

e-Learning Frameworks for NCLB

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Educators must embrace e-learning solutions if they want to ensure that every student has a quality educational experience. But before e-learning can achieve widespread acceptance in public schools, educators and policy makers must expand their notion of education to include online courses and digital materials used to enhance classroom instruction.

The No Child Left Behind (NCLB) Act requires a rigorous academic curriculum and highly qualified teachers—and it holds public schools and teachers accountable for student success. E-learning solutions can supplement and enhance a school’s ability to deliver a quality educational experience for all students.

This paper will describe e-learning solutions to common problems facing educators, outline current barriers to the widespread use of e-learning, and describe characteristics of an “ideal” state environment for e-learning.

PART 1: Understanding the power of e-learning

The following scenarios describe real problems from the education trenches and the e-learning solutions that resolved them.

Rural Pennsylvania. The German language teacher resigned in June. In mid-August, despite the principal’s best efforts, there’s still no teacher for German II. How can the class’s 15 seniors meet their foreign language graduation requirement?

An online German II class solved the problem. The students “attended class” in the computer lab, submitted their homework and took exams online, and participated in online discussions. With a staff member acting as a mentor, the students kept up with their studies and continued learning. At the end of the year, staff and students judged the replacement class a success—thanks to the students’ efforts, the quality of their online course, the skill of their online instructor, and the support of their in-school mentor.

Small-town Texas. Each year there are a few math students who really should be taking Advanced Placement Calculus—but never enough to warrant offering the class. How can the math department continue to challenge its best students?

An online Advanced Placement class solved the problem. The students who needed the challenge of an academically rigorous mathematics curriculum took the AP course online, completed it successfully, and went on to pass the AP exam. By arranging for the online course, the school expanded the students’ learning opportunities and also improved their chances of meeting college entrance requirements.

All over the country. The seventh-grade social studies curriculum is ambitious and the teacher is highly capable. As in most classes, however, the students represent a wide range of academic preparation and educational ability. How can the teacher help every student succeed?

A variety of digital materials helped the teacher provide additional opportunities for individualized learning. Online assessment solutions gave her ongoing indications of student progress. Interactive products, both basal and

supplementary, augmented classroom lessons with targeted curricula focused on student outcomes. Reference materials at various levels, both online and static, enabled the students to conduct research matched to their abilities. And multimedia applications brought history to life.

In an increasing number of schools, educators are using e-learning solutions to expand the course catalog or supplement the existing instructional material. Similar in many ways to their traditional counterparts, e-learning solutions are not difficult for schools to use.

Most online courses are regular courses whose content follows a standard scope and sequence. Although the delivery methods are different from those used in traditional courses, online courses are typically taught by certified teachers and follow specific curricula. Students read textbooks, write papers, take quizzes and exams, and participate in discussions—just like they do in traditional courses. The major difference between a traditional course and an online course is the physical and temporal separation between the class and the teacher—and often between members of the class.

Instructional material in digital form offers resources in a new way, often with the added advantage of temporal currency or interactivity. For example, students using one e-learning application might be able to watch a graph be instantaneously redrawn when the parameters are changed. Students using another might be able to see the impact of changing an experimental variable or get up-to-date access to the latest vote in the Senate. Digital materials may also provide additional resources on demand, such as pronunciations, definitions, or background information.

In the examples above, educators were able to resolve their problems because they had already integrated e-learning solutions into their education planning. So the online courses—in German and AP Calculus—were considered to be part of the school’s catalog of offerings. And the digital materials in the seventh-grade classroom were treated no differently than traditional textbooks, workbooks, or other supplementary materials.

Thanks to investments at the federal, state, and local levels over the past 10 years, tremendous progress has been made to put the technology in place to support these solutions. During the past decade—according to

Quality Education Data, Inc.—an estimated \$59 billion has been invested in desktop computers, networking, Internet connectivity, and professional development. States have made deep investments in building the technology infrastructures of their schools. And communities nationwide have approved local bonds and levies to fund the hardware, software, connections, and training needed to level the technology playing field for their students. But despite these investments, and the benefits of e-learning, there is still more to do to ensure that children and teachers everywhere can take advantage of e-learning solutions.

