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The rapid growth of eLearning over the last 15 years, and its increasing acceptance, presents educators with an opportunity to transform education and meet the needs of a much broader, diverse group of learners than has been served in the past. Students across the world are earning diplomas, taking courses in subjects not previously available to them, connecting with students in faraway places, and increasing their control over the path and pace of their education. This rapid growth and change leads to challenges as well. Among the most significant of these is the need to ensure quality, access, and accountability as the quantity of opportunities grows. Though a relatively new field, online and blended learning have already seen significant success, and much can be learned from early pioneers. Identifying successful models, learning from their mistakes, and sharing best practices is the quickest path toward serving as many students as possible with high quality options through means that are accountable for positive results.

The national K-12 online education landscape includes state virtual schools, online schools that attract students across entire states, and programs run by individual school districts for their own students. Students may take one course from an online provider in order to supplement their brick and mortar school catalogs, may take all of their courses online, or may blend online resources with traditional classroom teaching. California has some district-level supplemental online programs and blended learning opportunities, and full-time online schools that collectively serve students across much of the state. However, California has lacked a statewide vision of how best to implement and offer eLearning opportunities.

Educators creating and supporting online programs face key operational issues that include:

- Content acquisition
- Teaching and professional development for teachers
- Technology
- Student support
- Program budgeting and staffing
- Program evaluation

Online course content is the most easily identifiable portion of an eLearning course and is a key component of any course. Whether eLearning programs build, buy, license, or develop content (or some combination of the same), it must meet state standards and should also be reviewed by the California Learning Resource Network (CLRN) or a district-level expert when possible and appropriate.

Teachers remain a key part of instruction in eLearning, as successful student outcomes derive from a successful classroom experience – regardless of whether that classroom is in a brick-and-mortar or eLearning environment. However, online and blended teaching requires additional skill sets that must be developed through pre-service training or professional development. Online instruction requires that teachers go beyond subject area proficiency and understand how to teach effectively online.

Technology provides the framework of the eLearning environment. The Learning Management System, Student Information System, and content must work together seamlessly; as technology provides more student data allowing and supporting highly customized learning for students, the interoperability of systems becomes increasingly important.

Ensuring student success in online and blended learning extends beyond the instructional environment into the support structures established to help students succeed. Counties, districts, and schools are familiar with many of these student services, but in almost all cases, they must be adapted to serve the eLearning student effectively. There are significant differences between serving students in a full-time online environment, supplemental environment or a blended environment.
Educators developing online and blended learning programs must work within a policy framework that is created by state regulations. These policies often determine what educators can and cannot do. Existing California policies create barriers for educators who are trying to provide a range of online and blended learning opportunities for students in California. The main barriers are tied to seat-time funding requirements and line-of-sight provisions that limit the ways in which educators can instruct students. Addressing these policy barriers will allow California to build on the benefits that online and blended learning provide to build a school system that personalizes learning for each student. Students will be able to progress through the system at their own pace, moving on when they demonstrate mastery, whether that is ahead of or behind grade-level expectations.

Internet technology has transformed systems, increased efficiencies, and improved results across countless fields, including post-secondary education. K-12 education has lagged behind other areas in its adoption of technology, and California has lagged behind other states. California counties and districts have the opportunity to build on the path that other states have forged, and improve it by focusing on using eLearning to transform education for students across the state. As the home to Silicon Valley and countless transformative technology companies, Californians have led the country, and indeed the world, in creating innovative approaches to transform many elements of society. It is past time to do the same for California's students.
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“I purport that too many of our schools are experiencing the appalling disparities that exist in our public education system. We need to take advantage of a new distribution model (global)—it is using the Internet to deliver high quality courses and instruction. We can reduce inequity, level the playing field and accelerate learning and track student performance better, too.”

Susan Patrick, Short-Circuited: The Challenges Facing the Online Learning Revolution in California

1.1 Introduction

The rapid growth of eLearning in the last 15 years presents educators with an opportunity: to transform education and meet the needs of a much broader, diverse group of learners than has been served in the past. Students across the world are earning diplomas, connecting with students (and their geography, history, and culture) in faraway places, and learning course subjects not previously available to them (Mandarin Chinese), all while learning at their own pace on their own schedules. Teachers report increased interaction with students, and participation from all students—not just the students in the “front of the class.” This rapid growth presents its own challenges, the most significant of which is perhaps the need to ensure quality and accountability as the quantity of opportunities grow. Though a relatively new field, online and blended learning have already seen significant success, and much can be learned from early pioneers. Identifying successful models, learning from their mistakes, and sharing best practices is the quickest path toward serving as many students as possible, in the best ways possible.

This paper is divided into six sections: Environmental Scan, Content and Content Evaluation, Teaching and Professional Development, Technology, Policies and Governance, and Program Operations. Many of these topics will be introduced in the environmental scan, but will be addressed in-depth in later sections.

1.2 eLearning definitions

eLearning has grown dramatically in K-12 education in the past 15 years, creating countless new opportunities for students and educators, and, in many cases, demonstrating improved student outcomes. The national K-12 online education landscape includes state virtual schools, online schools that attract students across entire states, and programs run by individual school districts for their own students. Students may take one course from an online provider in order to supplement their brick and mortar school catalogs (a supplemental program), may take all of their courses online (a full-time program), or may simply blend online resources with traditional classroom teaching. (See Appendix 1: Glossary for more definitions).

Many terms and definitions in the field—such as eLearning, online learning, blended learning, hybrid learning, virtual schools, and cyberschools—do not have commonly understood definitions. Online learning is teacher-led instruction delivered primarily via the Internet that includes software to provide a structured learning environment, and where the student and teacher are separated geographically. It may be synchronous (communication in which participants interact in real time such as video conferencing) or asynchronous (communication that is separated by time such as email or online discussion forums). It may be accessed from multiple settings (in school and/or out of school buildings).

Blended learning combines online learning with face-to-face instruction. It is becoming increasingly important as many school districts are adopting online learning for reasons other than the distance component—mostly because of the ability to use online instruction and resources to enhance learning opportunities and outcomes, and to personalize learning. In a single district, students may access online resources most often while sitting in a classroom, often with a teacher or paraprofessional either leading or assisting with instruction. The recent report The Rise of K-12 Blended Learning from the Innosight Institute provides great detail and specific examples of the many types of blended learning models.
Key Definitions in eLearning

**Online learning** is teacher-led instruction delivered primarily via the Internet that includes software to provide a structured learning environment, and where the student and teacher are separated geographically.

**Blended learning** is any time a student learns at least in part at a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/or pace.

1.3 History of eLearning

Over a century, we have witnessed the gradual evolution of distance learning—from “snail mail” correspondence courses to television, videoconferencing, satellite, Internet applications (eLearning), and now mobile learning. Early distance learning programs created educational opportunities for rural students in places like Alaska, where brick-and-mortar schools were geographically unreachable for some students. Many schools took baby steps into distance learning with credit recovery programs, first on CD-ROMs and now often online using computer-based instructional approach. As technology and broadband access improved, online programs expanded to meet the needs of home school students, adult learners, advanced students seeking academic challenges beyond their brick-and-mortar school catalog, and student athletes seeking flexibility.

While K-12 online learning continues to grow rapidly, the shape and pace of growth is uneven. Constrained education budgets, new policy developments, and changing technologies are accelerating growth in some areas while slowing growth in other segments, but the overall trend persists. As of summer of 2011, online learning opportunities are available to at least some students in 48 of the 50 states, plus Washington DC. No state, however, provides the full range of potential online learning opportunities—supplemental and full-time options for all students at all grade levels.

1.4 The national landscape

Mapping the electronic schooling frontier is difficult because the territory changes rapidly, and the myriad definitions and program designs cloud the map. Here is what we know:

- Thirty-nine states have state virtual schools or state-led online initiatives. While their sizes vary dramatically, Florida Virtual School reported more than 220,000 course enrollments (one course enrollment equals one student enrolled in one semester-long course), which is 49% of the 450,000 enrollments in state virtual schools reported nationwide.

- 27 states plus Washington DC have at least one full-time online school serving students from multiple districts or statewide. Nationally an estimated 200,000 students are attending full-time online schools, an annual increase of 15-20%.

- Individual school districts operating online programs for their own students make up the fastest growing segment of K-12 online learning. It is estimated that 50% of all districts are operating or planning fully online (including virtual charters) and blended learning programs.

- The International Association for K-12 Online Learning (iNACOL) estimates in *A National Primer on K-12 Online Learning* (2010) that 1.5 million students are taking one or more online courses.

- According to the National Alliance for Public Charter Schools, there are 219 virtual charter schools nationwide, and another 142 that identify as blended or hybrid models.

- Much of the recent growth in online and especially blended learning is largely happening in district-sponsored online and blended learning programs, largely in the form of supplemental enrollments. Measuring this growth is difficult as districts typically do not have to report online or blended enrollments.

A recent development in the K-12 online learning world is the growing number of schools, districts, and states with online learning requirements. Alabama, Michigan, and West Virginia require an online course or approved online learning experience prior to graduation, and Memphis Public Schools requires a full online course for graduation.
Felicia Fowler, Memphis district IT coordinator, noted that “We feel they needed to be prepared for that type of life experience. Their lives are going to require them to learn online.”

These requirements raise the question of whether eLearning is appropriate for all students. As seen in a backlash in Florida in 2010 when class caps forced students into fully online courses, some students aren’t confident they will succeed in the online environment. This is a development to be watched closely in the coming years if online and blended learning are required in more states and district, and not just an option for students.

This trend is also indicative of the overall state of eLearning. The Sloan Consortium reported in Class Differences: Online Education in the United States that approximately 5.6 million higher education students enrolled in at least one online course in fall 2009, almost one million more than in the year before. eLearning is quickly becoming the most efficient way to deliver continuing education and professional development. However, it is critical to not be seduced into developing more online and blended courses simply as a cost-saving measure (an argument that will be addressed later in this paper). When implemented well, these tools give teachers an opportunity to transform the educational experience—to meet the needs of a broader group of learners, individualize instruction and transform education for everyone—and should not be seen as a replacement for either the traditional high school experience nor for individual teachers.

1.5 Types of online education programs

Online programs vary in many of their key elements. A set of the defining dimensions of online programs, represented in Figure 1, describes whether the program is supplemental or full-time; the breadth of its geographic reach; the organizational type and operational control; and location and type

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**The Defining Dimensions of Online Programs**

![Diagram showing the defining dimensions of online programs](https://via.placeholder.com/150)

Figure 1: Defining dimensions of online programs. Figure from Keeping Pace with K-12 Online Learning, 2009, www.kpk12.com, and adapted from Gregg Vanourek, A Primer on Virtual Charter Schools: Mapping the Electronic Frontier, Issue Brief for National Association of Charter School Authorizers, August 2006.
of instruction. Some of these attributes may be combined or operate along a continuum (e.g., location and type of instruction).

Of the ten dimensions listed in Figure 1, four are especially significant:

**Comprehensiveness (supplemental vs. full-time):** One important distinction is whether the eLearning program provides a complete set of courses for students enrolled full-time or provides a small number of supplemental courses to students enrolled in a physical school. Full-time online schools typically must address the same accountability measures as physical schools in their states. **Riverside Unified School District** offers supplemental courses to brick-and-mortar students seeking credit recovery, Advanced Placement and accelerated learning opportunities; while also offering a full-time curriculum for students in grades 6-12. **Los Angeles Unified School District** is starting their program similarly with credit recovery and supplemental courses, and is now expanding to offer a full-time high school curriculum in 2011-12. They offer fully online as well as blended courses to their students.

**Reach:** eLearning programs may operate within a school district, across multiple school districts, across a state, or in a few cases, nationally or internationally. The geographic reach of eLearning programs is a major contributing factor to the ways in which education policies can be outdated when applied to online programs. In California, for example, charter schools can only serve students in contiguous counties, and teachers must be certified in California. Even a “home-grown” model such as **Clovis Online School**, a full-time online charter school serving students in grades 9-12, is limited by geography as to whom it can serve.

**Delivery (synchronous vs. asynchronous):** Most eLearning programs are primarily asynchronous—meaning students and teachers work at different times, communicating via email and discussion boards.

**Type of instruction (from fully online to fully face-to-face):** Many programs are now combining the best aspects of online and classroom instruction to create a variety of blended learning experiences. Schools such as **San Francisco Flex Academy** (grades 9-12) and **Rocketship Education** (grades K-5) are designed around blended learning models.

As eLearning evolves into new models that include blended learning, personalized instruction, portable and mobile learning, and computer-based instruction (CBI), other defining dimensions come into play as well (Figure 2). The characteristics of blending learning instructional models represent a continuum, from minimal and supplemental to mostly online instruction. The student role in blending learning models may be more prescriptive or it may offer greater flexibility in both physical location, pace, and engagement with content. Similarly, the role of the school may vary from a more traditional fixed environment to a more flexible model that extends learning and support services in new ways.

### 1.6 Overview of the technology and components of a comprehensive program

One of the misconceptions about learning online is that online courses consist mostly of reading on a computer screen. While this may be true of a few eLearning programs, in most online courses there is a high degree of communication and interaction between teachers and students. In fact, many online teachers report that teaching online is at least as challenging as teaching in a classroom because of the amount of individual attention each online student receives. Courses are delivered via a software package called a **learning management system (LMS)**, which includes communication tools, instructional tools, and assessment features that comprise the content of the course.

iNACOL facilitated a working group that designed the website **How to Start an Online Learning Program**. One of the many areas covered is how to choose an LMS, and it includes key features to consider and whether to build or buy. The website is an outstanding resource for program administrators moving through the many decision-making processes involved in starting an online program.

