LEARNING POINT
Associates™

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WELCOME

As NCREL's current five-year contract with the U.S. Department of Education's Institute of Education Sciences comes to a close, we instinctively are drawn to reflect upon the work, partnerships, people, and the lessons learned along the way.

In 2001, we began a new cycle of research and development in education. As one of 10 regional educational laboratories and the designated national leader in educational technology, we dove into this work with a renewed vigor to meet the needs of our region's educators and make a sustained impact in education. Shortly thereafter, educational policies and priorities changed a great deal as the No Child Left Behind (NCLB) Act ushered in a new era of proficiency, assessment, and accountability.

Along with the new legislation, *Educational Technology News* was launched in 2001. That year, we featured the *enGauge®* online framework, which helped schools and districts plan and evaluate the systemwide use of educational technology. We also introduced the *E-Learning Knowledge Base*, a website dedicated to reviewing and synthesizing research on new

Educational Technology News is a biannual newsletter published by the Center for Technology at the North Central Regional Educational Laboratory® (NCREL®), one of 10 regional educational laboratories funded by the U.S. Department of Education, and its work is conducted by Learning Point Associates. NCREL has served as a leading research laboratory with a designated National Leadership Area in educational technology. In this capacity, we have enabled countless teachers, administrators, and policymakers to integrate technology effectively.

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applications of online learning. This final issue focuses on TechPOINT, our technology-proficiency assessment, survey, and professional development tool; our leading-with-technology initiative; and our development of support services for the modern online learner.

We have revised, refined, and redoubled our efforts through the years, but what drives us has remained—you, the educator, administrator, and technology coordinator, and, as always, your students. The past five years of contract work have enabled us to deliver knowledge, strategies, and results to the Midwest and across the nation. It has been your willingness to learn with and support us that has allowed us to continue the work we began in 1984.

Thank you for your continuous welcome, support, and encouragement. Thank you for choosing to grow with Learning Point Associates.

TechPOINT: Measure Progress, Achieve Technology Proficiency

By Matt Dawson, Ph.D., Learning Point Associates

The effective use of technology has been an important factor in facilitating student achievement. NCLB has positioned student achievement as the top priority for technology integration in schools, asserting that all students must become technologically literate by the end of the eighth grade. Schools and districts have more technology resources and infrastructure in place than ever before. However, research (Anderson & Becker, 2001; Dimock, Heath, Burns, & Burniske, 2000; Ronnkvist, Dexter, & Anderson, 2000) consistently reveals that too many educators lack the knowledge or support required to integrate technology in ways that contribute to student achievement.

NCLB advances a commitment to student achievement and technology literacy, calling for integrating technology into professional development and curriculum development with research-based best practices. As such, teachers, administrators, and school boards need research-based guidelines and resources to help them plan, implement, and evaluate their technology investments. The support offered to schools must build on technology that is currently in place while supporting development of new systems that offer the greatest return on investment.

With this need in mind, Learning Point Associates developed TechPOINT, a set of tools to assist schools in understanding how technology is being used in their district. More focused than *enGauge*, TechPOINT addresses the goals set forth by NCLB, Title II, Part D—Enhancing Education Through Technology, and allows schools to track the impact of implemented solutions and locate areas for improvement. While each piece of TechPOINT can be used individually to provide valuable insight and information, the system is optimized when all three parts are used together to create a more comprehensive picture of technology in your school.

TechPOINT includes the following components:

TechPOINT Proficiency Assessments

TechPOINT Proficiency Assessments determine the extent to which teachers and students are technologically literate. While there are no official technology literacy standards, most states have adopted or adapted the International Society for Technology in Education (ISTE) National Educational Technology Standards (NETS) for their students and teachers.

In the Internet address **www.abcd.edu.uk**, the last two letters indicate:
- The country in which the site was developed.
- The language in which the site was developed.
- The purpose for which the site was developed.

Our assessment resources were developed with members of the ISTE NETS writing team and have been pilot- and field-tested on more than 7,000 participants across numerous states throughout the past year. The online assessments meet generally accepted scientific standards for reliability and validity, and results have been used by numerous school districts to facilitate their technology planning. While other technology literacy assessments purport to measure what students and teachers know about technology, they often rely on self-reported data. TechPOINT Proficiency Assessments are objective measures; participants give answers to questions that are determined correct or incorrect based on the questions written and validated by teams of educational technology experts who helped write the NETS.