Many schools currently face obstacles as they try to use e-learning solutions. If they want to supplement their catalog with online courses or use locally delivered digital content, they face policy or funding barriers—or both. The schools may find that the online courses they want to offer do not meet current regulations regarding provider accreditation, teacher credentials, grading, or transcripts. They may not have the funds to pay for online courses. Or they may fear losing ADA-based funding when students “attend” courses online. In addition, when they want to supplement classroom resources with digital content, they may discover that textbook dollars are not available. By recognizing these obstacles, we can address them—and thus move closer to creating e-learning-friendly environments.

PART 2: Recognizing the obstacles associated with e-learning solutions

For the most part, the obstacles to using e-learning solutions fall into the following three categories:

- Policy (including issues of certification, teacher of record, credit, provider accreditation, and attendance)
- Quality (including materials, instruction, and implementation of online courses as well as digital materials used in the classroom)
- Funding (including sources of money to purchase online courses and digital material)

Online instruction, particularly in hard-to-staff subjects like foreign languages and advanced science and math

courses, is one way to ensure that students have access to the courses they need for college and life—regardless of teacher resources in their own school districts. However, state lines often stand in the way of teachers providing online instruction to students in states other than where they are certified—regardless of their academic qualifications. Other related obstacles involve regulations determining who can be the “teacher of record” for a course and what institution can grant credit. Definitions of attendance can pose problems if students taking online courses are off-site while “attending” class. Finally, because accreditation has traditionally been done on a regional basis, regional variations, such as in the number of annual school days, can pose problems.

Questions about quality frequently arise (“How do we know it’s any good?”) when schools begin considering online courses or digital material. When discussing quality, it’s important to address the differences between traditional and digital content as well as the delivery mechanism for digital material.

Funding is another problem area. In some instances, state educational regulations allow students to earn credit from an online course, but per-seat funding formulas cause the school district to lose corresponding funding. In addition, e-learning solutions, particularly supplemental digital content, have no consistent budget.

PART 3: Removing the barriers to e-learning

The responsibility for creating e-learning–friendly environments lies with all of us involved in education in the United States—federal and state education agencies, state and local policy makers, and business. Here’s what we need to do as a start.

- Establish a national research and development agenda for evaluating the ways that technology improves teaching and learning—and for creating a policy and funding environment that facilitates the use of technology for education.
- Evaluate program regulations and change those that impede student access to expanded educational opportunities.

- Shift funding priorities and eliminate budgetary restrictions that prevent the purchase of online courses or digital content.
- Design online courses that meet nationally recognized content standards and staff the courses with fully qualified instructors.

With regard to policy, quality, and funding, states that have e-learning–friendly environments have all—or most—of the following characteristics.

Policy

1. Teacher certification

At present, each state has its own process and requirements for obtaining a teaching credential. Organizations such as the National Board for Professional Teaching Standards have established standards for national board certification. To date, 35 states have approved processes to recognize this kind of national certification.

In an e-learning–friendly state:

- All teacher certification meets the requirements of the Highly Qualified Teacher component of NCLB.
- New teaching methodology standards, such as those of the National Association of Teacher Standards, have been developed for online teaching.
- Additional requirements for teaching online are included in the certification process.
- Teacher certification includes the requirement that all teachers understand e-learning solutions and be able to use them effectively.
- State-level certification reciprocity is enacted.

2. Teacher of record

The teacher of record is the person responsible for assigning student grades and authorizing course credit. Typically, the teacher of record is the certified teacher at the school who is teaching the course.

In an e-learning–friendly state:

- State and local policies allow the online teacher to be considered the official teacher of record.

- School districts that offer online courses as part of the standard course catalog accept the qualifications of the online teacher as the teacher of record.