Online instructional materials include audio and video presentations, animation, digital textbooks, and other content that may reside inside or outside the learning management system. Publishers, digital content companies, and nonprofit organizations are increasingly developing content. Except for teacher-to-student instruction over video, very little course material is delivered via the equivalent of a classroom lecture.
### THE DEFINING DIMENSIONS OF BLENDED LEARNING MODELS

<table>
<thead>
<tr>
<th>Characteristics of Instructional Models</th>
<th>Level of Blended Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTRUCTIONAL MATERIAL LEVEL</td>
<td>Learning Object</td>
</tr>
<tr>
<td></td>
<td>Unit/Lesson</td>
</tr>
<tr>
<td></td>
<td>Single Course</td>
</tr>
<tr>
<td></td>
<td>Entire Curriculum</td>
</tr>
<tr>
<td>INSTRUCTIONAL RESOURCES</td>
<td>Course minimally uses digital content, resources, and tools to supplement instruction</td>
</tr>
<tr>
<td></td>
<td>Digital content, resources, and tools expand and enhance the curriculum and content</td>
</tr>
<tr>
<td></td>
<td>Use of digital resources and tools are integral to content, curriculum and instruction</td>
</tr>
<tr>
<td>ASSESSMENT</td>
<td>Whole-class assessments, used primarily in the classroom, during the school day as the primary means of feedback</td>
</tr>
<tr>
<td></td>
<td>A combination of traditional and online assessments are used inside and outside the classroom</td>
</tr>
<tr>
<td></td>
<td>Greater amount of digital, real-time data and feedback allow for individualized instruction</td>
</tr>
<tr>
<td>COMMUNICATION (Student / Teacher &amp; Student / Student)</td>
<td>Occurs primarily synchronously and in the physical classroom</td>
</tr>
<tr>
<td></td>
<td>Is a mixture of synchronous &amp; asynchronous and may be in the physical classroom or online</td>
</tr>
<tr>
<td></td>
<td>Occurs primarily asynchronously and online or from a distance</td>
</tr>
<tr>
<td>ATTENDANCE REQUIREMENTS</td>
<td>Students are required to attend a physical classroom 5 days a week</td>
</tr>
<tr>
<td></td>
<td>Students attend a physical classroom less than 5 days a week and work online at other times</td>
</tr>
<tr>
<td></td>
<td>Students have flexible physical classroom and/or location attendance requirements</td>
</tr>
<tr>
<td>STUDENT LEARNER’S ROLE</td>
<td>Student is primarily the recipient of teacher provided instruction. Teacher sets day-to-day pace.</td>
</tr>
<tr>
<td></td>
<td>Student takes active role in learning with reliance on digital content, resources and tools. Student has more control of own pace.</td>
</tr>
<tr>
<td>INDIVIDUALIZATION OF INSTRUCTION</td>
<td>All students expected to complete same instructional pathway</td>
</tr>
<tr>
<td></td>
<td>Students engage with digital content to customize their instructional pathway</td>
</tr>
<tr>
<td></td>
<td>Students engage with digital content and have multiple pathways that are competency-based and not tied to a fixed school calendar</td>
</tr>
<tr>
<td>INSTRUCTIONAL SUPPORT MODELS</td>
<td>“Direct student learning” through traditional teacher roles and staffing models</td>
</tr>
<tr>
<td></td>
<td>“Facilitate student learning” through a team approach with a significant reliance on technology-based tools and content</td>
</tr>
<tr>
<td></td>
<td>“Coordinate student learning” through the expanded use of technology-based tools and content, as well as the effective use of outside experts and/or community resources</td>
</tr>
<tr>
<td>INSTRUCTION SCHEDULE AND LOCATION</td>
<td>Fixed daily schedule, instruction primarily in physical classroom</td>
</tr>
<tr>
<td></td>
<td>Mixed schedule of online and physical instruction</td>
</tr>
<tr>
<td></td>
<td>Highly flexible schedule, with instruction is possible 24x7. Learning centers support instruction</td>
</tr>
<tr>
<td>ACCESS TO ACADEMIC STUDENT SUPPORT</td>
<td>Support is school-based, and provided primarily by the teacher during the class period.</td>
</tr>
<tr>
<td></td>
<td>Support structures (e.g. online tutoring, home mentors, and technical support services) in place 24x7, in addition to teacher support.</td>
</tr>
<tr>
<td>TECHNOLOGICAL INFRASTRUCTURE</td>
<td>School or classroom based with students using shared classroom computer resources. Access to infrastructure ends with class period.</td>
</tr>
<tr>
<td></td>
<td>Available across school campus with students checking out computers from a lab or bringing their own. Access to infrastructure is during school hours.</td>
</tr>
<tr>
<td></td>
<td>Available on and off campus with students using their own device. Access to infrastructure is 24x7.</td>
</tr>
</tbody>
</table>

© International Association for K-12 Online Learning

### 1.6.1 Professional development for online teachers

The definitive guide to standards for online teachers can be found in the iNACOL *National Standards for Quality Online Teaching*, which draws heavily from previous standards created by the Southern Regional Education Board (SREB), including elements that touch on both the technology and pedagogical aspects of teaching online.

Pre-service training and professional development are necessary for teachers to master a new teaching environment. The iNACOL publication *Professional Development for Virtual Schooling and Online Learning* emphasizes this point by stating that one of the myths related to the professional development required to support online learning is “any regular classroom teacher is qualified to teach online,” especially if high quality online content has already been prepared or purchased.

Online programs recognize this myth and many have professional development requirements specific to their online teachers. In addition, a small number of university teacher preparation programs are beginning to develop certificate programs in online teaching and other continuing education options. Some states are considering a certification specific to online teachers. In addition, the 2010 *National Education Technology Plan* recommends developing “a teaching force skilled in online instruction.”

### 1.7 Does eLearning work?

Parents, students, and educators interested in online learning want to know if it works. In 2010 the U.S. Department of Education released *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies* which looked at studies from post-secondary and K-12 education. The meta-analysis found that, on average, students in online learning conditions performed modestly better than those receiving face-to-face instruction. Though the report found an “unexpected… small number of rigorous studies,” the results are promising.

Because Florida Virtual School (FLVS) is older and larger than the other state virtual schools, it has undergone annual evaluations that are more extensive than the other state virtual schools. They are available on the FLVS website. The evaluations include surveys of current students, withdrawn students, parents, and school district administrators. In addition, FLVS received a positive, research-based *review of its performance* by Florida TaxWatch Center in 2008. Florida TaxWatch is a private, nonprofit organization that provides the citizens of Florida and public officials with research and analysis on how tax dollars are being spent. The Florida TaxWatch rating was based on extensive research into student achievement, demographics, AP scores, and enrollment information.

*Rocketship Education*, based in San Jose, is pioneering a blended learning model for elementary schools. While the model is still in development, the schools are already returning impressive results. In 2010, Rocketship Mateo Sheedy Elementary and Rocketship Sí Se Puede Academy ranked 5th and 15th on the state’s Academic Performance Index among all California schools serving 70% or more low-income students. In addition, 90% of Rocketship students demonstrated math proficiency, and 80% demonstrated English language arts proficiency, compared to just 54% and 36% of students, respectively, in surrounding schools.

Despite the examples listed above, the research on the effectiveness of eLearning is relatively slim. There is a growing base of research on postsecondary online learning and a limited base of research on virtual high schools, but very little research on K–8 online learning. There are no major, methodologically rigorous studies comparing the academic performance of virtual charter school students to that of an applicable comparison group in traditional public (or charter) schools.

The question about the comparative effectiveness of virtual schooling, though, may be too blunt. We should also ask which types of virtual schools work, under what conditions, with which students, with which teachers and with what training. In fact, these are all the same conditions that should be understood with regard to all types of learning—not just online.

### 1.8 Accountability structures currently in place in California

The ways in which eLearning schools, programs, and providers can be held accountable for results vary directly with the type of school, program, or provider. It does not make sense for a state to
mandate accountability measures across the board, without specifying type of program or provider. There are some structures currently in place to ensure quality and build accountability with online and blended programs in California.

The two primary accountability measures for K-12 schools in California are Adequate Yearly Progress and the Academic Performance Index. The Elementary and Secondary Education Act (No Child Left Behind) mandates that schools must make Adequate Yearly Progress (AYP) in meeting student achievement growth goals, or they are required to undertake school improvement plans. The Academic Performance Index is California-specific, and measures the academic performance (base) and growth of schools and LEAs based on statewide tests for grades 2-11. In both cases, virtual charters are treated like any other full-time school and must meet their goals.

Present quality measures are typically input-focused, as it is difficult if not impossible to trace student performance back to the provider of each course. Newly developed systems should be more outcome-focused, which provides a much better snapshot of effectiveness than input measures. The Data Quality Campaign (DQC) offers ten recommendations for states to improve their longitudinal tracking of students from preschool through grade 20 (P-20). Student outcomes could then be used to assess teachers, teacher preparation programs, online course providers, content providers, schools, and districts over time. The DQC tracks each state’s progress toward these recommendations; as of spring 2011, California has met nine of the Essential Elements but only two of the State Actions.

### 1.9 Quality in online programs

With the rapid growth of online and blended learning, identifying high quality courses and programs is a top concern for students, parents, teachers, and administrators. A quality eLearning program assumes high-quality courses that take advantage of the technology to transform the educational experience. High-quality online courses base student grades on a range of assignments and tests, and are not heavily weighted to a few large tests. Many online courses and teachers also integrate portfolio assessment into their evaluation of student work; students are assessed based on class participation, a variety of assignments and small group work in addition to exams, providing a more holistic approach to assessing student success.

One of the ways some states seek to ensure quality is through provider or course approval processes. These range from confirming that standards are met and highly qualified teachers are used, to extensive checklists including standards, opportunities for interaction, and effective use of technology. As of spring 2011, 15 states have a state-level online provider approval process or mandate that districts have one, and 23 states have a state-level online course approval process or mandate that districts have one. Many online schools and programs also advertise that they follow the high quality online course, teaching and/or program guidelines put forth by iNACOL. Most states do not specify how long the approval stands, or if something such as negative test scores or other unsuccessful outcomes could affect that approval, although Nevada specifies that providers be reapproved every three years. While the California Department of Education does not have a mandatory process, the University of California a-g Subject Area Requirements serve as a critical approval process in the state.

In addition, the California Learning Resource Network (CLRN), which is funded by the California Department of Education, is designed to be a resource for critical information needed for the selection of supplemental electronic learning resources aligned to the State Board of Education academic content standards. The review board consists of California educators who have specific content experience and go through a rigorous training program. The review process covers three areas: Legal Compliance, Standards Alignment, and Minimum Requirements, as defined by the State Board of Education. CLRN is partnering with iNACOL to update the Quality Standards for Online Courses; the updated standards are expected to be available later in 2011.

There is a push in the eLearning world to develop more accountability structures and quality-checks based on outcomes instead of inputs. This could come through pressure on providers to report student outcomes including grade level advancement and graduation rates, end-of-course exam scores, and Advanced Placement scores. Armed with information about what types
of students are succeeding in particular courses with particular providers, students, parents, and educators could make better-informed decisions.

**1.10 Competency-based pathways**

Considering ideal accountability systems for eLearning leads one down the path of what many educators believe to be the best system to track student outcomes: competency-based pathways. Educators and policymakers are increasingly recognizing that seat-time is a poor proxy for student learning, but seat-time remains the key to student progression and funding of schools.

- New Hampshire is the first state to formulate state policy that creates space for districts to implement competency-based systems. The policy allows for a full high school redesign, replacing the time-based system (Carnegie unit) with a competency-based system. It identifies the Concord Area Center for Educational Support to support districts and schools through redesign.

- Oklahoma’s SB2319 (2010) directs the State Board of Education to adopt rules to allow for completion based on mastery instead of Carnegie units.

- In June 2008, Nevada passed legislation allowing for an adult high school program, an alternative program, or a distance education program to obtain written approval from the Superintendent to use “progress or completion by pupils in a curriculum that is equivalent to the regular school curriculum. For purposes of this subsection, demonstrated competency in curriculum that meets the state standards may be considered equivalent to the regular school curriculum.”

- In 2010, Alabama created a limited allowance for each student in grades 9-12 to receive one credit based on mastery of content without specified instructional time *(AAC, Chapter 290-3-1, page 3-1-3)*. While this is not a rule specific to online learning, it has significant implications for online and blended learning.
Utilizing high quality content sets up a program up to be successful in meeting student needs. The following questions explore how content will be used in the online program:

- Full-time online or supplemental programs: is the program going to offer a full curriculum, or offer supplemental courses to particular groups of students?
- Fully online or blended courses: is the program expanding its course catalog with new courses, or transforming existing courses with digital resources?
- Individualized or cohort-based: Will the content be self-paced to allow students to progress at their own pace, or cohort-based to have students move through the class in a group?
- Continuum of instruction: How self-directed will students be? What role will the teacher play? How interactive will the course be?
- Competency-based pathways: Will students have the option of competency-based learning, or will the course have to meet seat-time requirements?
- Traditional school calendar: Will the courses be open-entry/open-exit? Many California students still have end-of-course exams to take at a particular time; how flexible will courses be within that structure?
- What grade levels will be served?

Once these decisions have been made, content can be built and/or purchased either in learning objects (small chunks of content), modules, or full courses. There are six primary areas of course content to be considered. These align with the University of California “a-g” subject area requirements, which are discussed in more detail later in this section:

- Core courses – including mathematics, science, English, and History/Social Studies
- Electives – including world language, visual and performing arts and more.
- Credit recovery
- Advanced Placement, Gifted and talented and Honors courses
- Career and technical education
- College Prep and Dual enrollment (allows students to earn both high school and college credit simultaneously)

A full-time curriculum will of course touch on multiple areas of content, including core and elective, but might expand to include all six. Many programs ease into online learning with a credit recovery program; in fact, this has been the case throughout the history of distance learning, even prior to online courses. Offering credit recovery is a way to meet the needs of a group of students not being effectively served in a traditional classroom, who may be more likely to thrive in a flexible learning environment.

