



STUDENT |

INSTR

# Navigating the Online Education Community

Using Web Technologies for Maximum Success

*By Merna Smith and Paul Tumarkin  
of Pearson Digital Learning*

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## The new reality of the online education community:

Today, the Web represents a comprehensive, cross-functional education resource, *indispensable* for successful school and district strategies.

**H**OW CAN WE BEST LEVERAGE THE POWER OF THE WEB TO HELP OUR STUDENTS AND DISTRICTS SUCCEED? As more and more applications and services hit the marketplace, the technologies that educators need to evaluate for their schools and districts becomes more complex.

There are emerging trends in what Internet technology has to offer in response to K-12 educational needs:

- **Content resource:** The Web is arguably the most rich and versatile communications medium ever, providing instant, on-site access to primary resource data from around the world. Of course, there is also an abundance of inaccurate information, but it is up to teachers, librarians, and media specialists to help students learn how to evaluate the accuracy and quality of the information they find.
- **Communications medium:** From e-mail to discussion groups to posting content for instantaneous distribution, the lines of communication between all participants in the education community—students, parents, teachers, and administrators—have never been so open and efficient.
- **Data analysis tool:** With the integration of student information and instructional management systems, technology has made it possible not just to record and process simple grade data, but also to manage student mastery of standards for accurate district-wide reporting.

So what is motivating this evolution? Many issues impact Internet use in education, but two stand out in today's environment:

- 1) The explosive growth in the use of the Web over the past ten years
- 2) The reauthorization of the Elementary and Secondary Education Act (ESEA, also known as "No Child Left Behind")

### A SNAPSHOT OF USAGE TODAY

So where do we stand in our ability to consider the Web as a viable educational tool? Schools and districts first need *access* before they can contemplate imple-

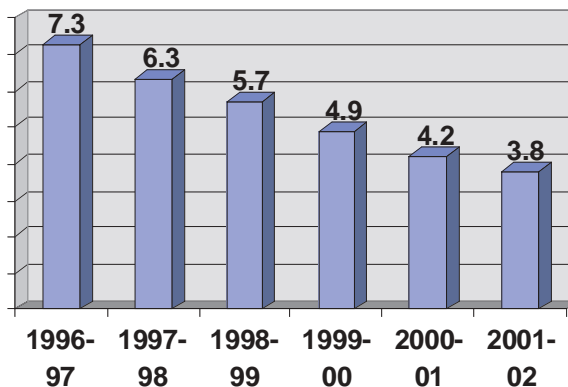
menting new Web-enabled solutions. Looking at the statistics can tell us much about the evolving use of technology in K-12 education, particularly the increased computer and Internet use in the classroom.

*The number of students per instructional computer is dropping.* (Source: Market Data Retrieval, Public School Findings, 2002) The day may not be far off when the ratio of computers to students will be one to one and the computer will serve as the center of a student's activity throughout the entire school day.

*The number of students per networked computer is dropping, down from 5.6 in 2001 to 4.9 in 2002.* (Source: Market Data Retrieval, Technology in Education, 2002) As the latest technologies used in education become more networked, this trend also indicates a move toward an online education community, where each student will be able to access the full complement of community services from any computer, anywhere.

*As of 2002, 86 percent of U.S. public schools have Internet access from one or more classrooms (up from 58 percent in 1997). Seventy two percent of those schools connect via a T1, T3, digital satellite, or cable modem.* (Source: *Education Week*, "Technology Counts," 2002) In just a few short years, almost 90 percent of our nation's schools have realized the possibilities that Web access brings to the school building as evidenced by this relatively quick penetration of high-speed connections.

### Students Per Instructional Computer



Source: Market Data Retrieval, 2002, Public School Findings

## In just a few short years, almost 90 percent of our nation's schools have realized the possibilities that Web access brings to the school building as evidenced by the relatively quick penetration of high-speed connections.