3. Credit

The local school or district is traditionally the legal credit-granting institution for all students in attendance. Since online teachers are not members of the local faculty, some schools and local school districts are prevented by district or state policy from granting credit for an online course. In addition, attendance—as measured by seat time—has been the most common indicator of eligibility for credit. When students take online courses in non-school settings, such as libraries or at home, seat time may not be measurable.

In an e-learning–friendly state:

- State laws and policies allow local schools or districts to grant credit for any online course that is provided as a part of the school’s standard program.
- School districts accept grades issued for an online course—on transcripts, for graduation requirements, and in calculating grade–point averages.
- School districts accept successful completion of an online course (replacing seat time) for the purposes of granting credit.

4. Provider accreditation

Traditional schools are accredited by one of several regional accrediting agencies. Through organizations such as the Commission of International and Trans-Regional Accreditation (CITA), many large regional accrediting commissions maintain a common protocol, ensure standards, and conduct evaluations of distance learning providers. All protocol and standards for distance education schools have been enacted and are now operational.

In an e-learning–friendly state:

- The regional accreditation agency has standards for evaluating providers of online courses. These standards are comparable to those used to evaluate traditional schools, but recognize the differences in delivery methods.

- Evaluation standards for curriculum and instruction are equivalent to traditional school requirements. In addition, online course providers are evaluated on the use of available online technologies, instructional strategies, and online resources as well as on their appropriate use in enriching the student experience.

- Public school districts use accredited providers.

5. Attendance

Accounting for student attendance is mandatory in traditional schools. However, a student may “attend” an online course outside the school building or outside normal school hours.

In an e-learning–friendly state:

- An attendance policy for online courses recognizes that successful completion of a course is equivalent to attendance for the period of the course.
- When a student takes an online course during an assigned class period, attendance is taken as if the student were in a locally taught class. However when a student takes the course with a flexible schedule or location, appropriate successful progress through the course is used as a measure of attendance.

Comment: Basic education funding is traditionally based on student attendance, with Average Daily Attendance (ADA) or Full Time Equivalent (FTE) being the most common measure. In an e-learning–friendly state, schools maintain their basic education funding even if their students are taking an online courses instead of a traditional one.

Quality of the student experience

1. The quality of online courses

To ensure the quality of online courses, three components must be evaluated: materials (curriculum and assessment), instruction, and implementation. To evaluate materials and instruction, educators apply existing evaluation tools and processes in a new arena. Although the materials and teachers may be off-site, current processes can still work.

Evaluating implementation requires a different approach. In traditional courses, educators use classroom observation, quizzes, and tests to determine how well their students are learning. They also take note of at-

tendance and class participation. When students are at a distance, ongoing monitoring is more difficult, so schools have to be proactive in checking the effectiveness of online courses for their students. Selection of students, determination of how and where students participate, parental support, in-school support, and support from the online course providers are all issues that can impact a student's chance for success.

Many models can be used to provide an environment that is successful for students. In an e-learning-friendly state, some or all of the following critical factors are in place.

Critical factors for curriculum and assessment materials in online courses

- The online curriculum meets appropriate curriculum standards.
- The content is appropriate for the grade level and age of students.
- The use of technology enhances the curriculum.
- The assessment content and methodology is appropriate to online courses.

Critical factors for instruction in online courses

- Teachers are certified and highly qualified to teach the course that they are teaching.
- Teachers are proficient in teaching in an online environment.
- Online teachers, like traditional teachers, are evaluated annually.
- Online course providers provide qualification documentation to their client schools or districts.
- Appropriate metrics, such as for the teacher response time to students, are established.
- Feedback to students is provided through appropriate communication vehicles.

Critical factors for implementation of online courses

- Students are selected to participate in online courses based on their potential for success: independence, motivation, academic preparation, and access to appropriate technology.