Choosing one area with which to test the waters of eLearning is a starting point for many programs. Whether with an official pilot or simply with a small group of students, the program can train a small group of teachers and administrators, establish relationships with vendors, learn some lessons, and adjust appropriately for future courses.

2.1 Build, buy, license, or mix?

Once the area(s) of content is identified, a decision must be made as to whether to build, buy, license, or take a mixed approach. The answer to this question depends on a wide variety of variables, including:

- expertise of your staff
- time / resources available to build content
- time until the courses need to launch
- money available for start-up costs vs. money available for ongoing maintenance
- need for customization of course content

The How to Start an Online Learning Program website offers a comprehensive analysis of the pros and cons of the build vs. buy discussion, as well as more details about licensing.
2.1.1 Build

Pros: Building content in-house gives your staff complete control over the content, allowing for total customization during both the course build and course maintenance processes. The program retains the rights to the courses; some eLearning programs have had success in selling high quality content to other programs.

Cons: Individual schools and districts, and even state agencies, cannot match the investment and expertise of national organizations building online courses. Building high quality content requires highly skilled instructional designers trained in designing online content and issues related to accessibility. Launching an initial catalog of courses can be a time-consuming and high-cost undertaking that requires specialized staff, depending on the complexity and depth of the courses built. Ongoing maintenance costs are variable, depending on the program’s content review cycle and the amount of media-rich content in your courses.

2.1.2 Buy

Pros: The key benefit to buying content is the dozens of content vendors building high-quality, interactive content modules and courses that are readily available. In addition, full course catalogs can be up and running immediately. Many content vendors will sell content for an up-front cost and then an ongoing licensing fee that is reasonable, and allows for customization. Many vendors also have the expertise to build content that meets accessibility requirements.

Cons: Content does not come customized for your needs, and may or may not be able to be customized once you own it. Contracts must be carefully reviewed to understand thoroughly the up-front and ongoing costs. You must confirm the consistent quality of courses across all disciplines, not just the courses demonstrated to promote a sale. Buying content does not grow the internal online content development capacity of your program.

2.1.3 License

Licensing content is the most common method of content adoption, largely due to its flexibility. Content can be licensed in learning objects, in full courses or full programs of study. There are many ways to license content, including per user, annual, membership and enrollment models. The models, just like the vendors, are constantly changing and expanding.

2.1.4 Mix

The decision to build, buy, and/or license might be different for different parts of your program—even within individual courses; some programs choose to buy content objects and create custom-designed courses, creating a mix of approaches. It also might change as the program matures and you build staff expertise. All programs handle this decision a little bit differently, but it might be helpful to talk through the logic with an administrator of an eLearning program similar to what you are designing.

2.2 Content purchasing options

There are myriad paths to acquiring content, and the landscape is constantly evolving. Figure 3 provides a graphical depiction of the K-12 online learning market landscape as of fall 2010. The graphic is meant to give the reader an idea of providers in three areas: Delivery and Management Systems, Content and Instruction, and Professional Development. While the online learning landscape is consistently evolving and the diagram is not comprehensive, it is meant to give an idea of representative providers in each space.

2.2.1 Course and learning object adoption models

California county offices, districts, and schools have a variety of options to choose from when considering content for online and blended learning programs. Many providers, both for-profit and non-profit, offer options that range from a purchase of complete courses to the licensing of individual learning objects. Many eLearning programs adopt a wide variety of resources from several different providers, including Open Educational Resources (OER), which are discussed below.

2.2.2 Comprehensive service providers

The next level of eLearning content providers offers more of a full-service solution: content, a learning management system, and even certified teachers if needed. These private, for-profit companies may also include a student information system, marketing, and school management in order to
provide a turnkey solution to districts seeking to launch an eLearning program quickly. Traditionally, these comprehensive service providers have supported online charter schools, but this is changing as they look to offer services to traditional school districts engaged in starting or growing their eLearning programs.

2.2.3 Open Educational Resources

Open Educational Resources (OER) are defined in a report to the William and Flora Hewlett Foundation as:

“Teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or repurposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge.”

The National Repository of Online Courses (NROC) / HippoCampus is an OER based in California that
works with member institutions across the country and internationally. NROC offers courses across many high school subject areas, and is developing a full developmental math curriculum. Additional OER resources include Connexions and CK12, digital textbooks focused on STEM.

2.2.4 California Resources and Initiatives

There are a variety of California initiatives that provide OER content or other supporting online and blended learning services to counties, districts, and schools.

- **Calaxy** – The California K-12 High Speed Network (K12HSN) is offering a comprehensive set of tools to support teaching and learning in California classrooms. This free suite of tools includes blogging, videoconference scheduling, wikis, an asset management module, as well as an online course management system and a file sharing system where educators can upload videos, podcasts, images, and documents.

- **CaliQity** – Based on a strategic partnership between the California K-12 High Speed Network and IQ Innovations, California schools, teachers, and students now have free access to the CaliQity eLearning Platform. The CaliQity Reactor Repository is filled with state-aligned courses and learning objects, including the Currium core course offerings that are available exclusively through CaliQity.

- The **Digital Textbook Initiative**, managed by The California Learning Resource Network reviews digital textbook alignment with content standards.

- **University of California College Prep** (UCCP) is a state-led online initiative that provides OER to California schools. In 2009-10, UCCP provided 120 educational nonprofit partners across the state—including 14 county offices of education, about 50 school districts, and 40 schools—its online curriculum with instruction and course credit. UCCP funding appears to be in jeopardy as of the summer of 2011.

- **Brokers of Expertise** – is a state-lead initiative administered by the K-12 High Speed Network (K12HSN) that provides access to many collections of standards-matched digital classroom resources as well as a community where educators share their own best classroom resources and strategies.

- There are also a variety of purchasing consortiums in California that are engaged in work related to online and blended learning. They include:
  - **California County Educational Technology Consortium**
  - **California Learns**

A comprehensive online program might take advantage of any or all of these resources, pulling together the best program to meet your students’ needs. As the content landscape is changing rapidly, making good choices can be challenging. Speaking with other programs that have worked with and recommend a vendor is important, as is an in-depth evaluation of the content.

2.3 Online content evaluation

Dr. Kelly Schwirzke studied the nature and extent of online education in California K-12 public schools in 2011, and found that over half of the respondents (56.2%) ranked concerns over course quality as a barrier to offering online and blended courses, which was higher compared to Picciano and Seaman’s 2007 national study (51.1%) and the 2009 national study (48.6%). Across all three studies, the barrier ranked second was course development and/or purchasing costs, at 42.9% (2007), 48.0% (2009), and 44.5% (2011).8

Adopting content is similar to adopting textbooks in that there should be an established approval process. There are a handful of resources, two of which have been designed in California, that seek to provide more information about high quality online content, and can be used to guide a content evaluation process.

2.3.1 iNACOL Standards of Quality for Online Courses

The original version of the iNACOL National Standards of Quality for Online Courses was adopted in September 2007 and largely based on previously developed standards from the Southern Regional Education Board. The iNACOL standards still set the bar in online learning, however, they are in the process of being updated, and a new
version is expected to be available in 2011. Many experienced online and blended programs across the country have used modified versions of these iNACOL standards as tools when reviewing content for purchase or evaluating the creation of their own content. The standards focus on six areas, along with detailed criteria for each area:

- Content
- Instructional design
- Student assessment
- Technology
- Course evaluation and management
- 21st century skills

2.3.2 California Learning Resource Network

The California Learning Resource Network (CLRN) is a state-funded project that reviews supplemental electronic learning resources, data assessment tools, free web links, and digital textbooks for their alignment to the California’s original content standards, the Common Core State Standards (described in the next subsection), and California’s social content criteria. In July 2010, CLRN received permission from the California Department of Education (CDE) and Secretary of Education to develop a process and criteria to begin reviewing online courses.

CLRN’s initial California stakeholder group included members of the CDE, CCSESA’s Curriculum and Instruction Steering (CISC) and Technology and Telecommunications Steering committees (TTSC), Association of California School Administrators (ACSA), eLearning advocates, and industry representatives. The committee’s work confirmed CLRN’s proposed process to review courses, and a substantial portion of its work was to update iNACOL’s Standards for Quality Online Courses.

In November 2010, CLRN collaborated with iNACOL and the Texas Virtual School Network (TxVSN), a state-funded project that reviews online courses in Texas, to co-chair a national committee to continue rewriting the course criteria and reviewer considerations that can be used by any eLearning program. The completed criteria and considerations, to be published by iNACOL in summer 2011, are the core criteria for CLRN’s online course reviews. The standards address the extent to which the online course or learning object meets or exceeds quality criteria organized in the following sections:

- Content: The course provides online learners with multiple ways of engaging with learning experiences that promote their mastery of content and are aligned with state content standards or nationally accepted content.
- Instructional Design: The course uses learning activities that engage students in active learning; provides students with multiple learning paths to master the content based on student needs; and provides ample opportunities for interaction and communication student to student, student to instructor and instructor to student.
- Student Assessment: The course uses multiple strategies and activities to assess student readiness for and progress in course content and provides students with feedback on their progress.
- Technology: The course takes full advantage of a variety of technology tools, has a user-friendly interface, and meets accessibility standards for interoperability and access for learners with special needs.
- Course Evaluation and Support: The course is evaluated regularly for effectiveness, using a variety of assessment strategies, and the findings are used as a basis for improvement. The course is kept up to date, both in content and in the application of new research on course design and technologies. Online instructors and their students are prepared to teach and learn in an online environment and are provided support during the course.

During 2011-12, CLRN will review high school English-language arts and mathematics courses for their alignment to content standards (California’s original standards or the Common Core State Standards) and to the 52 online course standards established by CLRN. Published reviews will contain detailed information about the specific standards that are fully or partially met. CLRN course reviews will include additional subject areas in 2012-13.

Educator and student user feedback surveys will also be a part of each review, allowing course customers to voice their opinions on a variety
of topics. While containing separate questions, the two surveys will share three questions which will be summarized within each review: 1) a yes/no recommendation of the course; 2) a four-point scale regarding the degree to which the course met their expectations; and 3) a four-point scale regarding the degree to which the course was engaging.

These standards and reviewer criteria will be valuable tools for eLearning programs in California as they adopt content and courses.

2.3.3 The University of California “a-g” Subject Area Requirements

The a-g Subject Area Requirements are a concept unique to California. The requirements were developed to ensure that students coming out of California high schools and entering California universities are college-ready. There are specific requirements for history / social science, English, math, lab science, languages other than English, visual and performing arts, college prep electives. In order to be considered for admission to the University of California (UC) or California State University systems, a student must complete 15 year-long high school courses with a grade of C or better. There are additional details regarding the timing and alternatives for the entrance requirements. Students submit their a-g course list when applying to college.

In addition, requirements specific to online courses were passed in 2008. Online providers must apply to UC for approval; 12 providers have been approved as of the summer of 2011. They must then submit their courses for approval. There is extensive guidance for the acceptance of online courses and suggested support for students.

2.3.4 Common Core Standards

The Common Core State Standards Initiative, “a state-led effort to establish a shared set of clear educational standards for English language arts and mathematics,” has been adopted by 44 states as of early 2011, including California. The standards apply to all courses, regardless of delivery method. The approval of the Common Core standards allows for development and eventual implementation of shared content and assessments aligned with those standards. The CLRN content review process includes the Common Core Standards.

2.4 Evolving toward a robust quality and accountability system

With the dizzying array of rapidly evolving online and blended schools, and with each district around the state starting from a different point, what should be done to make sure that online learning produces transformative results?

A robust quality and accountability system will rely on a combination of inputs and outcomes to assess quality accurately. In the long term—when data systems are robust enough to allow this approach—accountability will be based almost entirely on student achievement. These systems may not appear for years, leading to a need to create some interim measures and rely on existing structures. Along the way, policymakers should remain committed to the use of outcomes as the measure of accountability to ensure that temporary inputs measures do not become permanent.

Evaluation of outcomes should be based on student growth, not on averages across student populations. Schools and providers should not be rewarded or penalized for working with high proportions of gifted students or, alternatively, at-risk students.

Working within existing accountability and quality structures, while working toward an improved system that is well-designed to meet student needs, will result in the best possible outcomes for students.
Successful student outcomes derive from a successful classroom experience – regardless of whether that classroom is in a brick-and-mortar or eLearning environment. However, online and blended teaching also requires additional skills that should be identified and developed.

Content expertise is one element of teaching, but online instruction requires that teachers go beyond subject area proficiency and understand how to teach online effectively. The teacher in online and blended courses is just as important as the teacher in the physical classroom. As in the face-to-face classroom, an online teacher’s role includes guiding and individualizing learning; communication with students; assessing, grading, and promoting students; and, in some cases, developing the online course content and structure. While the technology may automate some grading functions and the student’s face-to-face mentor (typically a parent, lab monitor, or paraprofessional) may provide input, these crucial assessment decisions remain the responsibility of the professional teacher. These skills have the added challenge of engaging in these activities while dealing with the unique issues of time, place, path, and pace of the online or blended classroom.

3.1 Academic goals drive teaching and professional development needs

The program types introduced in the Environmental Scan play a critical role in framing the educational goals of your program, which in turn drive the teaching and professional development needs:

- Full-time online or supplemental programs: Relationship-building and communication strategies with students differ between program types.
- Fully online or blended courses: Teaching and technology needs differ based on the course type.
- Individualized or cohort-based: The online environment gives teachers the opportunity to individualize instruction more than ever before, either through one-on-one instruction or small cohorts.

- Continuum of instruction: Will the course be heavily facilitated by the teacher? What role will the teacher play – how involved in the learning process will they be? How interactive will the course be?
- Competency-based pathways: Where allowed, competency-based pathways shift the teacher focus to assessing student performance on explicit learning topics and becoming familiar with examples of proficiency.
- Traditional school calendar: When does professional development happen in a school calendar that may be year-round, and have a focus on supporting students during after-school hours and the summer?
- Grade levels to be served: The online and blended teaching methodologies and technologies differ significantly at each grade level, even from year to year.

