative settings. We believe strongly in differentiation within our heterogeneous classrooms and we have found that technology enables multi-tasking to occur in all our classrooms where students use that time to be more self-directed in their learning. Our teachers report that our
students’ creative thinking arena is very much enhanced through the use of these technology resources – certainly not inhibited.

The key to any successful technology use is appropriate software and hardware choices in addition to good professional development with high quality curriculum and instructional design.

Question from Jonathan Bass, 1st Grade Teacher, Gilroy Unified School District:

Large institutions can benefit from employing computer programmers who can customize computer applications to meet the unique needs of the institution. Are you aware of any educational institutions that have employed this type of computer expertise to meet the needs of classroom teachers? If so, do you know if there is any research on the effectiveness of this kind of practice?

Jim Hirsch:

Regional technology centers in each state have attempted to provide this service since the early 80s. Some have been more successful than others, but none has set a gold standard. For that reason, just as you suggest, many school systems, including my own, have opted to develop ERP and business intelligence systems that more closely meet the identified needs of the organization. With the advent of Web 2.0 programming environments, these application initiatives have a better than ever chance of success and possible replication to other school systems. It’s too early for any research to prove how effective this practice may ultimately be, but it’s worth watching.

Question from Mary Ellen Lepionka, President, Atlantic Path Publishing:

We receive manuscripts for online courses that do not begin to take advantage of media capabilities for delivering curriculum and instruction in a pedagogically sound way. Most consist of non-hierarchical smorgasbords of media assets and etext blurbs or learning objects, organized by keyword phrases alone. At best, this amounts to anarchic (or random) meaning-making. At the other extreme are manuscripts with old-fashioned pre-synthesized linear programmed instruction, in which the learner has little interaction and even less choice. These are not what students and
instructors need in online courses at any level of instruction. But what, exactly, should we be looking for? What rubrics for evaluating online courses can you recommend? --Thank you.

**Susan D. Patrick:**

I agree with you. The short answer is that we, the North American Council for Online Learning (NACOL), are currently working with the Southern Regional Education Board, SREB, and SREB has Online Course Quality Standards and a rubric for course evaluation which is excellent. NACOL just completed a research review of the variety of online course quality standards that exist, including the SREB criteria for quality, the NEA Guide to Online Course Quality, and Sloan-C quality frameworks, as well as many others. NACOL will be releasing this in the next month -- so visit our website to link to these resources: www.nacol.org.

I see a major problem in people viewing "online learning" as you describe "a smorgasbords of media" into what they are doing as a course -- then calling it a quality online course. The criteria for quality in any course, and especially online courses, are around 6 different areas which are outlined in the NACOL and SREB quality standards rubric that will be released. The NACOL National Standards areas include (here's a sneak preview for this audience): 1) content, 2) instructional design, 3) student assessment, 4) technology, 5) course evaluation management, and 6) 21st century skills.

It sounds as if you are describing manuscripts for online courses that focus somewhat on #1 and #4 - content and technology, but are weak in those other areas. When NACOL releases the new national standards, I think it will help educational leaders see the major differences between what makes a high quality, instructor-led course with good interactions between students and teachers and what many people are "confused" about -- and calling online learning today. This will make quality the key issue -- and that is where the debate needs to be in online courses and online learning, as it expands options for students to take rigorous courses.

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**Question from Mary Yenik, Board Member, Knowledge Arts Foundation:**

1. Any comments on ed. technology as a resource for ongoing professional development of teachers in rural areas? 2. In your experience, does Ed Tech work
better when combined with personal mentoring of teachers? If so, what are some effective and affordable ways people are using to combine person-to-person coaching with Ed Tech?

Jim Hirsch:

Back in the early '90s, the Big Sky Project was implemented in Montana as a way to use the Internet to combat teacher isolation in rural areas. The project saw moderate success and was applauded most loudly by those teachers who actually participated. It required the teachers to have a bit of tech-savviness in that the system used tools that were available at the time – not even close to the web-based applications we have today. There is no question in my mind that online participation is a key component of any ongoing professional development for teachers, rural or not. All teachers can gain a better appreciation for our students’ use of collaborative digital tools from their additional online experience with professional development. Links to relevant research, model lessons, video modeling, and more are very effective when embedded with online activities.

