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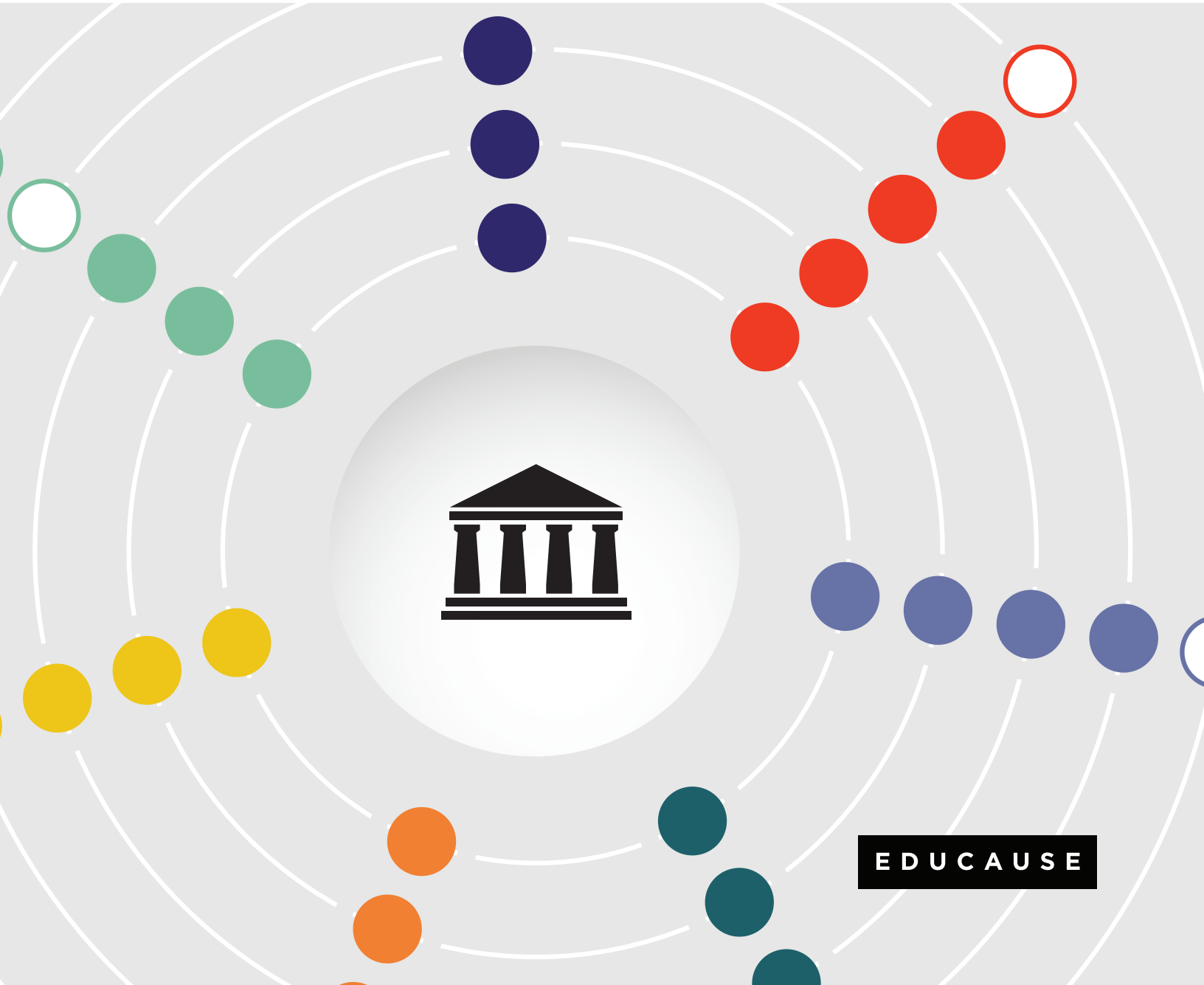
The State of E-Learning in Higher Education: An Eye toward Growth and Increased Access



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Overview

E-learning initiatives are ubiquitous in higher education. Their expansion has been driven largely by the increase in nontraditional (or post-traditional) learners who desire flexibility in scheduling, geographic location, and access to course resources. In addition to providing greater access for these students, e-learning initiatives can contribute to increased enrollments and revenue, enhance an institution's reputation, and enrich the teaching and learning experience.