3.2 Standards for online teaching

Attempting to address high quality teaching entails two elements: the teaching that occurs in the online environment, and creating good online teachers through pre-service programs and professional development. The iNACOL National Standards for Quality Online Teaching published in 2007 draw heavily from previous standards created by the Southern Regional Education Board (SREB), including elements that touch on both the technology and pedagogical aspects of teaching online. The most critical of these standards are listed below; the full document includes sub-elements for each standard that are provided in a checklist that can be used by program or school administrators to establish and evaluate best practices. The teacher:

- Plans, designs, and incorporates strategies to encourage active learning, interaction, participation, and collaboration.
- Provides online leadership in a manner that promotes student success through regular feedback, prompt response, and clear expectations.
• Models, guides, and encourages legal, ethical, safe, and healthy behavior related to technology use.

• Understands and is responsive to students with special needs in the online classroom. This may include a basic understanding of accessibility and access issues.

• Delivers assessments, projects, and assignments that meet standards-based learning goals and assesses learning progress by measuring student achievement of learning goals.

• Utilizes student data and findings from assessments and other data sources to modify instructional methods (and possibly content) to guide individual student learning.

• Demonstrates frequent and effective strategies that enable both teacher and students to complete self- and pre-assessments.

iNACOL is in the process of updating these standards to acknowledge advances in the field of online learning. Until those standards are released, the following standards should also be considered, especially for blended programs:

• The teacher has and maintains online and blended technology skills – this includes, but is not limited to familiarity with Learning Management Systems, Student Information Systems, and web-conferencing tools.

• Assesses learning progress by measuring student achievement of learning goals.

• Effectively navigates between modes of instruction (online, blended, brick-and-mortar).

### 3.3 Professional development for online and blended teachers

Online teaching standards are necessary for the success of online schools, but how will teachers learn the elements of online instruction? Clearly, pre-service training and professional development are necessary for teachers to master a new teaching environment. The iNACOL publication *Professional Development for Virtual Schooling and Online Learning* emphasizes this point by stating that one of the myths related to the professional development required to support online learning is “any regular classroom teacher is qualified to teach online,” especially if the quality online content has already been prepared or purchased.

Online programs recognize this myth and many have professional development requirements specific to their online teachers. In addition, a small number of university teacher preparation programs are beginning to develop certificate programs in online teaching and other continuing education options. Some states are considering a certification specific to online teachers. In addition, the draft 2010 *National Education Technology Plan* recommends developing “a teaching force skilled in online instruction.”

#### 3.3.1 Teacher recruitment and hiring

In order to begin the teacher recruiting and hiring processes, it will be helpful to create a profile of a successful online or blended teacher in your district. This will include answering the following questions:

- Will you be hiring teachers from within your district, or hiring new teachers?
- What course format(s) will the teacher teach? Fully online or blended?
- Is your district prepared to train teachers with no prior online or blended experience, or are you looking specifically for teachers with experience?
- Will teachers be full-time or part-time?
- Must teachers be located in a physical building in your district or can they work from home?
- What other contractual issues must your district be aware of / address prior to recruiting or hiring?

The iNACOL *How to Start an Online Learning Program* website also addresses this issue, offering more detail around some of the questions to be answered and issues to be considered.

#### 3.3.2 Teacher licensing in California

In addition to district-level issues, California-specific policy issues come into play when recruiting and hiring online and blended teachers. According to the report *Short-Circuited: The Challenges Facing
the Online Learning Revolution in California, California is one of many states that fails to allow teacher licensure reciprocity; it requires California teaching credentials to teach in public schools. This "prevents the possibility of virtual schools using star teachers in other states to teach online students."9

3.4 First-time online and blended teachers

As the eLearning field grows, there is a growing recognition that teaching online requires a new and different skillset than the brick-and-mortar classroom, as noted in the standards described above. There are a handful of states that require professional development or certification for online teaching above and beyond the standard teaching requirements. Wisconsin, for example, requires 30 hours of professional development designed to prepare a teacher for online teaching. For states where this type of training is not required, there are key online facilitation and teaching skills fundamental to all first-time teachers working in an online or blended environment that should be addressed prior to leading a course. These can be attained in a variety of ways, as discussed below.

3.4.1 Teacher preparation programs

University of California-San Diego, the University of Illinois, and the University of Wisconsin are among the growing number of universities offering teacher preparation programs specific to eLearning as of summer 2011. These programs cover the standards mentioned previously, including online instructional design, and typically offer a practicum. However, these programs are clearly the exception, and most teacher prep programs are not focused on online or blended learning. In a Boise State survey of 830 teachers nationwide, only 5% reported having an endorsement in online education. In Going Virtual! 2010, Boise State provides insight into where teachers are receiving their online learning professional development. (Table 1)

3.4.2 Mentoring

Even teachers moving from a brick-and-mortar classroom into an online or blended environment may still struggle with the transition. Setting up a mentoring program will allow teachers to learn from each other; Online Teacher Support Programs: Mentoring and Coaching Models offers suggested models and examples of mentoring programs.10 In addition, there are a number of online forums where online and blended teachers can share information; these include Promethean Planet, iNACOL, and the International Society for Technology in Education (ISTE).

3.4.3 Professional development by discipline

Though many of the skills specific to eLearning are shared across disciplines, professional development that is specific to each discipline—math, science, language arts, physical education, etc.—can introduce teachers to resources, content ideas, and technology tools that would be particularly helpful. Several state virtual schools organize their teacher professional development in discipline groups (e.g., all social studies teachers).

3.4.4 Design training in-house or outsource?

Whether to design training in-house or outsource its development and facilitation is a question with similar implications to the build and/or buy discussion in the Content section of this paper. The answer will depend on your in-house expertise, timing, funding, and access to existing resources. National external providers include EdTech Leaders Online, the Virtual High School Global Consortium, Boise State, iNACOL’s Teacher Talk series, and the State Virtual School Leadership Alliance Professional Development Series.

<table>
<thead>
<tr>
<th>Who provided the training?</th>
<th>0 Years (just hired)</th>
<th>1-5 Years (n=522)</th>
<th>6-10 Year (n=112)</th>
<th>10+ Years (n=14)</th>
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<tr>
<td>My program, school or organization</td>
<td>95.0%</td>
<td>93.9%</td>
<td>95.5%</td>
<td>71.4%</td>
</tr>
<tr>
<td>My District</td>
<td>13.9%</td>
<td>16.7%</td>
<td>23.2%</td>
<td>21.4%</td>
</tr>
<tr>
<td>College or University</td>
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<td>30.7%</td>
<td>42.9%</td>
<td>21.4%</td>
</tr>
<tr>
<td>Self-Led (i.e. PLN)</td>
<td>12.9%</td>
<td>22.6%</td>
<td>33.0%</td>
<td>50.0%</td>
</tr>
</tbody>
</table>

Table 1: Where teachers received online learning professional development, Boise State, Going Virtual! 2010
3.4.5 California online teaching resources

California offers resources specific to online teaching and teacher licensure. Computer-Using Educators, Inc. (CUE) is in the process of developing what they term Leading Edge Certification. This collaborative project will eventually offer five different certifications with the goal of creating 21st century educators; the first certification (Certified Online Teacher) is expected to be available in 2011, and then offer one additional certification each year through 2015.

3.5 Online and blended teachers in year one

Some teachers report that the first year of teaching online is similar to the first year of teaching—learning new methods of delivering content, communicating, and assessing; communicating with parents differently; even the hours can be dramatically different. Supporting teachers in their first year in an online or blended environment by providing a structure for communicating challenges, brainstorming solutions, and sharing lessons learned is more likely to result in a successful team of online and blended teachers.

3.5.1 Management techniques for the online and blended learning classroom

The eLearning classroom more naturally supports individualized learning; however, that creates its own challenges in terms of classroom management. The teacher’s role becomes more of a guide through the learning process.11 This includes:

- assessing student understanding of learning objectives
- creating and facilitating group discussions
- developing group projects
- making constant adjustments to course resources
- responding to students’ questions and concepts they are finding most challenging

3.5.2 Communicate, communicate, communicate

In the student-centered eLearning environment, ongoing communication with teachers and other support professionals is critical. Tools used include email, instant messaging, online chatting, video chatting, phone calls, and text messaging. Some programs establish requirements for how often teachers must log on to the LMS; others establish guidelines for how quickly a teacher must respond to a student contact. Regardless of whether a guideline is mandated, teachers should set expectations with each class, and follow-through on the expectations.

The eLearning environment is an excellent way to promote collaboration between students. Using threaded discussions, group chats, and group emails, it becomes easier to pull in the “quiet” students from the back of the classroom.

In addition to the increase in communication between the teacher and students, many online teachers see an increase in parent communication. With the increased access to the learning environment, many parents get more involved in their student’s academics than in a brick-and-mortar class. Taking advantage of the tools included with the LMS—like giving parents access to the online syllabus and gradebook for their child—gives more information to the parents without relying on individual communication. It is also critical to set expectations with parents about the frequency of communication and email response times.

3.6 Supporting the experienced online and blended teacher

In the first year teaching in an eLearning environment, it is hard not to focus on the technology. It is a different way of delivering content, communicating with students, promoting collaboration, and assessing student progress. However, the technology is simply a teaching tool to be learned; as a teacher’s comfort-level rises with each tool, dealing with the tools becomes easier, and the class flows naturally. At that point, the experienced teacher is ready for additional learning opportunities, which may include:

- Working with students with disabilities: Due to its individualized nature, eLearning can be beneficial for students with disabilities, but it also presents certain challenges related to accessibility for students with visual, auditory, and physical impairments. Full-time online schools are responsible for ensuring that Individual Education Plans (IEP) are followed;
a student’s home school is responsible for ensuring that a student’s needs are met with supplemental providers. Dr. Eve Muller offers suggestions for working with students with disabilities in her paper *Virtual K-12 Public School Programs and Students with Disabilities: Issues and Recommendations*, which was released in July 2010.

- Working with at-risk learners: The individualized nature of eLearning can also benefit at-risk students. The iNACOL brief *An Exploration of At-Risk Learners and Online Education* identifies the need for ongoing communication and support from teachers, administrators, learning coaches, counselors, tutors, and special education coordinators.

- Project-based learning: Defined as, “an instructional approach built upon authentic learning activities that engage student interest and motivation. These activities are designed to answer a question or solve a problem and generally reflect the types of learning and work people do in the everyday world outside the classroom.” This website also has specific resources for online teachers.

- Psychology of online learning: In a paper released by Boise State University, *Going Virtual: The Status of Professional Development and Unique Needs of K-12 Online Teacher*, teachers with six or more years of experience reported their greatest training need was in the psychology behind motivating students and dealing with cyber-bullying.

- Effective use of social networking tools: Experienced teachers can support each other through social networking websites such as LinkedIn, Twitter, and Skype.

- Enhancing the online course: Experienced teachers sometimes take on the role of course developer or course updater, and are able to align the instructional design and course tools to better design the online course to meet their students’ needs.

### 3.7 Evaluating online teachers

Online teachers are evaluated on many more dimensions than most traditional classroom teachers. This is possible, in part, because of the nature of the learning management system technology, which captures teacher-student interactions, class discussions, and course content in a way that is not possible in a traditional classroom. The asynchronous nature of a threaded discussion allows school administrators to “listen” unobtrusively to the conversation much more easily than observing a traditional classroom discussion.

In many online programs and a growing number of brick-and-mortar programs, student feedback about instructors is another component of teacher evaluation. This information is typically gathered through anonymous online surveys conducted once or more per term. Even when student feedback is not used as part of the formal evaluation process, it is still normally provided to teachers for use in their self-assessments.

### 3.8 Effective teachers results in successful students

eLearning offers the opportunity to transform the educational experience: to better meet the needs of specific groups of students, to prepare students for the 21st century, and to allow teachers to build a new set of skills related to teaching. One goal of an effective online teaching program could be to see educators move to a place of increasing awareness, purposeful thought, and predictive ability that drives different, effective instructional practices. Designing a program to include teacher recruiting, hiring, training, and ongoing support will result in better student outcomes – and successful teachers!
“While online educators often point out that teachers, and not computers, are at the heart of online learning, technology systems are clearly an important component of an online school. Computer hardware, software, and connectivity are essentially the facilities of an online or blended learning school, much as classrooms and buildings are the facilities of a physical school. These tools not only provide information and data to manage the program, but also help teachers become more innovative and effective at their jobs.”

In all cases, educational goals should drive the technology choices.

4.1 Interoperability and total cost of ownership

Technology decisions in support of your online and blended learning program can be complex, and individual decisions can often have long-term impacts. Now more than ever, creating a strategic instructional technology plan for your county, district or school is essential, and considering your online and blended learning objectives as part of that plan is critical. One key issue to consider as part of that plan is interoperability between technology systems. “Historically, the case for interoperability – the seamless sharing of data, content, and services among systems or applications – has not been compelling in the K-12 education marketplace. The growing popularity of cloud computing, online learning, data warehousing, sophisticated analytics, accountability reporting, and performance management tools all increase the need for interoperability.”

Total Cost of Ownership (TCO) is another important issue to consider as part of your planning process. The Consortium for School Networking (CoSN) offers quality, in-depth advice to K-12 leaders regarding this issue. TCO is a concept developed in the late 1980’s designed to provide insight to the real cost of computing. More than providing a different perspective on the IT capital and operations budget, TCO takes into account indirect, or non-budgeted costs as well, and presents costs and metrics on a per-client-computer basis.” Both of these issues stress the fact that technology decisions that support online and blended learning programs are often long-term commitments and leaders run significant financial and student achievement risk when decisions are made in isolation or rushed based on expiring funding.