That said, every truly successful online learning program, whether for students or teachers, has a strong personal mentor component. In our experience, a teacher may invest an average of 10 hours online with each student enrolled in a semester course. A similar proportion of time should be expected for a teacher mentor in a professional development scenario. Although the time may not be spent in the same individual manner as with students, collaborative tools such as instant messaging, blogs and wikis allows teacher mentors to moderate and contribute to professional learning discussions. I’m beginning to see a move where more districts are providing team or department leaders with time during the day for preparation in mentoring colleagues in online discussions. These tools and strategies are allowing professional learning communities to develop locally as well as take advantage of logical connections with existing communities already established with an online presence.

Question from Crystal Simpson, 5th Grade Teacher, Fontenelle Elementary:

Hello. I am excited about adding technology to my classroom learning experience. This year I am blessed to have 26 MAC's- one for each student and a smart board. Where do I begin and how do I use technology and textbooks to enhance learning?
Jim Hirsch:

Congratulations! Your first step should include making certain you personally are comfortable with the operation of your new technology. Although you can search online for ideas and tutorials, your best bet is to attend some hands-on workshops this summer. Hopefully those types of workshops are available locally within your school system or through a regional service agency. Next, review your curriculum and update activities as necessary to make certain students are guided in their use of the technology resources to enhance their learning. Simply sending students on Internet searches or creating presentations on everything grows stale quickly and will not produce any lasting student achievement results. Many of the major software and hardware manufacturers make model lessons available on their web sites that you can use as examples to help update your own.

Finally, search out other educators via blogs or education web sites who have classroom environments similar to yours and share good ideas and promising practices. That type of professional collaboration is the key to bringing new ideas into all of our classrooms.

Question from Lee Allen, Asst. Prof., Univ. of Memphis:

I have been involved with educational/instructional technology since 1993, and from what I have seen, current technologies have not truly transformed education in the common classroom, but have instead helped create a sort of parallel universe with 7-12 online educational opportunities increasing. What has happened to the promise that new technologies would be truly integrated in the curriculum and reflect the ubiquity of technology in the "real world"? Thanks.

Susan D. Patrick:

Professor Allen, I concur with your assessment. To be honest, part of the problem stems from people using the words "technology" and "transformation" in the same sentence and then what is presented is the integration of some whiz bang technology into an outdated instructional model, with the notion that this is transformational. This is confusing lots of people and I think this is a case of the "Emporer wears no clothes".
We need to define transformation in a more meaningful way first, and look at the ways that technology can improve instruction and content delivery to matter. Let's use the example of the need to reform high schools in America. To focus on improving education, we need to find ways to provide rigorous curriculum and excellent teaching to all students -- not just students in certain zip codes (if you know what I mean). Unfortunately, the harsh reality is that depending on what neighborhood a student lives -- that will determine lots of what the student has to choose from.

So, how do we provide the very best education for all students? This is where I think online learning can make the biggest impact. The number one reason for schools to offer online courses is that they don't have a teacher who can teach it -- or the course is otherwise unavailable in their schools. Next, when looking at educational transformation - there is a huge need to transform instruction to take advantage of "time shifting", and not be stuck in only delivering 50 minutes of instruction per day, at the rate of the instructor. See how online learning transforms both the instructional model, in high quality courses, by allowing students to focus on mastery and competency and move faster, or slower, working with their instructor as they master the curriculum. In addition, you can really track interactions with the teacher (and the content). Click throughs are being monitored by researchers and show that students that do not communicate enough with the instructor are most at risk than students with frequent interactions. These are data-rich environments (on the technology side) that can help pinpoint needs for intervention when using formative assessments, as some of the new online courses are offering -- on a standards-level.