Institutions take various approaches to delivering e-learning services and technologies. Some manage e-learning services through central IT; others manage e-learning through different or multiple departments. Some institutions provide e-learning services and technologies centrally, and some have a distributed or mixed approach. There are multiple paths for the successful provision of e-learning, and the selection and delivery of e-learning services and technologies depend on factors such as institution size, mission, and the priorities of institutional leaders.

This 2013 ECAR study of e-learning describes the current state of e-learning in higher education, identifies the challenges that remain, and outlines the steps institutions can take to overcome these challenges and become more mature in their e-learning initiatives.

Key Findings

- **Nearly all institutions have a major interest in e-learning,** at least at the level of some departments. Online courses are ubiquitous, with more than 80% of institutions offering at least several courses online and more than half offering a significant number of courses online.
- **The greatest benefit of e-learning remains unchanged since its inception: It can increase enrollment by increasing access.** Online programs in particular can reach previously untapped student populations in rural areas, at military installations, and across national borders. E-learning, combined with mobile device proliferation, expands the learning environment to "anytime, anywhere."
- **Two-year (AA) institutions have historically been leaders in using distance courses to attract nontraditional students,** and these institutions continue to pave the way in online course offerings to attract "post-traditional learners." Among all Carnegie classes, AA institutions are the most likely to have a center dedicated to e-learning and to offer a significant number of online courses.
- **For successful, large-scale implementation of e-learning, a centralized model provides greater efficiency and seamless integration** of e-learning services and is characteristic of more mature institutions. However, for some institutions, a distributed model allows for greater innovation and individualization for specific programs.
- **Central IT leaders desire to more than double the number of e-learning staff in central IT.** The most-desired positions include those of course designers, professional development staff, and app designers. IT is involved in the management of e-learning services in almost two-thirds of institutions.
- **There is a disconnect between what students say they want and the technology services and support that institutions presently provide.** The undergraduates who responded to the 2012 ECAR student technology study stated that they wanted more gaming/simulations and open educational resources.[1] However, these are among the least common e-learning services delivered.
- **The most important factors in selecting technologies for e-learning are reliability, the security of student data, ease of use for both faculty and students, and effectiveness.** Smaller and less mature institutions, however, are more likely to focus on cost and what everyone else is doing when selecting technologies or services for e-learning.
- **The greatest concerns about e-learning are the adequacy of staff and the technological know-how of faculty.** Few respondents expressed concern that e-learning is transforming higher education for the worse.
- **Accreditors are most concerned about learning outcomes, regardless of the delivery mode.** Standards of accreditation for face-to-face and online courses and programs are largely equivalent except in response to federal mandates.

- **Maturity in e-learning involves seven factors: Policies/Governance, Ongoing Evaluation/Training, Priority, Synergy, Outcomes Assessment, Readiness, and Investment in Faculty/Staff.** Institutions in general are most mature in their Synergy of e-learning systems and least mature in Outcomes Assessment.
- **Smaller institutions have the greatest potential to expand their e-learning initiatives.** They are more likely than larger institutions to be concerned about their ability to keep up with others as well as the technological know-how of their faculty.

Introduction

E-learning is a hot topic in higher education and has been growing as a popular topic since the inception of the first web-based courses in the mid- to late 1990s.[2] However, defining "e-learning" is an exercise in frustration for many.[3] There is disagreement as to whether e-learning encompasses online learning, distance learning, hybrid learning, blended learning, all of the above, or not necessarily any of the above; and even these terms, which are said to constitute e-learning, are difficult to define.

It may be necessary, therefore, to operationalize e-learning definitions for each use in the literature, thereby enabling comparisons among studies. For the purposes of this study, e-learning is defined as *learning that involves a web-based component, enabling collaboration and access to content that extends beyond the classroom.* This definition was provided to this study's survey and focus group participants to enable conversations and data collection around the topic of e-learning. Although a large part of the study was devoted to online or distance learning, the study also addresses the idea that some e-learning components may enhance traditional face-to-face classroom instruction.