TechPOINT Proficiency Assessments are standards-based and available for fifth-grade and eighth-grade students and K–8 teachers, and can be tailored to meet your needs.

TechPOINT Surveys

TechPOINT Surveys focus on three questions: (1) What school-level factors influence student technology literacy? (2) What school-level factors influence teacher technology integration? and (3) What factors influence administrator technology leadership? Based on the most recent research and feedback from an external advisory panel of educational technology experts, the online TechPOINT Surveys help school personnel understand where their schools are compared to their vision and goals for improvement.

TechPOINT Surveys provide information that helps districts and schools make difficult decisions about where to invest resources and how decision makers can track the impact of those resources through time. Developed with high reliability and validity standards, the surveys deliver relevant and accurate data. The surveys provide school personnel with data on school-level factors that impact student technology literacy and teacher technology integration.

TechPOINT Surveys also include a complete environmental scan, or technology inventory, for an accurate portrait of available technologies in a particular school. When used with the data provided in other TechPOINT Surveys and Proficiency Assessments, a more complete view of technology use and integration in a school is possible.

TechPOINT Professional Development

Continuous professional development is essential for building teachers' technology integration proficiency. High proficiency levels impact both the quality of instruction and students' ability to achieve prescribed academic and technology standards. Substantial evidence links teachers' increased capacity to integrate technology with high-quality, continuous professional development. Research is clear that the more in-depth and continuous those opportunities are, the better.

TechPOINT Professional Development materials for teachers are aligned to ISTE's NETS for Teachers and the National Staff Development Council's professional development standards. These materials will help schools and districts meet NCLB educational technology goals. Based on a review of the literature, these materials were designed to be focused on student achievement, connected to what is useful and practical to implement in the classroom, integrated with the curriculum, a sustained collaborative process, an individual experience, and data driven.

Specifically, these materials will help do the following:
- Improve the capacity of teachers to effectively integrate technology to support and enhance teaching and learning.
- Ensure that all students are technologically literate by the end of eighth grade.
- Improve student achievement across content areas through the integration of technology in elementary and secondary schools.

TechPOINT Professional Development focuses on helping teachers make informed, research-based decisions about planning, teaching, and using data in ways that can be enhanced by technology. Materials are delivered using a Web-based, hybrid model, which includes a face-to-face environment as well as self-directed online components.

This model provides opportunities for collaboration, reflection, sharing, and community building, all of which are integral to effective professional development and cultivate a sustained desire to grow and develop professionally.

Collectively, these standards-based professional development materials support teachers in incorporating educational technology in teaching and learning. A teacher who completes the full continuum of TechPOINT Professional Development will demonstrate proficiency on each of the six NETS for Teachers through a series of performance tasks and cumulative project assessments aligned to the NETS. As a result, school boards can implement these materials to meet NCLB goals of increasing teachers' educational technology integration capacity.

Taken together, the TechPOINT Proficiency Assessments and Surveys offer exciting opportunities for tracking individual student achievement through generated reports. For example, teachers can obtain technology literacy reports for each student in their classroom. This report includes the types of questions missed, enabling teachers to examine their lesson plans and tailor instruction and technology use to individual student abilities.

The teacher proficiency assessments allow educators to achieve a better understanding of their own level of technology literacy. The assessments provide results that help teachers enroll in professional development targeted to their individual technology proficiency levels and distinct areas of need. The assessments also help determine the proper level of professional development and help ensure that teachers and administrators maximize their technology professional development budget.

Beyond this, the TechPOINT Proficiency Assessment and Survey reports contain the ability to compare aggregated results across a school, multiple schools, multiple districts, and a given state. The rights for viewing different types of results are based on roles assigned by a TechPOINT project manager at the beginning of a TechPOINT project.

TechPOINT Proficiency Assessments for eighth-grade students and K–8 teachers are available at **www.techpt.org**. The TechPOINT Proficiency Assessment for fifth-grade students, as well as the TechPOINT Surveys and TechPOINT Professional Development, will be available in January 2006.