Integrating technologies into old curriculum and instruction models are simply not transformative. Reflecting ubiquity of technology -- so that it provides flexibility, new choices, access to the highest quality instructors and courses -- that is very different than the limited choices in our schools today, and the limited teachers and courses that are available within a school building to students. If we are serious about high school reform - creating more rigor, more choices, more relationships -- than opportunities beyond the school wall are needed for limitless education. To me, that begins to move toward transformation.
Question from **Charla, Ed. Sup. I, Dept. of Corrections:**

Working with technology in a correctional school is a difficult situation. At this point we are unable to have internet access for security reasons. The use of intra-net is limited because of the amount of security required to keep systems intact and the age of the electrical wiring. We use software for drill and practice type situations as most of the instruction is individualized. Our offender/ students work toward a GED if they come to us without a GED or H.S. Diploma so we have students aged 17- 65. Any suggestions for a direction for our technology services.

**Jim Hirsch:**

Your idea of an intranet model seems to be the most likely to provide you with success in both your security and content needs. Many vendors are now able to supply you content that you can run on a local server without active Internet access. In your situation, it’s crucial that the administration find the funds that would allow you to upgrade your intranet to a true operational status. Beyond the content skills you hope to provide through the use of technology resources, the sheer experience in using technology will undoubtedly be a life-improving event for your students.

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Question from **Jamie Gillespie, Principal, Evansville High School:**

What is the most important area in technology for teachers to learn about?

**Jim Hirsch:**

At this time, the most important area in technology to be aware of what devices our students are carrying and what applications our students are using to learn outside of our classrooms. More now than ever in my conversations with students, they have begun to articulate that their “real” learning occurs more often once they leave our classrooms. They collaborate with friends using electronic means and often check for group knowledge before attempting assignments on their own. Doesn’t that sound a bit more like the business world they are about to participate in, rather than individual work spaces? And this phenomenon reaches all students – urban students have very similar access to cell phones for example to communicate with friends as do their peers in suburban settings. Students in rural areas have the greatest communications challenges once they leave the school setting.
To this end, go ahead and create a Second Life account, contribute to a blog, start a Facebook page, force yourself to instant or text message – you’ll find out a bit more about how our students use technology.

But to your question – get to a point where you feel comfortable using the technology resources available to you through your school system and make certain they are embedded within the curriculum you deliver.

Question from **Gloria Staats Principal Layer Elementary**:

What is your definition of "Digital Divide" and what is critical for its elimination?

**Susan D. Patrick**:

The digital divide is becoming exacerbated, stratified by family income level in society, even in comparison to 10 years ago. My definition of digital divide, is focused on students, and whether they have access to opportunities through high speed internet. This includes formal and informal learning.

If you look at the data collected, both by the Pew studies and the federal government, you see a bleak picture. Most families with combined income levels of more than $75,000 have computers with high speed, broadband internet access. As income levels of families decrease, so does access to the internet, albeit slowly -- until you hit the $25,000 income level. Families in the poorest income levels do not have access to computers and high speed, broadband internet connections at home. It is very expensive and we are seeing a very big gap in terms of what students can access at home.

What concerns me most is that I think there is an assumption by "society at large", the media, business, communities -- that our K-12 schools have better internet access for all students than what is reality (and use of the computers). Quite frankly, the divide between the real world use of technology and what is in our schools is quite large. Teachers must walk down the hall and reserve a computer lab for students to have limited access to online tools, data bases, software, research assignments using the web (unless these students have access at home). Schools have a 4:1 studnet to computer ratio. What work environment has every four employees sharing a computer? Why does this make sense?
If what the internet offers is access to high quality education -- through online courses, online foreign language courses (new courses in Mandarin Chinese and Arabic are offered today), math courses and science courses with engaging content and simulations, and credit recovery courses for students struggling in gateway courses such as Algebra I and Algebra II. Student research, technology literacy and collaboration using digital resources are but a few important 21st century skills that students need using the Internet. Our schools have their own divide with the rest of the world with technology access, support and "modeling real world learning". 

.70% of businesses use e-learning to train their workforce.

To conclude, my biggest concern is home access for students that need it most. Finding solutions, such as Henrico County, VA did -- for school and home access to technology, that enable every student to take online courses, every student to have an IEP (or individual learning plan), every student to take online test prep, every student to participate in the information age -- is very important. It isn't about technology, it is about ensuring equal opportunity to "access" for the very best (and most relevant) education. You can only do this with technology.

Question from Lori Brooks, Doctoral Student, Texas A & M- Commerce:

With the advent of current technology, do you see education using tools such as cell phones, ipods, and podcasts as part of the classroom setting for instrucational purposes? If so, how do you see this being managed and supported?