In addition to the term "e-learning," the terms "online" and "distance" are used in this report to refer to more specific instances or courses involving e-learning. In general, "online" is used to refer to courses that have a majority online component, and "distance" is used to refer to courses in which the instructor and students are not in the same physical classroom space. These terms were often used by this study's participants and are used here to better reflect their viewpoints. It is not the intent of this report to better or strictly define these terms.

The 2013 ECAR study of e-learning was designed to describe the current state of e-learning in higher education and to identify areas in which institutions can grow or improve on their e-learning initiatives. Data for the study were gleaned from various sources (for more details, see the Methodology section at the end of this report):

- Responses from 311 EDUCAUSE member institutions to the ECAR survey of e-learning
- Seven focus groups (a total of 30 individuals) consisting of higher education faculty members, educational/academic technology officers, CIOs, operations specialists, and course/instructional designers
- Interviews with senior officials at seven accreditation agencies
- Interviews with five academic/educational technology officers

This report covers data gleaned from the survey, the focus groups, and the accreditation interviews. On the study's hub, the interviews with the academic/educational technology officers are covered in "Snapshots of E-Learning," which offer a glimpse into how five institutions have incorporated e-learning.[4]

In addition, a study on e-learning would not be complete without coverage of massive open online courses (MOOCs), a topic that has dominated higher education media coverage in the past year. MOOCs were part of the survey for this study and are covered in a separate report on the study's hub.[5]

Interest in E-Learning

More than two-thirds of academic leaders believe that online learning is critical to the long-term strategic mission of their institution.[6] Academic leaders are recognizing the importance of e-learning for institutional growth and increased access. The increased enrollments resulting from e-learning initiatives have helped some institutions recover from the recent recession and can ensure future revenue streams. In addition, e-learning initiatives are allowing students to enroll in courses or on campuses that would not previously have been accessible to them.

Only 15% of current undergraduates are "traditional" students living on campus.[7] Moreover, the number of high school graduates passed its peak in 2011, so institutions looking to grow will have to find different ways of doing business to appeal to nontraditional students.[8] Although the rate of growth in college enrollment is at its lowest level in more than a decade, enrollment in distance courses and programs is still growing.[9] Institutions that prioritized e-learning initiatives early on have secured a prominent position in the current competition for students, particularly with continuing, nontraditional, and military students. Soares refers to these students (the other 85%) as "post-traditional learners":

> Post-traditional learners are individuals already in the work force who lack a postsecondary credential yet are determined to pursue further knowledge and skills while balancing work, life, and education responsibilities. Post-traditional learners reflect a latent market of up to 80 million students able to tap at least some of the $500 billion invested in postsecondary education and training outside of formal postsecondary education settings.[10]

Some higher education leaders are calling on higher education to serve circumstances rather than just customers.[11] In other words, higher education should be targeting innovation to the job skills that are in demand rather than the students themselves.[12] In fact, more than 90% of online students returned to school for career reasons.[13] Embracing post-traditional learners and their circumstances (including the need for anytime, anywhere access) may be the only way some institutions can stay afloat.[14] The increased enrollments realized from accommodating post-traditional students may also help some floundering programs recover or stay off the chopping block.

"Music education is a program that's always under the gun, and for no other reason than low enrollments. Our e-learning initiatives have now given them the money to self-sustain."

—Assistant Dean

In line with the move to increase the practical applicability of higher education, new college applicants are increasingly looking to see which colleges provide the biggest return on investment (ROI).[15] New tools such as College Reality Check provide students with the net price of attending a college, graduation rates, average graduate earnings, and the total amount of debt they can expect to incur.[16] As students increasingly scrutinize what a college can offer them in terms of ROI, they will also look for what colleges can offer in terms of flexibility and diversity of course offerings and programs. Recent research shows that online students want flexibility and affordability, but they also want to take courses from institutions that are reputable.[17]

Students are seeking e-learning experiences. The proliferation of mobile devices has helped produce an "anytime, anywhere" expectation for access to information.[18] Nearly one-third (32%) of higher education students took an online course in 2011.[19] For many institutions, if not most, it is important to look for ways to expand online course offerings to appeal to post-traditional learners. Institutions can embrace more online learning without incorporating MOOCs to realize growth.