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Five-Year Research Project Identifies Key for Technology Integration Success

By now, we are all familiar with the NCLB legislation. It has established clear priorities for educational technology—improve academic achievement and enable all students, regardless of background, to become technologically literate by the end of eighth grade. In response to this legislation, NCREL has identified effective leadership as the key to helping create a climate and culture most conducive to technology integration.

This finding was derived from NCREL's five-year research project involving case studies of 19 high-performing, high-technology schools with predominant minority and/or low-income student populations. This multiple case-study approach was designed to discover ways that enable teachers, students, and administrators to use technology to help improve academic achievement. The case studies also were designed to translate and disseminate this information to reveal evidence-based educational practices for schools and districts.

We now know that effective leadership, which includes the acknowledgement of technology use in schools, can impact student achievement. In general, administrators in these 19 schools demonstrated an understanding of the value of technology for improving teaching and learning; a commitment to acquiring, maintaining, and updating technology resources; and a dedication for providing high-quality educational technology professional development for teachers and staff. For these administrators, improving teachers' capacity for integrating technology and students' technology literacy was of highest priority and perceived as being most influential to improved student achievement overall.

Teachers at these schools reported that school leadership was crucial in developing and supporting effective instructional practices, which, in turn, strongly contributed to student achievement. Furthermore, administrators in these schools led by example, using technology as a tool to make their own professional practices more efficient and effective.

Administrators from 18 of the 19 schools completed surveys to help shed light on how they use technology to render effective leadership. A total of 29 administrators—including principals, assistant principals, curriculum coordinators, and technology coordinators—completed surveys. The number of surveys completed by administrators from each school ranged from one to eight. What follows is a summary of the survey results regarding effective technology leadership.

What are administrators' priorities concerning the use of educational technology in their schools?
Administrators were asked to respond to a list of survey items that articulated common objectives of technology used in schools today. The survey items addressed four broad categories related to the use of technology for improving: (1) teachers' technology integration capacity; (2) students' technology literacy and overall achievement; (3) administrators' potential to lead effectively with technology; and (4) the connection between home, school, and the community. Overwhelmingly, administrators reported that their highest priorities for educational technology were for purposes related first and foremost to improving student achievement and, secondly, to enhancing the ability of teachers to effectively integrate technology into teaching and learning.

With respect to student use, administrators reported a significant focus on using technology to better prepare students for future careers (26); to improve students' basic computer skills (24) and 21st century skills (24); to improve achievement on state assessments (24) and standardized tests (24); and to improve students' basic, content-specific skills (21).

Administrators in this sample prioritized their objectives for educational technology as follows: improving the ability of teachers to effectively integrate technology to support curricular goals (24), using more technology in curriculum and instruction (23), providing individual instruction (23), and improving teachers' basic computer skills (21)

Administrators also prioritized a need for high-quality, technology-based professional development as a means to develop the knowledge and skills to achieve these goals (26). Of lowest priority to administrators, though still important, was using technology to help make classroom instruction more data driven (14).

With respect to administrators' objectives for their own technology use, they reported using technology to support school reform efforts and increasing their overall efficiency. Administrators also indicated improving their own skills (18) and making school improvement decisions more data driven (19).

Finally, administrators recognized the value of using technology to help bridge the gap between home and school. Specifically, they strongly recognized the potential of technology to both increase parental involvement in schools (20) and publicize student and school accomplishments (23). Teacher and

school websites and e-mail provide opportunities for parents to quickly and easily learn about what their children are doing in school.

Administrators appeared to assume that parents possessed the skills required to access and use the technology resources that increased their involvement. Or perhaps administrators were concerned primarily with students and teachers because teachers are the primary contact with parents. Administrators reported that improving the technology literacy of parents (8) was indeed the lowest priority for educational technology use in their schools.

What types of hardware and software do administrators use most frequently, and for what purposes?

Administrators in this sample of high-performing, high-technology schools overwhelmingly reported computers and printers as the most common types of hardware used to support their professional purposes. Administrators typically used computers and printers on a daily basis. They also reported common use of cameras, digital and otherwise, though less frequently than computers and printers. Scanners and projectors also were among the key types of hardware used for professional purposes.