Jim Hirsch:

As more student-owned devices become wi-fi enabled, at a minimum, schools need to determine how to provide students wireless access without compromising network security. That challenge has already been solved with current network switch technology.

The more difficult component is providing curriculum and learning activities that are engaging enough to keep students from using the devices inappropriately. Too often we place technology in classrooms or make devices such as these available without adequate curriculum preparation. It’s natural that students would revert back to
typical uses of the devices then as that is more relevant to their learning than what may be going on in the classroom.

As we all know, extending the learning time for students is the surest way to improve achievement given quality content. The possibilities to connect to students outside of our classrooms and schools using their preferred devices are limitless – one of the reasons we’re developing a software application that allows teachers to provide reviews, messages and more directly to students via their cell phones.

Question from **Sally Welter, Teacher, Salem-Keizer School District, Oregon**:

How will we equalize student access to computers? Some schools have twice as many computers than others. Our computers are used mostly for state testing rather than learning. The digital divide exists even in schools.

**Jim Hirsch**:

This question is one all of us have to wrestle with at the present time. Many of us feel as if we’re not providing for our students’ technological future if we don’t give each student a full-featured laptop computer that has a TCO (total cost of ownership) of about $400/year. We will not reach a goal of that magnitude for all students in the U.S. in my estimation in any near-term future. So…. What are the alternatives?

I’m a big promoter of effective curriculum design and multi-tasking in classrooms. With proper training and well-designed lesson activities and technology resources, a teacher can manage multiple activities in the classroom. Providing a ratio of even 1:3 computers to students in a classroom will provide meaningful technology exploration, use and production of end product for each of those students. I’m not convinced that I’ve seen a curriculum that has been written that can effectively have students using a personal computer all-day, every day that is tied directly to increased student achievement. So, one option is to distribute computers to each classroom and have a dynamite curriculum that teachers can access.

A second option is our greater challenge – how can we leverage devices students already bring to school? For example – a Sony PSP costs less than $200 but can access our secure wireless network and run Nettrekker with no problems as well as other web-based applications. We need to be considering how we use alternative
devices when students don’t need a full-featured PC to access information or run through a simulation or even use Web 2.0 tools such as Google Docs. We need to be smarter in our investments and our use of alternative devices.

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**Question from Jean Belford, Technology Teacher NYC BOE:**

Often, School Districts seek out technology professionals that are well versed and experienced in both the curriculum, content side and the systems, hardware aspect of technology support. Do you feel it is better to segregate the Technology Educator from the Technology Support Staff or that the role should be all-encompassing? NYC has a strong tech support division. What is more effective? More efficient?

**Jim Hirsch:**

Technology infrastructure is now a utility as important as electricity in today’s schools. With that said, it’s critical that school systems employ technology leaders who understand the importance of robust network and hardware support. However, the bottom line is to enhance the instructional environment for students and staff and a professional educator is often the person most versed in that arena. Ideally, a cabinet level position to coordinate all technology services should be in place and that person in the position should have a strong educational background and good technical aptitude and understanding, but not necessarily exact knowledge.

My experience is that a strong tech support group, without good educational leadership, can keep a network running, but often at opposing purposes to the needs of the instructional program. While both skill sets are needed, the educational leadership component cannot be minimized.

Finding the right person to fill the role is often the challenge that prevents superintendents in moving in this direction – plus the business side of the house often supervises the administrative side of technology and they don’t want to give up that powerful component of the district infrastructure.

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**Question from David Critchett, Professor of English, Community College of Rhode Island:**

Does any convincing proof exist showing that students learn better (quicker, with more retention) using technology in the classroom as opposed to not using it?
Susan D. Patrick:

This is a terrific question. There isn't a short answer or a silver bullet about "using technology in the classroom".

The first question is what technology? Then, you must ask how is it used, what is the content, what is the instructional design, how is learning assessed, and is it improving 21st century skills such as critical thinking, creativity, self-direction, communication (writing persuasively), etc. . . .along with engagement.