Academic leaders and faculty are discovering that e-learning can improve teaching and learning. Contrary to popular misconception (among academic leaders, faculty, and the general public), online courses can improve pedagogy rather than sacrifice quality. In addition, concerns about the technological know-how of faculty can be addressed with a good development program. However, persuading faculty to use these programs—or e-learning initiatives in general—remains a challenge for many institutions.

The 2013 ECAR study of e-learning revealed that nearly all institutions (98%) have at least some departments, units, or programs with a major interest in e-learning (Figure 1). As the later section on online learning will show, an interest in e-learning does not mean that an institution is offering many—or even any—online courses. An "interest" in e-learning can range from an interest in incorporating more online content in the classroom to offering most or all courses online.

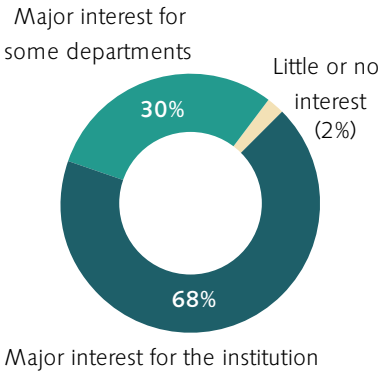


Figure 1. Institutional Interest in E-Learning

E-learning initiatives in higher education have a number of advantages for both institutions and students. The benefits of e-learning are widely covered in the existing literature. They are summarized here in the form of feedback from our focus group participants to provide context for further discussion of the challenges of e-learning initiatives later in the report.

"It's all about access for us. This is a way for us to disseminate our content out to our rural communities, tap into our international audience, and build business partnerships."

—Teaching and Learning Director

"E-learning helps us meet the strategic initiatives of the university in a rapidly growing environment of diminishing resources."

—Senior Teaching and Learning Officer

Benefits for the Institution

E-learning initiatives can help institutions expand enrollment, increase revenue, enhance their reputation, and streamline curricula.

Enrollment Growth

Increased enrollment was the most frequently cited benefit of e-learning by both the survey respondents and focus group participants. E-learning increases access. Online course and program offerings reach a broader geographical range of students. Some participants discussed how their online initiatives are resulting in increased enrollments from parts of the state previously outside their market share. Others discussed how they're seeing increased enrollments globally. Offering general education requirements online can attract new students to the institution early in their academic careers. Some participants stated that online offerings also increase student retention and persistence by giving students more flexibility.

Increased or Additional Revenue Stream

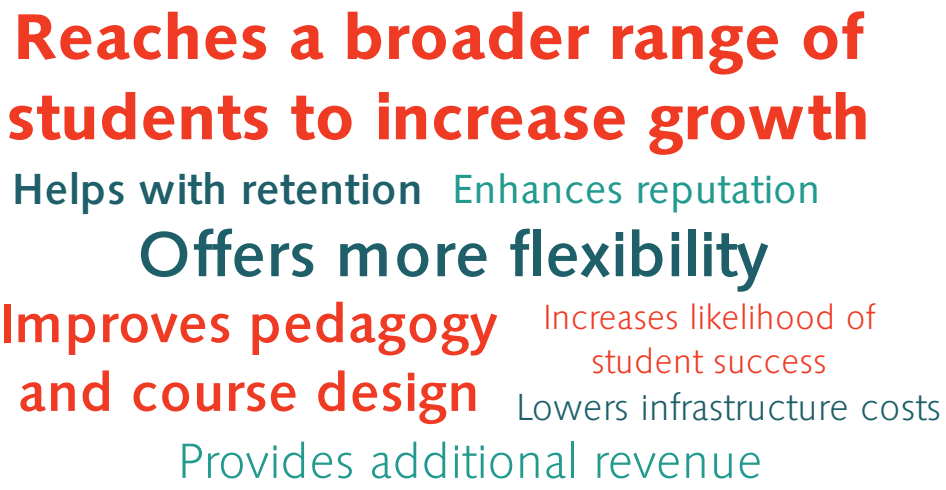
Funding models for e-learning vary, but increased online course and program offerings often mean extra dollars for individual departments, for IT, and for the institution in the form of tuition and technology fees. Offering more courses online can also improve efficiency and decrease costs by limiting reliance on often scarce physical classroom space. Additional revenue may also be realized by helping floundering programs remain viable.