4.2 Initial technology decisions

As you consider starting or growing your online or blended learning program, there are a variety of important technology issues that need to be addressed. Each of these will be discussed in more detail later this in section.

- Learning Management System (LMS)
- Learning Content Management System (LCMS)
- Student Information System (SIS)
- Internet Connectivity – bandwidth considerations
- Synchronous Tools
- End Devices – laptops, netbooks, tablets, smart phones and more
- Tech Support and Trouble Ticket Software

4.3 Choosing a learning management system

“eLearning is first and foremost based on the interaction between the student and the teacher, but technology plays a significant supporting role in delivering instruction and an integral role in providing accountability and management tools. The technology at the heart of an online or blended program is the learning management system (LMS)—the set of tools that houses course content and provides the framework for communication between students, teachers, and parents.”

4.3.1 Learning management system defined

The InACOL How to Start an Online Learning Program website describes an exemplary set of LMS features:

- Ability to create course shells and manage the content for the course shells.
- Ability to organize course content into units or chapters and lessons or individual content items
within a unit or chapter. Individual content items might consist of text, graphics, multimedia, animations, and interactive tools

- Ability to create accounts with different roles and privileges (e.g. student, teacher, mentor, parent, administrator, and more)
- Ability for teachers to post announcements
- Threaded discussion boards or forums for asynchronous discussions
- Assessment system to allow for online quizzes and exams
- Drop box capability for turning in assignments
- Online grade book
- Integrated email system or interface to an external email system
- Wikis, blogs, and other web 2.0 tools
- Functionality to support group and project work
- Functionality to individualize learning by providing customized learning paths (often based on the demonstration of mastery of specific learning objectives) for individuals or groups of students
- Ability to integrate with a Student Information System (SIS) to manage all or portions of these administrative processes
- Ability to run a variety of reports such as how frequently students are logging in, how long they are spending on specific tasks, course rosters, and student progress information. If you choose to integrate your LMS with a SIS sometimes the reporting functions will be split between the LMS and SIS.

4.3.2 Issues to consider when choosing an LMS

Choosing a Learning Management System is a key early decision for any online or blended learning program. Any LMS decision should be made in the context of your educational goals and driven by how this tool will serve your programs needs now and in the future. Below is a partial list of issues to consider when making an LMS choice:

**Instructional features and components**

Many LMS’ have a set of base features that are similar, but they often attempt to differentiate their products through some level of unique functionality. As you examine each LMS begin to create a list of features that you see as mandatory to serve your online or blended program. This exercise is important as more features are not always better, especially from a non-technical user’s perspective.

**Course/content development tools**

If you plan on building your own online or blended content then engaging in a thorough analysis of course development tools within each LMS will save you significant time and effort in the long run. If your teachers and other staff will be involved with content development, make sure you understand the initial ease of use of the LMS course development tools, in addition to the sophistication of the tools as your teachers become more experienced and skilled in content creation.

**Content compatibility**

Many of you will license some, if not all, of your online and blended learning content for your county, district or school program. Gaining a deep understanding of how your licensed content will function in your LMS is critical. Almost all content providers will be able to demonstrate their online content in the most common LMS’, but truly embedding that content in the LMS to take advantage of the system features and functionality is a critical next step that is not always offered. Be sure to confirm that the online and blended learning content imports easily in the LMS and embeds “natively” into the assessments, discussion boards, wikis, blogs, the gradebook and other features. Coordinating your LMS and course content choices can save you time, while also creating intuitive, easy to navigate course for your students.

**Integration with a Learning Content Management System**

A learning content management system (LCMS) (some use the term Learning Object Repository) is “the technology platform that supports the work-flow processes associated with authoring and updating online content as well as managing content for online courses located in a Learning
Management System.” If you choose to use an LCMS, all online and blended learning content items will be managed by this system and not by your LMS. This allows you to import, develop, and update your learning objects independent of the individual courses that you create in your LMS. If you have multiple versions of a single course taught by different instructors, you may choose to store your learning objects in the LCMS, so you can update them in one place and have that improved object appear in all versions of the course in your LMS.

An LCMS offers a variety of additional advantages related to the effective organization and cataloging of learning objects for your eLearning program. Choosing to license an LCMS will add flexibility, but also complexity to the development of your online or blended program. If you choose to utilize an LCMS, it is critical to make sure that it is integrated well with your LMS choice. It is not uncommon for an eLearning program to begin with only an LMS, but add an LCMS over time as the program grows.

Integration with your Student Information System (SIS)

Understanding the process of data transfer between your chosen LMS and your SIS is critical. Whether you are using an existing SIS that is currently utilized by your district or school or you are licensing a new SIS just for your online or blended learning program, gaining a deep understanding of how easily these two systems link together will save you significant amounts of staff time and allow you to more easily share achievement data with students, parents, teachers, and other stakeholders.

Will you host your LMS?

Although most (but not all) Learning Management Systems will allow both locally hosted and vendor hosted options, having a clear understanding of the staffing and costs associated with a locally hosted options is important. This links back into the issue of Total Cost of Ownership, although the hosted options may appear to be higher cost, a thorough TCO analysis will help you make the best decision.

Training for all types of LMS users

Planning for LMS training for both your teachers and administrative staff is a key component to consider when making this central eLearning decision. Some LMS providers offer training as part of their licensing package, while others rely on third party organizations to provide this training. Be sure to consider the costs and time associated with supplying this training to users, both on the instructional side and the administrative side. In addition, the LMS organization should present a plan to support your local LMS administrator. This staff person will configure and manage your LMS, and will need consistent support from the provider organization to keep the service running smoothly.

Web accessibility – section 508 compliance

Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a Federal agency, have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless an undue burden would be imposed on the agency.

Section 508 compliance extends beyond your choice of an LMS, but ensuring that your LMS can effectively support your overall web accessibility plan is essential. You can save your organization significant time and resources if your web accessibility plan includes both the functionality of the LMS and how the content you choose to build or buy functions in the LMS to support users with disabilities.

4.3.3 Commercial vs. open source

In addition to the important Learning Management System decision points listed above, choosing between an open source or commercial LMS has its own set of unique considerations. Table 2 provides some attributes to consider with each solution.

The same open source or commercial analysis can be applied to a variety of other technology and content decisions related to online and blended learning programs. Table 2 and footnoted resources can provide guidance in those choices.

4.4 Student information systems

A Student information system (SIS) is a software application used by education establishments to manage student data and generate a variety of reports. SIS’ often store and manage demographic data, assessment scores, schedules, attendance, discipline records, special education data and more. They may also provide online student registration, a portal for parents, and
manage many other student-related data needs in a school. The SIS is an administrative tool familiar to all physical schools, but also important in unique ways for online or blended learning programs.

### 4.4.1 LMS/SIS Integration

Working towards a tight integration between your SIS and LMS can be an important step in helping you harness data to support instructional and administrative decisions at various levels in your organization. Learning Management Systems provide a wealth of data about student engagement and achievement in addition to the effectiveness of the course content you have chosen. In most cases, county offices, districts, or schools that are interested in starting or growing their online and blended learning programs will be heavily invested in an existing SIS. Planning in advance for automated data transfer between these two systems will help you avoid significant time commitments associated with manually entering student data. If not planned well, this task of moving data between administrative systems can often fall to the teachers, which takes valuable time away from instruction.

### 4.4.2 Desirable SIS features and functionality

Whether you are working with an existing SIS or not, you have the opportunity to license a new SIS for your online and blended learning program. Key features and functionality to look for include:

- Designed to serve the needs of full-time and supplemental online learning, and blended learning formats
- Integrates cleanly with the program’s learning management system (LMS) with registration data flowing in and student data flowing out. This integration should support the delivery of student data to a “dashboard” both for teachers and administrators.
• Supports multiple levels of administrator access, so the individual schools can access student data for course approval and other purposes.

• Allows students access to application, course registration, fee or tuition payment, grades, transcripts, and drop requests, including the option for managing rolling enrollments.

• Consider Software as a Service (SaaS) model if you prefer to avoid the challenges of a local installation, hardware purchase, ongoing maintenance costs, and retaining technology expertise.

• The system should allow a significant ability to customize features (e.g., custom roles, templates, personal customization of data).

• The SIS should meet the data security needs of your program (e.g., SSL encryption, auto logout) and confidentiality of student records.

• Provides tracking capabilities for student information (e.g., communications, grades, transcripts, and external data like Individual Education Plans) and faculty (e.g., tracking performance, certifications, and teaching load).

• Easily creates and runs reports for state reporting requirements and supports state level electronic reporting as outline in The California Longitudinal Pupil Achievement Data System (CALPADS).

• Offers reasonable pricing for either a mature or start-up program and anticipates growth over at least a 24-36 month period. Pricing should take into consideration the difference between the needs of full-time and supplemental students, and be able to accommodate for blended learning instructional models.

• Technology designed to scale to grow as the program grows.

School Networking offer detailed technical support and the modeling needed to determine the amount of bandwidth you will need and the hardware and support services to effectively delivery that bandwidth to students, teacher, and administrative staff. Those technical details are beyond the scope of this document.

4.5.1 Bandwidth in schools

Online and blended learning programs have significant bandwidth requirements that will impact your district, especially at scale. Much of the eLearning content found in online courses today is media rich with video, audio, animations, simulations, and often real-time instruction through web conferencing. You might be planning an immersive blended learning world languages experience for your students, but if they all take a seat in your computer lab and click on the Spanish video at the same time, grinding your school Internet network down to a crawl, then all the wise instructional and content planning you have done could be for naught.

4.5.2 K-12 High Speed Network

In California, the K-12 High Speed Network (K12HSN) is working to support the installation of high speed Internet to county offices, districts, and schools by funding local aggregation points in each county. These local aggregation points are called “node sites” and they bring the connection close enough that the local school district can cost-effectively connect to the node site. The decision to connect to the K12HSN through the local node is a choice made by the school districts. Across the state, 86% of districts and 82% of schools in the state obtain their Internet or outside connectivity via the K12HSN. Some Counties have successful connectivity models within their regions and provide services to schools and districts. These local networks then connect to the K12HSN node site.

4.5.3 Student Internet access outside of school

One of the goals of most online and blended learning programs is to extend the school day beyond the walls of a building. This means ensuring that all students have access to online learning content in their home, in a community center, or possibly on a mobile device. Counties, districts and schools need to plan for Internet access for
students in situations where socio-economic factors or geography limit students’ options. For districts considering full-time online programs, planning for this access becomes essential for student success in the program.

4.6 Additional technology decisions

In addition to LMS, SIS and Internet connectivity issues, there are additional technology decisions that impact your online and blended learning program.

4.6.1 Synchronous tools — Web conferencing

Web conferencing tools that allow real-time communication and instruction on your computer are an essential part of almost all full-time online learning programs and are now being used commonly in supplemental and blended learning. Typical web conferencing tools include the following features:

- Voice-over-IP audio
- Audio bridge to separate telephone conference system
- Desktop video
- Text chat
- Shared white board
- Application and computer desktop sharing
- Ability to conduct polls of participants
- Ability for participants to express themselves with various icons (e.g. clap hands, confused face, and more)

Web Conferencing tools are used by online and blended teachers in a variety of instructional settings including:

- Individual or small group tutoring sessions
- Oral component of a world language course
- Circle time for an early elementary class
- Assemblies, allowing school-wide gatherings and even students from multiple schools to hear a guest speaker
- Students in a math course demonstrating problem solving techniques and explaining understanding of underlying mathematical concepts

- Open houses for the parents and guardians of students
- Teacher office hours

Many web conferencing tools are designed to integrate well with particular Learning Management Systems. This integration can provide an ease of use advantage that aids in the scheduling of synchronous meetings and provides access to those meetings as embedded objects within the LMS course. As is the case in the LMS decision, there are a variety of web conferencing options, both commercial and open source. Examine the pros and cons outlined in the LMS section above for more details.

4.6.2 Synchronous tools — video conferencing

Traditionally video conferencing has been used to supply synchronous distance learning to students separated by place (not time). The instruction almost always occurs in a specialized distance learning classroom with students at one or more sites interacting with a teacher in real-time. Rarely is instruction within a Learning Management System also supported by instruction using a video conferencing classroom. This type of synchronous learning can be a valuable portion of your distance learning plan, but is challenged by the synchronous responsibilities of shared school schedules, limited class periods in a day, and the need for a specialized set of video conferencing equipment and maintenance. In California, K20 Video is the latest deployment, extended to serve higher education, of K20 Video, which has served K-12 agencies since 2006 providing a video conferencing scheduling system and bridging, recording, and streaming resources.

If your online or blended learning program hopes to give students control over time, place, path, or pace, then synchronous tools can play an essential supportive role in your programs, but should not be seen as the dominant instructional medium.

4.6.3 End user devices

While the choice of student and teacher end-devices for accessing online and blended learning content involves a crucial set of decisions, it is beyond the scope of this document to provide a technical analysis of the specifications of laptops, netbooks, mobile phones, and other end-devices. Broadly, you should consider long-term educational goals,
interoperability, and total cost of ownership when making end-device decisions.

For county offices, districts or schools interested in “one-to-one” initiatives, where the goal is to have one end-device for every student and teacher user, the One-to-One Information Resources and The Anytime Anywhere Learning Foundation websites offer excellent analysis of challenges and opportunities of moving your program in this direction, along with contacts for other districts and schools that have implemented one-to-one initiatives.

4.6.4 Mobile learning

Mobile devices and the associated mobile learning is a growing area of experimentation for many online and blended programs. This development is driven, in part, by increased student access to mobile devices. According to survey data from Project Tomorrow, 44% of high school students and 33% of middle school students now have personal access to a smartphone, a 42% increase in just one year.

Anecdotal evidence suggests that by 2012 and beyond, mobile learning could grow as quickly as other elements of online and blended learning. Mobile learning is generally understood to mean the act of accessing curriculum and instruction via devices that travel with students to a variety of locations beyond the school building. The typical mobile learning vision features tablets, smartphones, personal digital assistants, and other handheld devices—the kinds that are now a ubiquitous part of most students’ lives outside of school.

