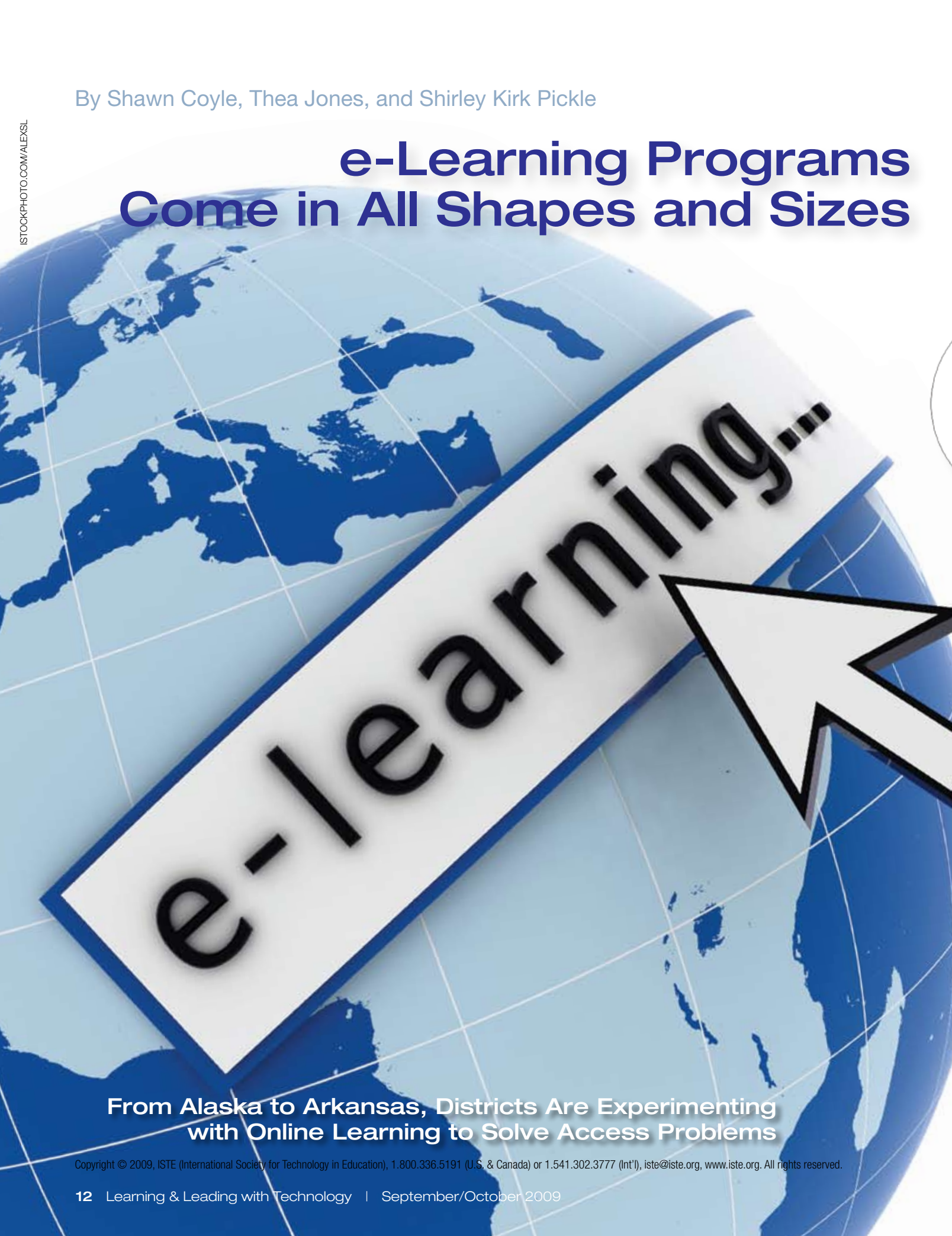
By Shawn Coyle, Thea Jones, and Shirley Kirk Pickle

e-Learning Programs Come in All Shapes and Sizes



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From Alaska to Arkansas, Districts Are Experimenting with Online Learning to Solve Access Problems

Here's a sample of online learning programs serving very different populations: a small district spread over a vast area, a large inner-city school district, and a statewide program serving numerous districts.