Enhanced Reputation

Survey respondents and focus group participants both stated that their e-learning initiatives have enhanced their institutional reputation, some at a regional level, some at a national level, and some at an international level. Most participants were eager to discuss how their online courses and programs—as well as the infrastructure, policies, and support for them—were models for other institutions. This enhanced reputation has enabled many to form more partnerships and collaborations with other institutions and corporations. It has also led some to provide e-learning services for other institutions, giving rise to a new revenue stream. In addition, some students perceive institutions with strong online e-learning offerings as more innovative.

Streamlined Curricula

Focus group participants related that online course offerings can minimize duplicate offerings across departments or campuses and increase consistency within those courses. In addition, the larger classes sometimes afforded by offering courses online may mean that fewer sections need to be offered. This may decrease the need for hiring more faculty, which can be especially beneficial for large general education courses for which it is difficult to find enough instructors. However, additional teaching assistants and technology support staff may be needed to manage these larger classes.



Benefits for Faculty and Students

E-learning initiatives help meet students' demands for increased flexibility, an enhanced learning experience, and decreased time to degree. E-learning can also help improve or revitalize faculty teaching.

Flexibility

The greatest benefit e-learning offers students is increased flexibility, both in course offerings and in access to course resources. Changes in work or family circumstances often leave students unable to take courses on campus or on a set schedule. When courses are offered online, students can often access lectures and other course materials on their own schedules. This enables institutions to retain many nontraditional (or post-traditional) adult, working, continuing education, and military students.

"I've heard so many faculty say, 'I'm a better teacher now because I taught online.'"

—Instructional Designer

Improved and Revitalized Teaching

E-learning initiatives nearly always involve course redesign. Instructors often must undergo training before teaching online courses, and improved pedagogy results when new techniques are introduced and there is a concerted effort to specify learning objectives or outcomes. Because academic leaders and faculty have concerns about quality, online education is often more open to scrutiny. Therefore, instructors and course designers spend more time to develop a structured, high-quality experience for students, often using standards such as Quality Matters.[20] Many focus group participants commented that these improved techniques are often transferred to instructors' face-to-face courses, resulting in improved pedagogy across different delivery modalities. Some also commented that longtime instructors are enjoying a rejuvenated commitment to teaching through the course redesign and improved pedagogy associated with the incorporation of e-learning initiatives.

"You get the ability for everyone in the class to respond, regardless of how shy they are or how much thought it takes for them to be able to put their words into coherent messages or whether they have a language challenge. E-learning gives them the time that I think they need to develop better responses and to interact in more meaningful ways."

—Teaching and Learning Director

Enhanced Learning Experience

The learning analytics now provided by many LMSs improve and speed feedback to students with increased data collection and just-in-time assessments. Students can often compare their success with that of others, which has been shown to improve learning and increase students' ownership in their learning experience and engagement in the course.[21]

E-learning increases opportunities for collaboration among students. Discussion of class material is no longer limited to a one-hour period three times a week in a physical classroom. Students now can—and are sometimes required to—participate in discussions in online forums that pertain to the learning material. They hold study sessions online, blog about their learning experiences, and share online information with their classmates that supplements course materials. This 24/7 communication alternative often extends beyond the duration of the course. Peer communication among students is considered so important that a new MOOC provider, NovoEd, is attempting to set itself apart from other providers by touting its teamwork-fostering design that facilitates student interaction and collaboration.[22]

Students can access e-learning course resources on multiple occasions whenever they go online, resulting in more opportunities to consolidate and integrate information. This can be particularly helpful for students with learning disabilities or those for whom English is a second language. Students who are fast readers and quick learners may flourish, have less "dead" time, and experience less frustration with the pacing of content; exceptional students might make their way through degree programs more efficiently.