The most frequently used types of software reported by administrators in the sample were Web browsers and word processors. Other common types of software that administrators reported using included presentation tools, spreadsheets, e-mail, student-information systems, software suites, and desktop publishing.

In addition to the types of hardware and software used, administrators also were asked to indicate the three software titles they used and regarded as having the most significant impact on their professional practices. Word processors were cited most frequently as the most valuable technology tool these administrators have access to, along with Web browsers. Spreadsheets and presentation software were tied as being the next most valuable tool. Administrators reported overwhelmingly that these applications are significant to them for creating administrative and teaching materials; communicating with colleagues, staff, and parents; keeping administrative records; presenting information to teachers; and accessing research and information on the Internet.

Administrators were asked to choose from a list their most common purposes for using technology. The majority of administrators reported using technology on a daily basis to create administrative materials (22), keep administrative records (21), communicate with other staff at their own school (16), and communicate with administrative colleagues at other schools (15).

Administrators reported using technology on a weekly basis to publicize school information (i.e., through the creation of fliers and mailings) (15), present information to teachers and students (14), access information and research on best practices for administration (11), and analyze student data for school improvement (11). Finally, administrators reported using technology on a monthly basis primarily to publish school information and events to parents and the community (11).

When administrators were asked which uses of computers or other educational technologies included in the prescribed list had the most significant effect on their professional practices, creating administrative materials was reported as being the most significant. The second and third most significant uses included keeping administrative records and communicating with colleagues and staff, respectively.

Effective school leadership must include the effective use of technology. The positive impact that technology integration has on student achievement cannot exist without effective leadership. NCREL's research has shown that effective leadership was the predominant factor that helped create an atmosphere most beneficial to technology integration in its 19 case-study schools.

The 19 individual case-study reports, along with a cross-case analysis, *Case Studies of High-Performing, High-Technology Schools: Final Research Report on Schools with Predominantly Low-Income, African-American, or Latino Student Populations,* **are available at** www.ncrel.org/tech/hpht/.

Supporting the Online Learner's Opportunity for Success

In the past three years, NCREL has constructed a suite of products designed to sustain the implementation and use of effective online K–12 courses and online professional development for K–12 teachers and educational leaders.

Our latest K–12 online learning development and support project seeks to support the online student. This new development effort, *Online Student Support Services*, includes four instructional units correlated to the Educational Success Prediction Instrument (ESPRI) survey developed by Margaret D. Roblyer, Ph.D., and Jon C. Marshall, Ed.D.

Before enrolling in an online high school course, students ideally would take the ESPRI survey and receive counseling to improve their chances of success. If results from an ESPRI survey indicated that a particular student might be unsuccessful in an online course, recommendations would be made by an adult counselor for the student to complete one or more of three tutorial support units prior to beginning the first online course.

The first instructional unit helps students understand the fundamentals of organization in an online course. The second instructional unit teaches students to identify the role of responsibility in an online course. The third instructional unit discusses risk taking as students learn to obtain information and feedback to accomplish a task. The final unit is designed for teachers to use as a tool in helping students who need assistance with technology skills.

To learn more about the development and availability of the *Online Student Support Services*, please contact Regina Rankins-Reed at regina.rankins-reed@learningpt.org or 630-649-6570.

Keeping Pace With K–12 Online Learning Now Includes All 50 States

A follow-up report to the 2004 snapshot of state-level policy and practice, *Keeping Pace With K–12 Online Learning*, was released in October 2005. Similar to the 2004 report, this follow-up publication includes state profiles of online learning and issues analysis of state policies and statewide programs. The new report is updated and expanded to include all 50 states.

Learning Point Associates collaborated with the Florida Virtual School; the Virtual High School; the Illinois Virtual High School; and the Clark County School District of Las Vegas, Nevada, to research, write, and publish the new report, which is available online at **www.ncrel.org/tech/pace2/index.html** and in limited print quantities. The project is led by researcher and author John Watson of Evergreen Consulting Associates.

For questions about the report, please contact Scott Buckley at scott.buckley@learningpt.org.

For more information, contact:

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Naperville > Chicago > Washington, D.C.

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