Yukon-Koyukuk District Connects Cultures and Communities

It isn't easy luring teachers to the Yukon-Koyukuk School District (YKSD) in interior Alaska. Made up of nine far-flung schools, the district covers an area larger than the state of Washington. Seven of those schools are accessible only by small aircraft. And up until two years ago, the duty was tough. Some teachers taught five different levels, each with its own lesson plan. The teaching staff was overwhelmed.

That's when we decided something had to change. We took teachers out of brick-and-mortar classrooms and put them in virtual ones. We made sure teachers had all the tools they needed and, through video, we "re-injected" them back into the classroom. Students still receive direct instruction—only now, their teachers are remote and have access to a vast amount of content. YKSD also delivers education to independent learners through its internal one-to-one laptop program.

Planning for this novel initiative grew organically and through observation. We looked at other programs in the state to see what did and didn't work, and we also took a very close look at our students. It's all about the audience, after all. Our students are digital natives, and they feel just as comfortable typing on a keyboard as putting pen to paper. We realized we had to go to them, not vice versa.

But going to the students was not easy. It meant we had to set up satellite communications systems in rural areas, some of which are inaccessible by automobile. Geographical barriers are a nightmare when you're trying to get people or equipment into remote villages. Because of severe weather, we invested in backup power systems, which is a must in rural villages.

Two years into the program, YKSD has seen significant progress. The district finally has a continuous program despite the discontinuous geography and culture diversity.

A "highly qualified" science teacher from Madison, Wisconsin, uses video teleconferencing (VTC) equipment to provide instruction to students districtwide.

Student achievement has increased and test scores have improved. Only two schools are deemed "nonimproving" under the adequate yearly progress benchmark of the No Child Left Behind Act. Two years ago, four schools were in that category.

Now the district enjoys economies of scale. One language coordinator, for example, teaches more than 200 Native Alaskan students their tribal language every day through VTC equipment, and she is joined by an award-winning language professor from the University of Alaska at Fairbanks. The language program is not only educationally sound, it also aims to preserve the ancient native culture, which greatly appeals to village elders.

Connecting our remote students using video teleconferening has been so successful, some courses, such as hospitality and construction, have been accredited through the University of Alaska at Fairbanks.

Always looking to improve the program, district leaders are working to expand the curriculum to include Advanced Placement courses; certificate programs, such as for medical terminology; and more college-accredited classes. Such initiatives are yet more examples of how YKSD has strategically employed technology to advance achievement and success among its unique student population.

—Shawn Coyle

From e-Learning to Virtual Learning Environments

In the Baltimore County Public Schools (BCPS), we believe that online courses provide new opportunities for our students. We offer e-learning courses designed to expand student access to challenging lessons aligned to state curricula, core learning goals, and national standards. Students work independently and at various times during the school day. Online teachers communicate with students using tools such as e-mail, discussion forums, and virtual classrooms as well as by phone and fax. Each student taking an online course has an onsite mentor who is available as needed to provide support. Management of online courses resides at the local school.

In Baltimore County, we are using online student courses to:

- Expand the range of courses and opportunities offered to students
- Allow students to take a course when there are too few stuto justify a face-to-face course
- Provide courses for students whose schedules prevent them from taking a course when it is offered
- Provide equity for students who cannot access courses
- Provide an online experience for students who will become lifelong learners and use 21st-century technologies to access online learning throughout their lives

During the 2008–09 school year, 27 secondary schools provided 19 online courses for 139 BCPS students. Courses included AP Art History, AP Biology, AP Physics-C, AP French, AP Environmental Science, and Algebra 2. Four students took multivariant calculus online from Stanford University, and 16 middle school students took online geometry so they could move more quickly to higher-level math courses.

Each of our online students must have a face-to-face mentor who works with the online teacher, proctors exams, provides science labs, and offers support. All BCPS students can access an online tutorial, Online Learning Essentials (www.bcps.org/students/online_learning), a Web-based set of readings and tasks designed to orient learners to the online learning environment.

The e-learning program has had a very positive effect on students. The program has grown from 26 in the 2004–05 school year to 139 for 2008–09.

BCPS is working to increase the number of students taking AP courses, and we expect each high school to offer a minimum of 12 AP courses, which has been a great support to those schools where students would not have been able to take the courses of their choice.

"Our school system is proud to have won local, national, and even international awards for its use of technology in furthering student achievement," says Joe A. Hairston, Baltimore County Superintendent and a 2005 recipient of *eSchool News*' Tech-Savvy Superintendent Award. "It is important for us to provide our staff and students with technology that supports the essential teaching and learning process taking place in our classrooms every day. We are always interested in technology that is user friendly and proven effective, and that provides staff with the flexibility to meet students' needs."