*Thirty percent of all children used the Internet at home in 2000, compared with just 19 percent in 1998. Further, nearly 21 percent of children aged 3-17 use the Web for "school research or courses."* (Source: "Home Computers and Internet Use in the United States," U.S. Census Bureau, August 2000)

Where do we stand in terms of the functionality and applications available to educators to leverage these opportunities? At the leading edge of comprehensive education management is Concert Instruction & Assessment (or "Concert IA") from Pearson Digital Learning. Concert IA provides a better way to achieve the goals of education. It is a comprehensive Web-based application—integrating standards-aligned instruction, lesson planning, assessment, and educational content—to help all members of the education community achieve success.

### **NCLB: A DRIVING FORCE IN K-12 TECHNOLOGY APPLICATIONS**

NCLB has been characterized as the largest overhaul of the federal role in education and is projected to impact states, districts, and schools for years to come.

The demands of the *No Child Left Behind Act of 2001*, coupled with traditional student data reporting, are driving school districts and states to look more closely at technology solutions that help them manage student performance with applications that support student learning and data driven decision-making. Now, states are identifying the steps they need to take to implement new guidelines for student achievement. All states have submitted plans to the U.S. Department of Education to align their accountability systems with new federal requirements. School districts in turn, will need to implement strategies to comply with these requirements. According to the U.S. Department of Education, it is not enough simply to have a computer and an Internet connection in the classroom if they are not made part of the learning process. Many provisions of NCLB support the use of technology to improve student academic achievement. Online tests deliver reports on student progress instantaneously instead of weeks later. Well-designed

curriculum-based software can engage students in solid academic curriculum like never before. The use of technology can help align specific goals to state academic standards. (Source: U.S. Department of Education, [www.nclb.gov/start/facts/21centtech.html](http://www.nclb.gov/start/facts/21centtech.html))

While companies like Pearson Digital Learning have been aligning solutions to help schools, districts, and states meet government requirements for decades, the reauthorization of the *Elementary and Secondary Education Act*, first passed in 1965, has brought those requirements to the forefront, further tying increased accountability, data-driven decision making, and meeting Adequate Yearly Progress (AYP) directly to funding.

From increasing student achievement with research-based instruction to fulfilling the demand for disaggregated district data, schools and districts must evolve their strategies toward a more technology-based system in order to succeed (and in many cases, survive).

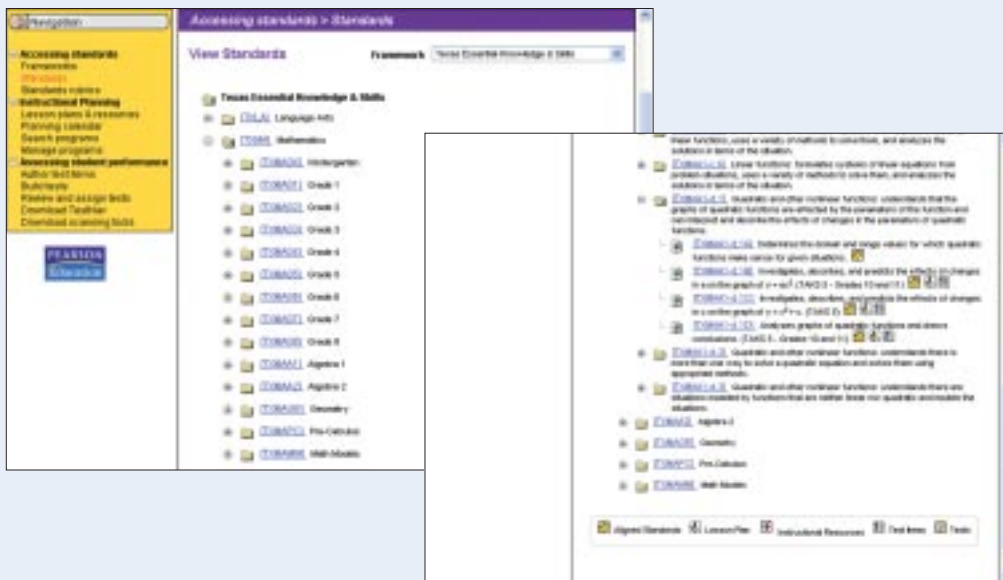
### **WHAT MAKES CONCERT IA THE DEFINITIVE FACILITATOR OF THE ONLINE EDUCATION COMMUNITY?**