The arrival of netbooks and tablets is blurring the mobile learning line—they are clearly mobile devices, but are not as small or as easily mobile as the other devices. Ultimately, however, the way that students access learning is more important than the device. If a student uses a smartphone to start an online course in a classroom, participate in a virtual discussion on the bus home, and take an assessment from the front porch that evening, that’s clearly mobile learning. That same student might engage in the same activities on a 1.5 pound, $300 netbook.

The other distinguishing feature of mobile learning is its content focus, which has so far not been on whole courses or even lessons so much as on discrete “learning objects” such as tutorials, practice activities, and skill-builders. The conventional wisdom is that the small screen and keyboard size of mobile learning devices makes longer-form learning tedious and possibly even bad for students’ health.

One of the growing phenomena driven by the proliferation of student-owned mobile devices is the experimentation with “Bring Your Own Technology” or “Bring Your Own Device” initiatives in schools. These programs encourage students to bring their own mobile devices for a single day or a series of days associated with a targeted set of activities in the classroom. It is important to note that this brings a new layer of administrative complexity from a policy and technical support standpoint. Issues such as:

- Will the school infrastructure support such device?
- Who supports the device?
- Will the device be filtered or non-filtered?
- Equity: Not all parents can afford a device.
- How will districts deal with infected devices connecting to their network?

4.6.5 Technology support and trouble ticket software

Whether you are just beginning an online or blended learning program or looking to grow your existing program, making sure that you plan for sufficient technology support for users is critical. In small or pilot programs, online teachers are often called upon to engage in front line technical support for students, but this can have a significant negative impact on instruction and overall online teacher satisfaction.

You can choose to offer eLearning tech support using internal staff or you can outsource the tech support using organizations that support your chosen technology, including the LMS, SIS and possibly even elements of your online content. If you have chosen internal staffing to offer tech support consider an investment in tech support tracking software that allows your technicians to organize and track the resolution of problems while developing an FAQ and knowledge base for users to seek support after hours. In addition, consider staffing up tech support during the times of heaviest use. This will vary based on the design of your program with blended learning needed support during traditional school hours, while
supplemental and full-time online learning will often have the highest support needs on evenings and weekends.

4.6.6 Professional development for technology staff

One final but essential item to consider as part of your technology planning for online and blended learning is training and professional development for the staff that supports the eLearning operation. In section three of this document, we spoke about the importance of teacher professional development. The same need applies to those who administer the LMS and SIS, support the bandwidth and end-devices, and ensure the interoperability of all systems.
In addition to content, teachers, technology, and policy, there are a variety of other critical operations processes to consider when starting or growing your online or blended learning program. Successful programs often begin with an organized strategic planning process that includes key stakeholders, targeted student groups and a defined set of educational goals. County offices, districts, and schools are also faced with the challenge of adapting their traditional student services to support the online learner, who is often located at a distance. Depending upon your program type, full-time online or blended, you may need to consider promotion and marketing activities. In most instances this is not a familiar process to many traditional schools, but an important pursuit.

Building or growing an online or blended program requires a unique approach to budgeting and staffing and can often involve the creation of new staffing models that do not necessarily fit well into existing budget templates. Working with the instructional staff and key district stakeholders to help everyone understand these new models is important. As with any new initiative, establishing a program evaluation process early on can help you identify areas of weakness and engage in consistent improvement in your program. Because online and blended learning are seen as new educational approaches to many in the community, establishing a process that measures outcomes will be important to many stakeholders. Not to be overlooked, evaluation data will also play a key role in promoting your program to potential students and parents.

Whether at the county, district or school level, engaging in a quality planning process and establishing good operational supports for your online and blended program means carving out an innovative space for the program and establishing a timeline that balances urgency with quality.

### 5.1 Online and blending learning strategic planning

The importance of a strategic planning process is not exclusive to online and blended learning, but it may present certain challenges given the new and unique nature of eLearning. The [iNACOL National Standards for Quality Online Programs](https://www.inacol.org/) document offers a checklist of important institutional standards, many of which relate direct to the importance of strategic planning. Key elements of a quality planning process for online and blending learning programs include:

- Involvement and buy-in from key stakeholders
- Conducting a needs assessment
- Completing a competitive market analysis
- Establishing a vision and mission
- Agreeing upon educational goals and targeted student groups
- Identifying start-up funding
- Planning for appropriate program evaluation

#### 5.1.1 Key stakeholders

eLearning is assuming a higher profile role in the media and many communities across California. This public exposure places a great emphasis on stakeholder involvement to help your online or blended program succeed for students. Involving key stakeholders in the planning process and keeping them informed as the program grows will help you garner the support needed. Depending upon your organizational level, your stakeholder list will most likely include:

- Students
- Parents
- Teachers
- Building level administrators and county/district staff
- Other regional or statewide online and blended learning organizations

In many instances the group may also include local businesses, school board members, community organizations, and others. Make sure to involve those who care if the program is successful and those that bring a unique skill or diverse viewpoint. (Figure 4)
5.1.2 Needs assessment and competitive market analysis

Conducting a needs assessment can be an effective way to start a strategic planning process. Consider the following questions pulled from *Guidelines for the Development of a Local District Needs Assessment* when gathering data and considering an online or blended learning program.

- Identify the current educational needs of students in your county, district, or school and target the “gaps” that might be served by an online or blended program.
- Prioritize those educational needs.
- Identify existing county, district, school or community resources that currently serve those needs.
- Specify the gaps between existing resources and existing prioritized needs. Can online or blended learning serve those gaps?

Once you have completed your needs assessment, it is important to consider the competition you may face. This is especially key in California, as there are currently a variety of full-time online charter schools engaged in enrollment marketing activities statewide. Even if you are just starting with a pilot project or other targeted online or blended program, it helps to understand the tactics and messaging used to draw students away from your district or school. The [iNACOL How to Start and Online Learning Program](http://www.onlineprogramhowto.org/decisions/stakeholders/) website offers an excellent set of questions to consider when designing a marketing and promotion plan for your online program. Some of the key questions include:
• “How will you distinguish your program from the competition?”
• “How do other programs market to the same populations of students, and how effective are their marketing strategies? What marketing strategies will you use?”
• “How will you track the impact of your marketing strategies to ensure effectiveness?”

5.1.3 Vision, mission, goals

Once you have completed the research above and identified the best group of stakeholders to guide the process, you can move to articulating the mission, vision, and goals of your online or blended learning program. According to the Strategic Thinking Institute, the mission of your organization “is a clear, concise, and enduring statement of the reasons for an organization's existence today. A vision represents future purpose, providing a mental picture of the aspirational existence that an organization is working toward.” Both of these guide concrete actionable goals for the organization.

In most cases, your online or blended learning program will be operating within a larger county or district structure with its own vision, mission and goals. Working to make sure all are aligned will give you the greatest chance of student success.

Examples of mission and vision statements used by successful online learning programs include:

**Florida Virtual School**

Mission – “To deliver a high quality, technology-based education that provides the skills and knowledge students need for success.”

Vision – “To transform education worldwide—one student at a time.”

**Riverside Virtual School**

Mission – “It is the RVS mission to provide a rigorous, college-preparatory online school program that meets the needs of 21st century learners; preparing graduates for successful careers in a competitive global marketplace. This includes opportunities for accelerated learning, Advanced Placement courses, and credit recovery.”

**Idaho Digital Learning Academy**

Mission – “The mission of the Idaho Digital Learning Academy is to increase education opportunities and choice by providing a high quality public school education, aligned with state achievement standards, utilizing the Internet and innovative educational methods of delivery.”

Vision – “The vision of the Idaho Digital Learning Academy is to provide a technologically delivered statewide learning environment available to all Idaho students regardless of learning ability, income, or geographic location.”

**City of Angels School, Los Angeles**

Mission - The mission at City of Angels School is to provide a standards-based, individualized instructional program that provides a rigorous, quality education to all of our students.

Vision - Every student at City of Angels School will know, understand, and have skills and personal attributes as described in the Expected School-wide Learning Results

5.1.4 Start-up funding

As you move forward in your strategic planning process, it is important to plan for the start-up funding needed to get your online or blended learning program launched. Many of the cost categories have been discussed in other sections of this document, but in brief they include costs related to instruction, content development or purchasing, technology infrastructure and software, and administrative and managerial staffing. In many instances it will be challenging to budget for a new program because it is hard to predict student enrollment numbers. Consider the advantages of establishing an independent budget for your eLearning program, so you can closely track actual costs and the details don’t get lost with a larger county or district budget.

Be aware of the pitfalls of underfunding a new online or blended program in the first year of operation. Many parents and students will be keeping a close eye on the success of such a program in the first year of operation, and a lack of sufficient funding can lead to poor initial impressions by those engaged in the program. Investing a little more in year one or two can lead to success that will generate positive student outcomes and word-of-mouth marketing that will contribute greatly to your program.
5.1.5  Consortium models

As part of the strategic planning process, you may be considering a consortium model where counties, districts or schools join together to create an online or blended learning program. Many successful state virtual schools are models of shared services at a state level, but regional and local online and blended learning consortium have been slow to form. There are a few examples of successful eLearning consortiums including the Virtual High School Global Consortium and the Wisconsin eSchool Network. These consortiums offer some benefits of cost and expertise, but can be faced with the strategic challenge of organizing a wide array of stakeholders.

5.2  Student recruitment and support services

5.2.1  Enrollment marketing

Engaging in an organized, sustained enrollment marketing and promotion plan is often not a core competency of many county or school district offices, but as competition from charter schools (both physical and online) increases, crafting and delivering the right message to students and parents becomes an increasingly important function. Many educators don’t think that marketing is necessary or perhaps even appropriate, perhaps based on a view that education shouldn’t be “sold.” This is a narrow view of marketing, however, as it also includes explaining new programs and options to students and parents who may have limited understanding of online learning. Across California and many other states, Educational Management Organizations (EMOs) are currently engaged in sophisticated enrollment marketing campaigns for full-time online schools. Recent policy changes in two western states (Utah and Idaho) are increasing parent and student choice at the individual online course level and opening opportunities to a variety of online and blended course providers, both public and private. As policies in these two states evolve, marketing and promotion of eLearning at the course level may well become commonplace.

5.2.2  Student support services

Ensuring student success in online and blended learning extends beyond the instructional environment into the support structures established to help students succeed. Counties, districts, and schools are familiar with many of these student services, but in almost all cases, they must be adapted to serve the eLearning student effectively. It should be noted that there are significant differences between serving students in a full time online environment, supplemental environment or a blended environment. Many of the services discussed below are designed to support full time online students.

Counseling, enrollment and orientation

Physical schools provide counseling and mentoring to students. Online schools are moving in this direction as well by instituting online counseling support for students. This support varies based on the type of eLearning program. Whether the program is fully online or blended, counselors need professional development to understand the eLearning environment and work effectively with students and their parents.

The first contact between a prospective online student and the online school is an important step in ensuring a successful transition to online learning. It is important to establish procedures to help guidance counselors (and other online learning staff) mentor students through the process of enrolling and participating in online courses. These procedures should cover issues such as:

- An initial checklist of points to cover with students and parents
- A pre-enrollment survey to challenge students’ preconceptions of online learning and to determine their level of readiness for this new modality
- A student orientation course before the first academic course to set performance expectations, familiarize the student with the learning management system and identify any technical support issues
- A review of online learning policies to cover grading requirements, student discipline, and warning and probation policies

Technical support

Student access to robust technical support relieves one of the key barriers to student success in online and blended learning while taking a significant
burden off teachers. To reduce initial technical support calls, many programs use automated checks of bandwidth, versions of Flash, Acrobat, and Java, and other plug-ins required of students. Tutorials and online orientation sessions familiarize students with the learning management system and the strategies for learning online to assist in a smoother transition to the environment. Many programs make help desk support available 24/7 by phone, email and chat, and many have or are instituting service ticket systems to track more carefully student support communication and results. Lastly, schools should provide technical support to students through channels other than the teachers, so the teachers do not have to play the tech support role.

**Academic support and mentoring**

Technical support is just one component of helping students learn online; the other key component is academic support. This may include, but is certainly not limited to, the following set of tools and techniques to ensure a smooth transition to online or blended learning. In some programs, teachers handle these duties, while others have features for such support built into their learning management systems. In a few instances, full-time online programs build a team of teacher and academic coach to support students.

- Assessments of student progress at regular intervals
- Support materials like student handbooks
- Guidelines for conduct (both students and teachers)
- Organization of students into groups/cohorts
- Tutoring services
- Pre-course tests that measure a student’s readiness for the online learning experience
- Expectation of the parent and family roles in the student’s experience; parents’ role in monitoring course progress, conference calls with teachers, face-to-face opportunities for students and parents.

Communication is the key element of student support. Students should never feel that they do not know where to turn with a question or problem, and should be able to reach their online teacher easily, school facilitator, learning coach, or other source of assistance.

**Special education**

Processes and plans needed to support special education students will vary significantly based on whether the eLearning program is full-time at a distance, local and blended, or somewhere on the continuum between these two models. Regardless of the eLearning model, educators have the same responsibilities for meeting the needs of students with disabilities as they have in a physical school environment. This includes the development and implementation of Individual Education Plans (IEPs) and an alignment with districts policies for special education students to be allowed to participate in alternative forms of education that require special adaptations.

Website accessibility is an important issue for many special education students. When choosing a Learning Management System (LMS) or acquiring online content, you need to make sure the program conforms to Section 508 of the U.S. Rehabilitation Act. This compliance is discussed in greater detail in the Technology section of this document.

**Learning centers**

Many full time online learning programs are now offering academic support to their students through non-traditional learning centers. In most cases, these learning centers are located outside physical school buildings and set up with computers labs and adults—who may or may not be certificated teachers—to supervisor the student’s eLearning. In some programs, students are required to spend scheduled time in the learning center during the week, and in others, they use the facility on a drop-in basis or by appointment.