—Thea Jones

Close Connections Set Arkansas Distance Learning Program Apart

The Arkansas Department of Education Distance Learning Center was established in July 2001 to assist schools that could not find highly qualified instructors and to provide flexibility in class scheduling for students. During the first year, the learning center had five Spanish instructors, one mathematics teacher, and one language arts/journalism instructor. After eight years, we now employ 25 teachers who teach elementary and secondary courses to schools throughout Arkansas.

All of the instructors are located at the main facility in Maumelle, Arkansas, but the 3,000 students attend 98 schools across the state. The distance learning center provides all of the state-required units of instruction except music and physical education.

The distance does not prevent teachers and students from developing personal connections. Teachers meet students at venues around the state to provide real-life experiences. For example, one instructor recently took a group of students to hear Hispanic singer Justo Lamas perform. Other groups met at authentic Mexican restaurants, where they ordered in Spanish and spoke with native Spanish speakers. Instructor Lura Benton accompanied high school students Robert Jones and Dana Ward to Spain and Morocco last spring break. The whole community got involved in fundraising to help the students pay for their trip.

The instructors conduct their classes from self-contained offices equipped with a compressed interactive video (CIV) system, document camera, computer, VCR, DVD player, audio cassette/CD players, and a V-Brick encoder. The investment in V-Brick technology enables instructors to design and record video modules to help students master concepts and skills. For example, a student in Spanish I who is having difficulty conjugating verbs ending in *ar* can view a module explaining the process. There are also printable explanations and practice activities at our website to help reinforce concepts.

In addition to the basic equipment, all the mathematics and science instructors have TI-85 calculators that are connected directly to the CIV systems and software specific to the content areas. The journalism, creative writing, and art instructors have digital cameras, scanners, and Adobe Creative Suite software. The students' work—newspapers, poetry, short stories, and art—are posted on the Web.

The distance learning center is committed to a "blended" synchronous learning environment. Whereas asynchronous instruction is successful with college students and adults, K–12 students tend to do better in synchronous environments. These students require real-time contact with instructors, and

we make sure students participate in extracurricular events that demonstrate student achievement. For example:

- The French and Spanish clubs have attended local and state competitions, where they participate in poetry recitations, give demonstrations in a foreign language, and perform in skits and musical competitions.
- Students in Leesa Potts' fashion merchandising class made trips to clothing stores and interviewed store owners about their operations and marketing strategies, then submitted their fashion designs for critiquing and consideration for manufacture.
- As an ongoing part of the Introduction to Travel and Tourism class, students research tourist attractions in Arkansas or surrounding states, contact the appropriate personnel at those attractions, and plan all aspects of the trip, just as though they were operating a travel agency. They then meet their teacher, Holly Meeks, at the attraction, tour it, and have lunch.
- Physics students took part in the Habitat Moon Design Challenge, a NASA event in which students were challenged to design and build a self-sustaining, enclosed habitat capable of supporting life on the moon.
- During the 2006 spring semester, students in the Sports Marketing and Entertainment class spent a Saturday shadowing the PR team of the Arkansas Twisters Arena Football organization.

In eight years, the distance learning center has grown from 62 students attending three schools to 3,046 students attending 93 schools. The passing rate is 95%. Our students have the opportunity not only to fulfill their graduation requirements, but also to take advanced and specialized courses, to learn to use technology, and to participate in extracurricular activities not usually associated with distance-learning courses. Interest in the DLC program has grown tremendously, and the administration and faculty are actively involved in expanding and improving the scope of instruction and student experiences through both technology and pedagogy.

— Shirley Kirk Pickle

Shawn Coyle is the executive director of technology for the Lower Yukon School District in interior Alaska. He's worked in the rural Alaska school system for more than 10 years.

Thea Jones is the supervisor of the Office of Instructional Technology at Baltimore County Public Schools, Maryland. In 2008, she received the ISTE Outstanding Technology Leader Award, and she believes that at least one online course should be required for all students.

Shirley Kirk Pickle, instructional coordinator of the Arkansas Department of Education Distance Learning Center, has been an educator for 34 years in the South and New England. She has a master's degree in education of the visually impaired child from the University of Arkansas.