**IT REACHES EVERY PARTICIPANT IN THE COMMUNITY AND HELPS EACH SUCCEED AT THEIR OWN UNIQUE TASKS.** Again, an online education community consists of students, parents, teachers, and administrators. A single Web-based application like Concert IA allows each stakeholder in the online education community to do *what* they need to do and *when* they need to do it. Further, because of the data relationships that the system facilitates, the data produced daily is captured and used to generate *information and reports* to help each involved individual achieve success.

In the traditional teaching cycle, a teacher develops or accesses teaching materials, assigns and teaches a lesson, administers a test, grades it, and records the results. In an online scenario, such as the cycle of instructing and assessing student progress against a given set of standards, the dynamic between educator and student empowers both to better achieve success:

- A student takes a pretest online, and the results automatically populate the teacher's online gradebook.

Standards framework with aligned content



Master summary



Standards-aligned lesson plans, test items, and tests



Starting with the standards framework, educators can drill down and access standards-aligned instructional content and assess student progress. The result is a mastery summary for each student with links to further prescriptive content for individualized instruction.

- With test items linked to standards, the teacher can see exactly which areas the student needs help mastering.
- Standards are accompanied by supporting content and lesson plans such that the teacher can access and prescribe lessons or other content to help the student master the area of difficulty—truly individualized instruction. Lesson plans also include links to the latest research teaching techniques, providing on-demand professional development opportunities.
- Students can complete and turn in their assignments online, and teachers can provide immediate feedback in the same manner.
- Students can then be assessed online once again, continuing the cycle for completely individualized instructional management.

With the number of students per classroom increasing, this technology facilitates the individualized interactions between teachers and students for more effective learning, district-wide.

**CONCERT INSTRUCTION & ASSESSMENT PROVIDES THE CONTENT TOOLS TO HELP TEACHERS AND MEDIA DIRECTORS GET THEIR STUDENTS TO THE INFORMATION THEY NEED.** Educational content portals will be the key to ensuring that our students are accessing the proven, pre-filtered content we want them to find. But how to find those trusted sources? Media specialists need to have that electronic library constantly at hand to provide the right direction.

With its open architecture, Concert IA has the ability to pull in additional resources from across the Internet. As a business of Pearson Education, Pearson Digital Learning has the inroads to pull these resources from a multitude of renowned brands such as Pearson Prentice Hall, Pearson Scott Foresman, the Family Education Network, and others.

From reference and research sources to instruction, Concert IA is opening the window to the Web-based content educators need to have on hand.

**IT IS A DISTRICT-WIDE RESOURCE FOR DEVELOPING AND SHARING BEST PRACTICES, AND FULFILLING REPORTING REQUIREMENTS.** Again, we arrive at the power of the Web as a tool for *sharing* information. But how to provide a framework to make this sharing an effective and efficient process?

Concert IA has a pre-populated data bank of almost 2,000 lesson plans ranging from pre-K through grade 12. Using state and district standards as an indexing framework, teachers can add their own

lesson plans or build on existing ones, providing an extensively customized district library that grows over time. *Across the district, teachers can now access lesson plans aligned to standards and customize them to suit their (and their students') specific needs.*

Further, right in those lesson plans, teachers can link to the latest research and how-to information on the teaching techniques used, providing an on-demand resource to help them teach more effectively. (Looking for professional development? Think of the potential to help the growing population of young teachers joining our district teams.)

**IT ENABLES TRUE PARENTAL COMMUNICATIONS FOR INCREASED INVOLVEMENT.** Lastly, we can't ignore the important role that parents play in their children's educational lives. E-mail is a perfectly good medium for teachers to inform parents while eliminating the problem of notes getting lost on the way home. But what if we can go one step further?