There are (they do exist!) studies, even studies that were ongoing while I was at the U.S. Department of Education (Evaluation of Statewide Educational Technology Programs) that showed positive outcomes based on student learning. Two I will point to: 1) West Virginia study of online spanish courses, 2) Louisiana study of online Algebra I. The research showed improvements in student engagement (as well as ability to track engagement in the data rich, online environment), better learning of the content, and increased communication.

It is useful to think about "what can you do (as an instructor) with technology, that is impossible without it"?

There are numerous examples, and even the U.S. Department of Education's own What Works Clearinghouse has examples of technology software products in certain content areas that have been studied and proven to work, as you suggest.

On the flip side, if you take any technology, don't provide teacher/instructor training, use it improperly, or have "challenged" teachers as your "base" (did I say that appropriately?) -- you may have less than ideal results.

I will stand behind the truth that the quality of the instructor is the single most important factor in a high quality educational experience (in any environment) for students. The focus must be on quality -- of instruction and on content -- then using the very best instructional design, engaging curriculum, better use of time and space (think the Internet), and assessments that can inform instruction. Sound difficult? In a traditional environment, this is a tough transition to make. In an online environment (both face-to-face and distant) -- this "transformation" is happening every day. But you can't just take your best instructors and put them in front of a computer. It takes lots of training and retraining in instructional methods that work,
online, and rethinking every bit of content before it becomes digital and included in an online course.

The overall research in NCREL's Synthesis of New Research in K-12 Online Learning (2005) showed an overall trend with all studies reviewed -- overall, students performed "equally well or better" in an online environment than traditional environments.

If it is "as good" or "better" -- and it increases opportunities for students that do not have access to these courses and teachers -- then we are moving in the right direction. We need more research -- and hope it will continued to be funded.

Question from Vicki Reutter, LMS, Cazenovia High School:

Many schools are reluctant to allow students to use blogs, wiki's, or other open source communication sites they fear could violate privacy, COPA, or lead to ethical infringements. What are some ways to integrate digital ethics into the curriculum and allow experimentation with these new communications tools?

Jim Hirsch:

We might want to start by listening to our students understanding of digital ethics. They do not want to infringe on copyright, but often we don’t provide them with resources that allow for collaboration and remixing as they are apt to do in completing projects. Our students understand the Creative Commons license (http://creativecommons.org/) concept for example. Our teachers don’t – because they don’t live in our students’ digital world. If you look at the MIT Open Courseware site you’ll notice that their work is published under a CC license. They want folks to use their material! Our students understand that their world is a collaborative environment and they want to contribute to it without fear of intellectual property theft – hence the new models of licensing. Get your teachers aware of these options and provide students links to those source that operate under Creative Commons.

On a more practical note, consider running these collaborative applications within your own network. You control who has access, when the software is available and the underlying security – a perfect environment for students and teachers to experience these new collaborative technologies without fear of outside use of
information. Social networking software such as eLGG has been created specifically for school use. You can find more information on the use of open technologies and new licensing models at [http://k-12.pisd.edu/open/](http://k-12.pisd.edu/open/)

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**Question from Kathy Pomroy, Lakeview Academy, journalism teacher:**

I came across a new keyboard from Chester Creek that is color-coded by finger to instruct proper finger placement while typing. The letters are on the keys, which seems counter-productive, however, I understand that younger students need hand-to-eye coordination to help them learn. Besides journalism, I teach keyboarding, so this is important to me, and I believe students as more and more classes depend on using computers. I would (personally) love to see these keyboards in every school. What do you think? Helpful or not? Thank you.

**Jim Hirsch:**

My own feeling is that students need encouragement to become as successful in their technology skills, including keyboarding, as they are in any other educational area. To this end, there needs to be a variety of options for students to gain the necessary experience. The keyboards you describe may be a key component to keyboarding success, but only if used appropriately as part of a well-designed learning activity. Taken out of context, they would have no greater long-term learning value than other options. With that thought in mind, I would start with something similar to what we’ve done with our elementary technology literacy guide ([http://k-12.pisd.edu/CurrInst/Elemen/techguide.pdf](http://k-12.pisd.edu/CurrInst/Elemen/techguide.pdf)) where we’ve designed experiences and expectations for our students in grade K-5. Following a well thought-out curriculum, then these keyboards may be exactly what you’re looking for.