### 5.2 Budgeting and staffing

The approach you choose to take with budgeting and staffing is highly dependent upon where your program falls in the continuum from full-time online learning at a distance to blended learning at the course level in a physical school.

#### 5.3.1 Budgeting for new instructional models

Budgeting for your online or blended learning program can be significantly different than your
traditional building or district level budget. In a full time online school, you will need to decide if you plan on employing a full time instructional staff or if you will hire part-time or adjunct teachers to cover individual courses. In a blended learning model, you may choose to staff an online lab with non-credentialed (para-professional) personnel to support the certified classroom teachers. In both cases, you need to set aside sufficient funds to either build or buy online content to support your program. Online content budgeting is discussed in detail in the “Content and Content Evaluation” section. The content choice is critical and can be costly, depending upon the level of responsibility for instruction that is placed on these digital resources.

In addition to instruction and content costs, you must consider end-user devices (laptops, tablets or some other solution), Internet connectivity, and the licensing of a Learning Management System (LMS), and possibly a synchronous web conferencing tool. These decisions will differ significantly depending on whether your program is full time with students at a distance or blended with students in school-based lab settings. You must also consider the costs associated with integrated your existing SIS with your chosen LMS or in some cases licensing a Student Information System that is designed to serve the needs of online and blended learning programs.

Employing a dynamic leader and other administrative staff to support your online or blended learning program is important. If you plan to offer a full time online school, your Online Principal or Director will need to be the type of person who is equally comfortable as an instructional leader, technology leader and enrollment marketing leader. You will also need staff to cover student services such as a registrar, counselor, special education, and high stakes testing administration. Lastly, if you plan on offering a full time online program or other school of choice, you must make sure you budget sufficiently for marketing and promotion for the school. Marketing cannot be an afterthought, and taking the time to developing an enrollment marketing plan and funding it appropriately is one of the keys to a successful program or school.

5.3.2 Staffing and compensation models

Regardless of your program type, most of your costs will be invested in instructional and administrative staff. In addition to the traditional model that places approximately 25 students in an online class with a single teacher, there are other models emerging to support both online and blended learning. Some full time online schools are organizing their instructional staff and roles differently. In some programs, students are served by a lead teacher, grader, and academic coach. In these programs, the lead teacher will take on a much higher number of students than in a traditional school environment, and the grader and academic coach take on some instructional roles. They may not hold the same certifications as the lead teacher. In many blended programs that utilize online lab environments, non-certified adults staff these labs and the money that is saved is directed towards the purchase of digital content or the employment of other staff that support student achievement.

Online teacher compensation models vary significantly, with some employed at the same rate as traditional classroom teachers, while others are employed as adjuncts and compensated per course or per student enrolled in each course. Lastly, compensation models for online program or school leaders vary, but recruitment can be challenging, as the pool of teachers with deep, successful experience in online or blended classes is limited.

5.4 Program evaluation

Because online and blended learning is still relatively new, online schools sometimes have to demonstrate quality and results in ways that go beyond the requirements that physical schools meet. One way that online schools address quality and performance concerns is by building an evaluation process into the strategic plan and commissioning regular, yearly program evaluations. Program evaluations aim to answer this basic question: Is your program meeting its mission and goals as well as the expectations of the stakeholders and community? For online and blended learning programs here are examples of a few questions you might choose to target in the evaluation.

- Are student outcomes meeting program and state expectations?
- Can improved students outcomes be demonstrated?
• How satisfied are stakeholders, including students, schools, and parents with their experience with the program?

5.4.1 Internal or external evaluation?
Program evaluations fall into two categories: internal (conducted by the program staff) or external (conducted by someone outside the organization). Internal evaluations have the advantage of timeliness, as they can generally be scheduled conveniently at any time during the year, and rely on staff that have a thorough knowledge of the program being evaluated. In addition, no fees go to outside evaluators (although internal time, if properly accounted, may be equally costly). External evaluations bring a fresh look at a program from someone removed from the pressure of stakeholders or program staff. There are no personal relationships to cloud the examination of the program, and an outside perspective may bring flaws to light that go unseen by staff too close to the situation to recognize the problems. In addition, external evaluations often carry greater validity with stakeholders. However, the cost of external evaluations can be high and the process takes additional time to bring the evaluator up to speed on the processes and metrics of the program being evaluated.

5.4.2 Pieces of the evaluation puzzle
Although the specifics of an evaluation vary significantly, an evaluation usually starts with an examination of the program’s mission to determine whether it is meeting its organizational goals. If the goal of an online program is to give students more opportunities for recovering course credits in order to graduate, then two evaluation measures could be the number of credit recovery courses being offered, and the graduation rate for students in those courses. If the mission of the online program is to increase 21st century learning opportunities for a district’s students, possible evaluation criteria include 1) the number of new courses available to students; 2) the increase in student proficiency in use of Web 2.0 tools; and 3) the increase in teachers’ use of Web 2.0 tools in classroom and online instruction.

Evaluations are commonly based on one or more of stakeholder surveys, outcomes data, and reviews of internal processes.

Outcomes data vary based on program type. Supplemental programs often rely on course completion rates and results of Advanced Placement exams, while full-time and blended programs can report data of state assessments and other measures common to all public schools in a state.

Surveys may be conducted with students, parents, teachers, educators, and other stakeholders. They may be done at multiple times of year; for example, students may be surveyed every semester while parents are contacted once per year. When considering the development of student evaluations, Donald L. Kirkpatrick’s [work on the four level of training evaluation can be helpful.

Internal processes such as course development may be benchmarked against other programs, or standards such as those published by iNACOL. In addition, the evaluation may report financial information, staffing levels, and similar organizational metrics.

5.4.3 Leveraging LMS data
Online and blended learning programs have access to an extensive amount of data that students and teachers generate when interacting with the Learning Management System (LMS). Designing an evaluation process that taps into this data stream can provide program leaders with valuable information about instructional effectiveness, online content quality, and student behavior patterns as they relate to increased achievement. Setting up a process to track this LMS data and put it to use can be challenging, but the longitudinal awards can prove to be significant.

5.4.4 Evaluation data as a promotional tool
While your program evaluation process is designed primarily to improve your online or blended learning program, a secondary benefit is the generation of data to serve both the enrollment marketing messaging and stakeholder reporting. Decision-makers, whether parents or politicians, are influenced by data that shows the online or blended learning program meeting the mission and goals by filling those “gaps” identified in the needs assessment. Many of the EMOs operating
full time online programs are sophisticated users of evaluation data in the parent and political realms, while county offices, districts, and schools are still evolving in their effective use of data as a promotional tool.

Evaluation report examples:

- **Colorado Online Learning** - [http://www.col.k12.co.us/aboutus/evaluationreports.html](http://www.col.k12.co.us/aboutus/evaluationreports.html)
- **Florida Virtual School** - [http://www.flvs.net/areas/aboutus/Pages/AnnualEvaluations.aspx](http://www.flvs.net/areas/aboutus/Pages/AnnualEvaluations.aspx)
Section 6: Policy

Educators developing online and blended learning programs focus on teaching, content, student support, and the myriad operational issues discussed elsewhere in this report. They must work, however, within a policy framework that is created by state regulations. These policies often determine what educators can and cannot do. In some cases they preclude certain activities due to concerns about ensuring quality or student support. In other cases, eLearning opportunities are limited by barriers created by state policies, either by design or simply because state policies have not been updated to reflect the realities of learning in a digital age.

This section explores key issues in state policies, reviewing key principles, barriers to adoption, and suggestions for policy changes in California.

6.1 First principles

In 2001, the National Association of State Boards of Education issued a warning about online education: “In the absence of firm policy guidance, the nation is rushing . . . toward an ad hoc system of education that exacerbates existing disparities and cannot assure a high standard of education.” A decade later, while students in some states are able to access quality eLearning education options, the statement is accurate for too many students in too many states. Online and blended learning programs have demonstrated quality and beneficial student outcomes, but these opportunities are not uniformly available to students throughout California, where students’ educational opportunities are too often linked to where they live.

Online learning policy is complicated and touches on many different issues including student access, funding, and quality, among others. Discussions about policy often involve tradeoffs between different priorities, for example between ensuring quality and encouraging innovation. Given that policies intersect in so many ways, it is useful first to put forth a set of principles against which policy suggestions can be tested.

- Public education should include a variety of high quality educational options for students, including online and blended learning.

State policy should recognize that students learn in different ways, and provide different options to students. Online and blended learning should be an option for all students in California.

- Online and blended courses can serve students who are not well served by traditional schools and courses.

Many students choose online and blended courses or schools because their needs are not being met by face-to-face courses in traditional schools. Many of these students are near the ends of the spectrum of student achievement; some who are high-achieving and do not have access to advanced or honors courses, and others who are at-risk or recovering credit. Online and blended courses present different educational options for these students who are seeking a new approach because existing options are not working well for them.

- Online opportunities for students should include full-time, supplemental, and blended learning.

Online learning comes in different forms, and the opportunities allowed by state policy should span the range of online learning options. Some students will want to attend full-time online schools, while others will want to take a single online course while attending a traditional school. Other students will benefit from courses or schools that blend online and face-to-face instruction. State policies should allow all of these options.

- Students across the state should have equal access to these opportunities.

Student options should not be limited by geography; all students across the state should have equal opportunity to access online courses. Students’ zip codes should not determine their educational opportunities.

- Ongoing innovation requires that states and oversight agencies not stifle innovation by becoming overly prescriptive in regulating online programs.
Education policy is largely based on attempting to ensure quality via inputs, such as course content standards, textbook adoption procedures, teacher certification and professional development requirements, and other measures. No Child Left Behind marked a shift to determining school accountability based on student outcomes, but this shift has been limited and only partially effective. Online schools create and collect far more student data than brick and mortar schools, and therefore can be held accountable more easily based on student results, if the policy framework allows for and demands it.

- Some statewide education policies, requirements, and oversight do not fit online programs and create unnecessary barriers. New online education policy should address these inconsistencies directly.

Online and blended schools are restricted in California by a variety of policies that create unnecessary barriers. These barriers, which are explored in the next section, should be removed.

- Teachers are an integral part of online learning. While technology holds promise for changing the ways in which teachers work with students, no online school has replaced teachers with technology, nor are any online schools planning to. The competition of teachers versus technology is a straw argument that does not reflect the way that online schools are instructing students—with teachers, using technology.

- Online programs must use high quality curricula aligned with state standards or with the Common Core.

Online course content is a key part of an online course. Content should meet state content standards, or the Common Core, in order to ensure a minimum level of quality and appropriateness for California students.

- Online programs offer the opportunity to transcend time and place. As long as they can demonstrate quality and successful student outcomes, they should not be subject to state education policies that impose barriers of time and place, such as requiring face-to-face meetings or other on-site requirements.

Some states have allowed online schools and courses, but with restrictions that appear arbitrary and do not have an outcomes-based connection. South Carolina, for example, requires that 25% of instruction be synchronous. While many educators believe that a synchronous component to online courses is beneficial, no educational justification exists for setting a requirement for all students. Similarly, Indiana at one point required that at least 51% of instruction in all schools be onsite—a requirement that ignored the successes of fully online schools in other states. Online and blended schools should be held accountable for results, not for arbitrary instructional requirements.

- Resources to support online programs must be sufficient to ensure quality, opportunities for innovation, and meeting the needs of a broad range of students.

Few studies have examined the cost of online and blended learning, and no definitive cost estimates exist. Online schools save some costs of physical facilities compared to traditional schools, but have higher technology costs. Per-pupil funding for online and blended students should be comparable to funding for students in physical schools.

### 6.2 Key issues and barriers

Existing California policies create barriers for educators who are trying to provide a range of online and blended learning opportunities for students in California. The main barriers are tied to seat-time funding requirements and line-of-sight provisions that limit the ways in which educators can instruct students whose education is fully online. The line-of-sight provisions also have the potential to disrupt efforts to provide blended learning opportunities.

#### 6.2.1 Seat-time requirements and associated accounting

The main mechanism by which California funds schools is by measuring students’ Average Daily Attendance (ADA). As described in a summary of a
hearing in the legislature considering a change to accounting measures, “the fundamental principal for allocation of funding under California’s school finance system is the value of instructional time. The state measures this principal through the ADA attendance system, including the ability of the pupil to be under the direct supervision (via a line of sight) of a certificated employee.”

California funding for most students and schools is based on the idea that the student will be physically present in a traditional classroom. Alternative funding methods (discussed below) have cumbersome requirements. In the digital age, there is no need to use instructional time as a proxy for actual learning. The system by which California funds students is a product of an earlier time, when assessing learning outcomes was difficult and could be effectively done only once or twice per year. In addition, funding policy should recognize that learning is no longer limited to the traditional school day, just as it is no longer limited to the school site. Currently some online schools are limited to counting student learning time only between Monday and Friday, creating a disincentive for teachers to help students on weekends. This provision should be removed, to allow funding for learning that happens any time and in any place.

### 6.2.2 Site based requirements and independent study provisions

One way in which California schools can generate funding for online students is by enrolling them in a part-time or full-time independent study (IS) program. In a part-time IS program, the pupil may be taking regular classroom courses and one or two IS program courses online. Independent study provisions include a set of burdensome requirements that must be met by schools, including the creation of a work product “which is assessed by a certificated employee of the district.”

The fact that California schools often use independent study provisions to fund online students plays into a common myth about online learning: the idea that online students are working alone and are isolated. Neither is necessarily true. Many classes and schools have synchronous components, whereby students and teachers are communicating in real time. Even when communication is asynchronous, the student is not working alone. In good online courses, students are consistently receiving feedback from teachers, and may be communicating with other students as well.

Online courses and schools should be funded via a mechanism that is based on outcomes that are easily measured, instead of requiring the use of independent study provisions that currently exist for many online schools.