Assignment	Date	Score	Total Possible	Current Grade	Class Low Score	Class Average Score	Class High Score
Graphing and Finding Circumference	09/17/2003	98	100	B	98	84.15	100
Math Topics Project	09/17/2003	98	100	A	98	82.82	98
GM - 11/18/2003	11/29/2003	68	100	D	98	79.77	98
Chapter 3 Test	10/15/2003	93	100	A	92	81	98
Week 5 Quiz	10/13/2003	58	58	A	14	34.54	58
Exam 2	10/13/2003	28	28	A	18	17.82	28

Standard	Mastered?	Level	Resources
STANDARD 1.4 Determine the purposes for listening such as to gain information, to solve problems, or to enjoy and appreciate.	Y	None	No Resources are Aligned
STANDARD 2.2.1 Graph functions of the form $y = m^2$ and $y = m^3$ and use in solving problems.	Y	None	No Resources are Aligned
STANDARD 2.2.2 Plot the values for the volumes of three-dimensional shapes for various values of the edge lengths (e.g., cubes with varying edge lengths or a triangle prism with a fixed height and an equilateral triangle base of varying lengths).	Y	None	No Resources are Aligned

*Concert IA affords parents access to their children's progress on a daily basis. Moreover, they can review mastery summaries that outline the individual concepts their children need to master.*

## Concert IA is a comprehensive Web-based application—integrating standards-aligned instruction, lesson planning, assessment, and educational content—to help all members of the education community achieve success.

With a simple step, Concert IA allows parents access to an easy-to-understand view into how their children are doing in school. And not just, “Karen did well on her math test today.” Parents see exactly how their children are progressing on their mastery of required concepts, giving them the knowledge to take a more active role when that child is sitting at the kitchen table working on their algebra homework. In providing access to the specific information that teachers, students, and parents need, we create new connections among community members, increasing each individual’s ability to achieve their goals.

*That is the power of what an online education community like Concert IA offers to our schools and districts today.*

### TOMORROW IS HERE TODAY

While by its nature the Web has brought the potential, Concert IA has brought it all together to not just enable, but empower the online education communities in each of our districts. According to Ferdi Serim, former editor of *MultiMedia Schools*, “No matter what you call them, no matter which combination of capabilities they

offer, there are four key elements that a successful Learning Management System provides: Instruction, Assessment, Communication, [and] Professional Development” (Source: “All Aboard! Moving Every Child Ahead in a Digital Age.” *MultiMedia Schools*, Jan/Feb 2003, p. 18). Concert IA delivers on all of these fronts, involving all members of the community in the learning management process.

Like never before, the use of Internet technology has effectively enabled the strategic integration of content resources, lesson plans, standards, gradebooks, calendaring, and communications in one place, allowing each member of the community to achieve success—from students to parents to teachers to administrators. Those who dive into the future and implement this breed of technology will rapidly begin to reap the benefits along with complying with even the toughest requirements.

Look for continued improvements in information strategies across the district for increased accountability and better decision making. It’s all coming together to help ease the management burdens on educators to allow them to focus on what is most important: *helping every child learn.*

*By Merna Smith and Paul Tumarkin of Pearson Digital Learning*

## About Pearson Digital Learning

With more than 40 years of experience in developing, delivering, and supporting curriculum, assessment, and enterprise data management products, *Pearson Digital Learning* is the leader in offering comprehensive technologies for preK-12 education. Reaching more than 20 million students annually, our products include the *SASIXp™* student information system, *SuccessMaker® Enterprise*

and *NovaNET®* comprehensive courseware systems, *KnowledgeBox™* digital learning system, and *Concert™ Instruction & Assessment*. Pearson Digital Learning is also the exclusive distributor of the *Waterford Early Reading Program™* and *Waterford Early Math & Science™*, both created by the Waterford Institute.

For more information visit [www.PearsonDigital.com](http://www.PearsonDigital.com).

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