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**Question from Richard Gardner, Title V Math Learning Specialist, Alliant International University:**

Is there any math ed. software that has done an assessment of the program’s effectiveness with Hispanic and at-risk students? We need empirical proof.

**Susan D. Patrick:**

I hesitate to endorse any specific products, as you can understand, but let me
help by pointing you in the direction where you can get more information. First, you can always email me to follow up at spatrick@nacol.org.

If you look at our members, who offer online courses for students at risk, ESL students and others -- many of them offer math courses and math remediation and credit recovery products for these populations (see www.nacol.org). That's a first lead.

For a second lead, check out the What Works Clearinghouse at the U.S. Department of Education. They only post studies that have been peer reviewed and find math products with successful outcomes -- they do exist!

Question from Charles T. Bevington, EdD, Ret Sch Bus Official NY, Adj Prof Collge New Rochelle:

   Evaluation of student learning and teacher professional development should be digitally linked for tracking "student learning". Are there any processes or integrative systems in the market today that go beyond test scores as the sole method of teacher evaluation?

Jim Hirsch:

   You’re entering into the realm of what is termed performance management and to my knowledge, there are no commercial systems available today that can truly track student performance and teacher efficacy. However, the private sector has been using business intelligence tools for many years to help make their businesses more effective while becoming more agile. There is great promise in these tools allowing us to generate scale score distribution reports, student growth curve models and ultimately the link between teacher efficacy and student learning. All of these tools rely on models (algorithms) being available – these are just now being designed and tested in a small number of school systems in partnership with traditional business intelligence firms. This work will enable commercially available models within the next five years.
Question from **Katie Carone, Director, Carone Fitness: Online PE Courses:**

What would you say are the biggest questions schools have about online Physical Education? Have you seen much of a need for online physical education courses?

**Susan D. Patrick:**

I get asked questions about online physical education in almost interview I do. At first, one scratches their heads to think about this. But, there is a huge need (from the student's point of view). Students often want to take additional academic courses, but must forgo a course during a regular school day to fit in "gym class". If a student can take physical education online, then they are opening a class period at school. Other students have said they felt ridiculed or teased in their gym classes and will desperately seek alternatives. The alternative offered by online physical education is excellent - if the course is rigorous and taught well. Please let me explain.

In gym classes, we follow the instructor led activities - volleyball, badminton, whatever it is that semester/quarter. In online physical education, students learn about physical education and health -- how to calculate heart rate, how much aerobic versus anaerobic exercise is best for achieving fitness. Students work with their instructor to put together a fitness plan, whether their interest is joining a local sports club and playing football, running, doing yoga, doing ballet, and come up with an overall fitness plan that measures on a daily schedule their heart rate, and their success on the plan.

In preparing for the "real world" and life long learning -- do you think students can learn more about how to maintain a healthy lifestyle from typical gym class or learning how to manage and self-direct their own fitness routines, with sit ups, heart rate and other high-level fitness monitoring? I think it is cool -- and I love team sports!

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Question from **Kelvin Hart, Asst. Principal, Treadwell High:**

Is there a plan to address the designers of Xbox and Playstation game systems to create an educational software that is challenging and stimulating as their games?

**Susan D. Patrick:**

That's a great question -- and it is already happening. Many of the NACOL
members from companies that design and create educational software and online courses are moving into different digital formats, and game systems offer a wonderful platform for learning. Just yesterday, I was viewing a spanish course on a playstation for elementary students -- and it was cool. Watch for new releases in these areas this coming fall for back-to-school. This is an important trend and will grow.

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Question from **Glenda Giles, Project Manager, Atlanta Public Schools**:

We are currently looking for a new student information system - centralized, web-based, student tracking (all phases-enrollment, withdraw, etc.), parent tracking, health, discipline, data validation, customizable reports, nutrition, scheduling, etc. Do you have any recommendations?

**Jim Hirsch**:

There are quite a number of systems available that fit the scenario you describe for a student system, but I encourage you to go beyond that in your thinking. To get total information on the variables that affect student achievement you have to make certain your three primary systems – student, HR and Finance all talk to one another, or better yet, reside in a single database. At this point, there is no one system that provides that level of information integration – which is why we’ve opted to build our own ERP system and other Texas districts have opted to use ours.