### 6.2.3 Contiguous counties and other charter school restrictions

Online charter schools are restricted to serving students in the district or county in which they are chartered, and in counties that are contiguous with the chartering entity. This provision should be removed in order to allow California students to choose from the best California online schools, regardless of where in the state the school is based. Also, some online charter schools are required to spend a certain percentage of funding in set categories, a requirement that limits the ability for schools to innovate.

### 6.2.4 Access and equity

Ensuring equal access to online courses is a key policy goal that is not being met by California policy. Student options vary greatly; while students in some California districts have multiple full-time and supplemental online learning options, students in other districts have neither. Overall, students in smaller and more rural districts tend to have less access, and students in Southern California districts are more likely to have multiple online learning options than students in Northern California districts.

Increased online learning options should not produce growing disparities between students who have access to these options and those students who do not. Part of the access issue is tied to technology and ensuring that schools have the bandwidth and computers to allow students to learn online. The other element of access is ensuring that parents and students have a range of eLearning options available to them.

### 6.3 Policy examples from other states

No state has created the ideal set of policies that encourage and oversee online and blended
learning, but several states provide policy and program examples that may inform the policy discussion in California. This section looks at policy elements from four states with different approaches to online and blended learning. None of these is exactly ideal for California, but California policy may combine elements from other states.

6.3.1 Florida: state virtual school providing student choice

Florida is home to the single largest public online learning provider, the Florida Virtual School (FLVS). FLVS was started in 1997 with a small “break the mold” grant to two school districts, grew rapidly in the late 1990s and early 2000s when the state legislature provided more than $20m in funding, and then grew even faster when the legislature changed the funding model to allow students to choose FLVS for online courses and have funding follow the student. Florida is the only state with a history of allowing students the right to choose a single online course, and the result is telling: FLVS now serves more than 100,000 Florida students each year with more than 200,000 course enrollments (one student taking one semester-long course). (See Figure 5)

Because FLVS has operated at a larger scale than all online schools—and many school districts—for nearly a decade, it has an abundance of results data that few online schools approach. FLVS has published scores of Advanced Placement exams, state assessments, and evaluation data. The non-profit organization Florida TaxWatch conducted an in-depth review of FLVS and determined that FLVS was providing a better learning option for many students at a lower cost to the state.

6.3.2 Alabama Access: state virtual school funded to provide opportunities to a large number of students

Alabama is another state that has funded a state virtual school that provides opportunities to students across the state, Alabama ACCESS Distance

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Figure 5: Florida Virtual School has grown to over 100,000 students completing more than 200,000 semester-long courses in school year 2009-2010. (Source: FLVS website, http://www.flvs.net/areas/aboutus/Pages/QuickFactsaboutFLVS.aspx)
Learning. Alabama is unusual in that it funds the state virtual school through a large annual appropriation that allows tens of thousands of students to access online courses, without drawing from the funding that would otherwise flow to the students' districts. ACCESS also combines online and video conferencing, and students generally access the courses at their physical schools.

Since 2004, when ACCESS received $10 million of initial funding, “the number of Advanced Placement test takers in Alabama public schools has almost doubled. The number of African American test takers has more than quadrupled, and the number of qualifying exam scores has more than doubled. Five times more low-income students are taking Advanced Placement exams and three times more are scoring 3 or higher.”

6.3.3 Colorado: multi-district online schools with state oversight

Colorado is among the states that have taken a different approach to offering online options to students: instead of funding a state virtual school or other supplemental course provider at a significant level, the state has a large number of full-time online schools serving students across the state. Colorado has 22 multi-district online programs and 12 single district programs serving 15,249 students, or 1.8 percent of all students in Colorado. The number increased by 14 percent from the prior year. Many of these schools are entirely online, while some have students meet face-to-face at a learning center, with a paraprofessional, with the course content and teacher online. Colorado has a unit in its department of education that oversees the online schools that operate across multiple districts, including reporting extensively on the student outcomes in the online schools. Colorado has several districts that provide significant supplemental opportunities to the district students, and also several Boards of Educational Cooperative Services (BOCES) that provide online services to their member districts.

6.3.4 Utah: students can choose courses from multiple providers

Several states have passed or are considering provisions to allow students to choose individual online courses from among multiple providers that are approved by the state. Utah was the first state to do so, with a law that passed in 2011 and will begin to take effect in school year 2011-2012. The new law allows students to take up to two online credits in school year 2011-12, increasing to six credits in the 2016-17 school year. Most of the students' per pupil revenue (ADA) flows to the course provider, although full payment is not made until the student successfully completes the course. School districts may not restrict students from enrolling in an online course that has been approved by the state.

6.4 A vision of education for California students

The policy recommendations related to online and blended learning in California fall into two categories: some that are relatively easy and can be addressed in the near term, and some that are more complex and should be part of a longer-term discussion. Near-term policy changes include:

- Create a straightforward funding mechanism that frees online and blended learning from seat-time requirements and associated accounting methods, and provides sufficient funding for eLearning students.
- Eliminate line-of-sight requirements tied to funding.
- Eliminate the distinction between site-based and non site-based instruction for online courses, and the additional requirements tied to non site-based instruction.
- Remove geographic constraints so that California students can choose the California-based education option that best meets their needs.
- Create a mechanism to allow students to access online supplemental courses across California. Some districts are offering supplemental online courses now, but most students across the state do not have access to online courses. The state should work with districts to provide these choices, or students should be able to choose from alternative providers.
- Ensure that adequate funding reaches students who are choosing online and blended learning options.

The above proposals would immediately free California educators to begin to provide new
online and blended learning options to students. Looking further into the future, online and blended learning hold promise for changing the ways that student achievement is assessed, and the ways that students move through the school system. In order to maximize the possibilities California policymakers should consider the following changes:

- Create state-level end-of-course exams for all major subject and grade levels, so that student achievement can be assessed at the course level. The California Standards Tests serve as end-of-course exams for some grades and subjects now, but should be expanded.
- Allow these end-of-course exams to be offered online. If the state chooses they may be proctored.
- Allow the end-of-course exams to be taken at any time during the year, so students can demonstrate proficiency soon after they have completed the course. If tests are proctored, they may not be constantly available, but might be available once per month or so.
- Create state data systems that can assess achievement at the course level, based on student growth, and tied to the teacher of record.
- Assure that schools have the bandwidth to provide online courses to students who access the courses from the physical school, including the bandwidth to have synchronous video conferences with teachers.
- Allow textbook funds to be used for digital content, recognizing that digital textbooks should not simply be electronic versions of paper documents, but increasingly have the same features as the content of online courses. The content in a learning management system can serve the same role as a paper textbook, and textbook funds should be available to pay for online content.

With these changes in place, California would build on the benefits that online and blended learning provide to build a school system that personalizes learning for each student. Students would be able to progress through the system at their own pace, moving on when they demonstrate mastery, whether that is ahead of or behind grade-level expectations. Social promotion would end, as would the pervasive problem of students moving into the post-secondary system unprepared for college-level work.

Finally, new online and blended learning policy in California should seek to simplify the policy framework as much as possible by clearly eliminating all previous restrictions and substituting a new framework for eLearning. Education policy is complicated in all states, but California has apparently decided that it must lead in this area, creating the most complicated, confusing, and impenetrable set of policies in any state. Before educators can create a school or course, they must first understand the regulations, which is at best extremely difficult. Nobody is well served, especially students, by a tangle of policy prescriptions that is nearly impossible to understand and comprehend. While changing policies to allow for new types of learning, policymakers should take the opportunity that change affords to simplify the policy landscape as well.
Appendix I: Glossary of Key eLearning Terms

Asynchronous: Not occurring at the same time (not in “real time”). In asynchronous learning programs, the learner controls the time, place, and content encountered (examples: threaded discussions, testing tools, knowledge portals, help systems, recordings of synchronous content).

Blended or hybrid learning: Blended learning is any time a student learns at least in part at a supervised brick-and-mortar location away from home, and at least in part through online delivery with some element of student control over time, place, path, and/or pace. (The Rise of K-12 Blended Learning)

Brick-and-mortar schools: Also known as “traditional” schools; contrasts with full-time online schools. Blended learning typically combines elements of both of these schools.

Correspondence program: A learning program that offers instruction by mail or email, sending lessons and examinations to a student. Correspondence programs were the first distance learning programs.

Course Management System (CMS) or Learning Management System (LMS): The technology platform through which online courses are offered. A CMS includes software for the creation and editing of course content, communication tools, assessment tools, and other features designed to enhance access and ease of use.

Distance learning/education: Educational activity in which the participants are separated by location, time, or both (e.g., correspondence courses, online learning, videoconferencing).

Distance learning*: As defined by California Education Code (EC) Section 51865, distance learning is “Instruction in which the pupil and instructor are in different locations and interact through the use of computer and communications technology.”

eLearning: An electronic instructional approach that covers a wide set of applications and processes such as web-based learning, computer-based learning, virtual classrooms and digital collaboration. Content can be delivered by the Internet, Intranet, Extranet, audio-tape, videotape, satellite broadcast, interactive TV or CD-ROM, though most eLearning today is in the form of online education. Also known as virtual, online, cyber or blended learning.

Independent study: In California, “independent study” refers to an alternative instructional strategy that enables students to work independently according to a written agreement and under the general supervision of a credentialed teacher. ADA funding is generated based on the teacher’s determination of the time value of completed student work.

Instructional design: The orchestration of different media—such as online, offline, images, sound—into compelling and effective instructional units.

Interoperability: The seamless sharing of data, content, and services among systems or applications.

Knowledge base: A typically web-based database of rules about a system or application, typically used for technical support.

Learning object: A reusable, media-independent collection of information used as a modular building block for eLearning content. (Utah Education Network glossary)

Learning content management system: The technology platform that supports the workflow processes associated with authoring and updating online content, as well as managing content for online courses located in a Learning Management System.

Online learning (“virtual” = “online” = “cyber” = “e”): Teacher-led instruction delivered primarily via the Internet that includes software to provide a structured learning environment, and where the student and teacher are separated geographically.

Open source: Software in which the source code is available to the general public for use and/ or modification from its original design free of charge. (Utah Education Network glossary)

Software as a service (SAAS): A model of software deployment where a provider licenses an application to customers for use as a service on demand; updates to the software are included in the license.

Student information system (SIS): A software application used by education establishments to manage student data and generate a variety of reports.
Supplemental courses: Courses offered to students enrolled in a physical school. Also known as part-time eLearning; some consider this a form of blended learning.

Synchronous: Occurring at the same time (i.e., in “real time”). Synchronous learning programs involve real-time interaction between a facilitator and participants (examples: instant messaging, Webcasts, Webinars, video conferencing, and live online chats).

Total cost of ownership (TCO): A method of budgeting that takes into account indirect, or non-budgeted costs, and presents costs and metrics on a per-client-computer basis.

Virtual school: An educational organization that offers K–12 courses through Internet-based methods, with time and/or distance separating the teacher and learner. Students enroll to earn credit towards grade-level advancement and/or graduation. In California, a virtual or online charter school is one “in which at least 80 percent of teaching and student interaction occurs via the Internet.” (per California Code of Regulations, Title 5, Section 11963.5)
Appendix II: Resources


How to start an online learning program. (2010). http://www.onlineprogramhowto.org/


National Primer on K-12 Online Learning (Version 2, 2010), by Matthew Wicks and published by the International Association for K-12 Online Learning (iNACOL). Retrieved from http://www.inacol.org/research/docs/iNCL_NationalPrimerv22010-web.pdf


Appendix III: Endnotes

1 Definitions taken in part from the iNACOL National Primer on K-12 Online Learning (Version 2, 2010), by Matthew Wicks and published by the International Association for K-12 Online Learning (iNACOL), http://www.inacol.org/research/docs/iNCL_NationalPrimerv22010-web.pdf.

2 Much of the blended learning content in this paper, including the definition of blended learning, borrows generously from The Rise of K-12 Blended Learning, by Michael B. Horn and Heather Staker of the Innosight Institute, http://www.innosightinstitute.org/media-room/publications/education-publications/the-rise-of-k-12-blended-learning/.


5 Defining dimensions of online programs. Figure from Keeping Pace with K-12 Online Learning 2010, (www.kpk12.com), which was adapted from Gregg Vanourek, A Primer on Virtual Charter Schools: Mapping the Electronic Frontier, Issue Brief for National Association of Charter School Authorizers, August 2006.

6 Unpublished research, Evergreen Education Group, 2011.

7 This section is based on the competency-based learning discussion in Keeping Pace with K-12 Online Learning 2010, www.kpk12.com

8 Unpublished research, Dr. Kelly Schwirzke, 2011.


10 Online Teacher Support Programs: Mentoring and Coaching Models, Karly Wortmann, Cathy Cavanaugh, Kathryn Kennedy, Yoany Beldarrain, Therese Letourneau, Vicky Zygiouris-Coe


13 The following article provides a thorough analysis of the Learning Management System choice. http://www.adlnet.gov/Technologies/Lab/Learning Technology Lab Documents/Library/ChoosingLMSv2.4_20110413.pdf

14 http://www.onlineprogramhowto.org/site/-/learningcontentmanagementsystem

15 Table 2 is a modified version of a similar resource presented in the “How to Start an Online Learning Program” website - http://www.onlineprogramhowto.org/admin/vendor-vs-open-source/. The following web resource was also used to author this section - http://www.idealware.org/articles/open-source-vs-vendor-provided-software


17 This section was adapted in part from Keeping Pace (2010) page 47. The publication is available for download at http://www.kpk12.com

18 Portions of this section were adapted in part from the whitepaper titled “Management and Operations of Online Programs” from the Promising Practices in Online Learning series published by iNACOL. Authors John Watson and Butch Gemin.

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This list of principles was first developed by the Trujillo Commission in Colorado, and has been adapted slightly for this outline.

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