- Every student has an on-site mentor to address problems that may interfere with the educational process.
- Mentors receive information to help them be effective in supporting online students.
- Mentors are responsible for the student's learning space and technology.
- Mentors communicate—about student progress and any problems that arise—with the course provider, the student, and the parent.
- Every student in an online course that replaces a regular course is assigned a class period for the online course.
- Online teachers hold regular office hours in which students can communicate with them.
- Students, parents, and school personnel have access to current student reports.
- Parents receive information to use in supporting their online students.
- Schools and course providers have a workable feedback mechanism.
- Standards that support student success, such as response time for technical support and guidelines for the delivery of student work, are established by the online course provider.

Comment: Schools can use existing online course evaluation tools to determine which online courses and implementation models best fits their students' needs.

2. The quality of digital instructional materials

Educators already use an instructional materials selection process to evaluate traditional materials, like textbooks and supplementary print materials. Digital material should meet the same kind of educational standards with recognition of the differences in delivery mechanisms.

In an e-learning-friendly state:

- The instructional materials process and guidelines include standards that incorporate critical elements

for e-learning materials, such as the appropriate use of technology to support instruction.

- Online course materials are evaluated using an instructional materials process that is appropriate for digital materials.
- Classroom e-learning solutions are evaluated with whatever instructional guidelines and processes are appropriate for their use.

Funding

1. Funding for online courses

Local administrators have the legal responsibility for providing an education program that best serves students in their school. Today, public schools are funded on a per-student basis. Funding calculations are based on average daily attendance or other site-based measures of student presence. Since online courses separate the physical presence of students and the educational process, they do not meet the conventional funding criteria.

In most states today, online courses are not supported in the normal ADA/FTE funding process. The use of a financing methodology that fully funds students, regardless of whether they take in-class courses or online courses, will eliminate educators' fear of losing their basic education funding.

In an e-learning-friendly state:

- Financing formulas allow schools to use basic education funding to pay for e-learning solutions, both online courses and digital content.
- Title I regulations allow low-performing schools to use the Supplementary Education Services funds to purchase online courses and other e-learning solutions.
- Policy makers have enacted funding formulas that provide fair reimbursement for e-learning solutions that are used to provide core instruction.

Comment: Many states have elected to fund online learning through mechanisms such as state-funded virtual schools that have free or reduced tuition. In fact, 15 states have done so, with an additional 7 states having cyber charter schools (Education Week, Technology Counts, 2004). Other funding mechanisms include extraordinary funding where the state compensates a

virtual school for students who successfully complete an online course. However, that particular model removes funding from the local school that would have had the student as ADA/FTE.

2. Funding for other e-learning solutions

With current definitions of textbooks, most e-learning solutions (basal or supplementary) have to be purchased with supplementary materials funding or technology funding. Current resource allocation methods perpetuate the separation of traditional instructional materials and digital content.

In an e-learning-friendly state:

- The definition of "textbooks" has been expanded to include both online course materials and digital content.
- The textbook adoption process has been expanded to include digital content and online course materials—and provides appropriate guidelines and timelines for selection, purchase, and implementation.
- Certain processes, like book-depository requirements, have been amended to support the adoption of digital content and online courses materials.

Call to action

An e-learning-friendly environment is necessary for schools to provide a 21st Century education and can help them meet the goals of NCLB. To achieve such an environment, federal, state, and local educational agencies must create a long-term policy agenda that includes the normalized use of e-learning solutions. Policy makers must revisit the traditional standards and policies for delivering educational opportunities to students. They must also address the lack of flexibility in educational spending and the unyielding budget calendar that prevents local educators from providing the best educational opportunities for all students.

The comments and scenarios in this paper reflect an urgent need. Today's students, accustomed to revolutionary technology, are leaving the public schools to obtain faster, customized, and interactive online education from other sources. When local administrators have the power to make effective use of e-learning solu-

tions, public schools may again be able to provide the education these students are seeking.

An e-learning-friendly state has solved policy, funding, and quality problems. If your state is not yet e-learning friendly, the ideas in this paper can serve as guidelines for change.

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