A quick Google search will bring you the variety of web-based student options - none of which I can endorse here.....

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Question from **Kathy Coleman, Music Specialist, NBCT**:

What types of educational technologies could be used in an elementary music classroom that would promote collaboration and interaction?

**Susan D. Patrick**:

I would be happy to follow up with you specifically on this question -- but there is an interesting project in California that started as a research project around math and music. There are also a number of the virtual schools that are our members that offer online courses and curriculum around music education.
Jim Hirsch:

Games in education still have a long way to go before they will be readily accepted and used. We've used many simulations in the past (remember Oregon Trail?) and continue to use them now in new and different forms, but none match the interactive and adaptive states of the current video games. I'm initially impressed with our use of DimensionM from Tabula Digita - an Algebra skills game. We have three groups of at-risk 8th graders using it in summer school preparing for Algebra next year - we'll know the results as we move through the 2007-08 year.

Question from **Patsy Bishop, 5th gr teacher, St. Mary of the Lake, MN:**

As a regular 5th grade classroom teacher, for the first time this year I have to "teach" computer and integrate it into my curriculum. Where can I turn for print resources for a beginner teacher?

Jim Hirsch:

In your situation, you want to be considering tools that you students can use to create their own knowledge and demonstrate their understanding. Companies such as Tech4Learning specialize in providing printed materials that can be used immediately in your classroom.

Question from **Joy Bieker- 6th gr. teacher Jewel M.S.**:

I was wondering, how many states currently have requirements for a technology course for people obtaining state teacher certification?

Susan D. Patrick:

This is a wonderful question. Most states have some sort of a requirement in their schools of education for people getting degrees in education. With that noted, the requirements are vague and courses that include such basic "breathing" skills such as how to use powerpoint, how to use a spreadsheet, how to use email often meet the low-level requirements.

I recently authored an article on why new teachers need to be trained to teach online. Susan Lowes from Columbia University did a study with virtual schools
showing that teachers that taught both face-to-face and online that were trained to teach in a fully online environment actually improved their face-to-face teaching, too. I was surprised, but when you look, at the research it makes sense. When these teachers learn the skills to use technology ubiquitously to teach online -- full interactions, new classroom management skills online, new assessments online, new collaboration methods -- then you can easily bring those back into a classroom or a blended environment.

I would propose that all Schools of Education and new teachers be trained in teaching online, so they can teach in any environment.

Did you know Singapore already does this? They hold e-learning week once a year and shut schools down for an entire week -- teaching only online, ensuring that both teachers and students know how to continue the learning process through e-learning, in case of a disaster or pandemic. Other countries such as Mexico, teach all teachers how to use digital content and curriculum -- and they have a national initiative to provide a laptop for every teacher.

Question from **Linda Slater, Teacher, 24th Street School, LAUSD:**

We are a PI2 - going on PI3 status inner city school in Los Angeles Unified. I am proposing a hybrid site-based program to be put in place using existing accredited free virtual public education (i.e., K-12, Inc. or Connections Academy) combined with face-to-face project-based teacher directed curriculum. The basics of reading and math would be provided by virtual side while the humanistic (social, psychological, workplace skills) would be provided by the teacher. Is this hybrid model in place yet? If not, I'd love your help in putting a beta-test on our campus.

**Jim Hirsch:**

I’m not aware of any published accounts of primary schools who have implemented the hybrid type of program you describe. In our own case, we have struggled finding appropriate content and learning pedagogy in digital tools that would provide a basic foundation for reading and math in children without significant teacher interaction.
Michelle R. Davis (Moderator):

Thank you for joining us for this online chat, and a special thanks to our guests for taking time out of their busy schedules to answer everyone’s questions. This chat is now over. A transcript will be posted later on edweek.org.

The Fine Print

All questions are screened by an edweek.org editor and the guest speaker prior to posting. A question is not displayed until it is answered by the guest speaker. Due to the volume of questions received, we cannot guarantee that all questions will be answered, or answered in the order of submission. Guests and hosts may decline to answer any questions. Concise questions are strongly encouraged.

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—Chat Editors