"We're seeing that our students on campus who take online courses graduate faster."

—Associate Provost

Improved Time to Degree

Many of our focus group participants stated that online course offerings are helping students graduate faster. Online courses often help by increasing the number of sections of a course offered, the number of students who can take a course, or the frequency with which a course is offered. This can be especially helpful when students fail or drop out of prerequisite courses that are part of a major and have to retake them before advancing to the next course level. In addition, focus group participants mentioned that employed and military students in particular are benefiting from the flexibility of online course offerings and are seeing decreased times to degree.[23]

Delivering E-Learning Services and Technologies

Institutions are employing a diverse set of strategies to manage, staff, deliver, organize, and select e-learning services and technologies.

Management of E-Learning Services

More than one-third (35%) of institutions manage e-learning services through central IT (Figure 2). An additional 17% have a dedicated center for e-learning that includes IT, and an additional 13% have multiple or other programs managing e-learning that include central IT. Therefore, nearly two-thirds of institutions involve IT in some way in the management of e-learning services. One-quarter have a dedicated center for e-learning that is separate from IT, and 8% manage e-learning through Continuing Education.

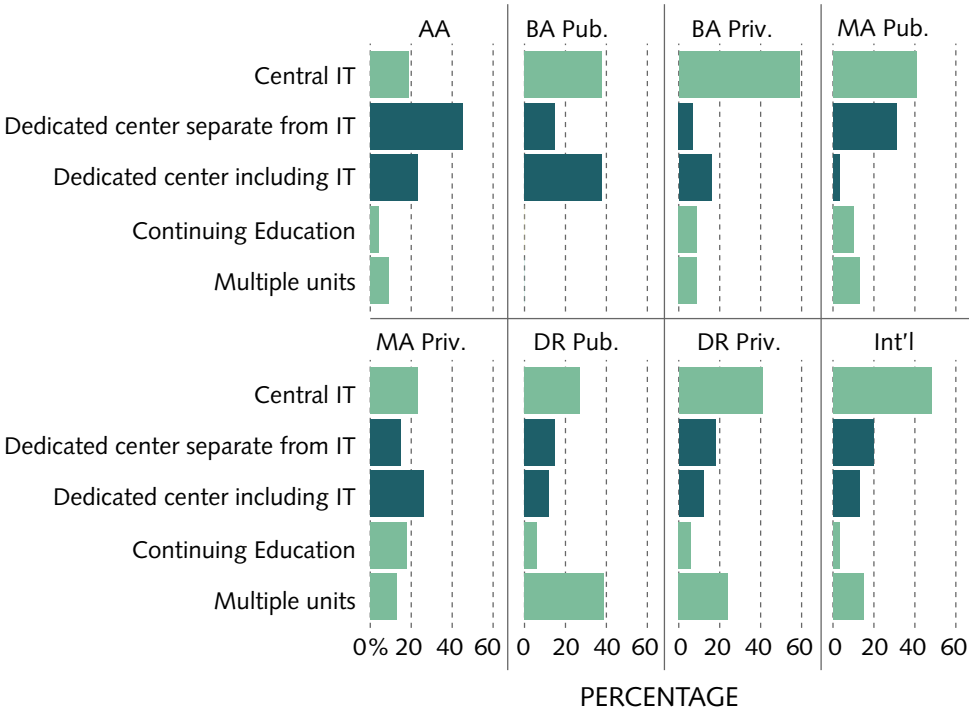


Figure 2. Management of E-Learning Services, by Carnegie Class

Forty percent of institutions have a dedicated e-learning center, of which some include central IT and some do not. Two-year (AA) institutions are most likely to have a dedicated e-learning center (68%). This may be due to the predominant teaching and learning mission of AA institutions, as well as the fact that they tend to have autonomous instructional and IT units. They also tend to be more centralized than other institutions and can more easily share or consolidate services. Doctoral institutions are most likely to have multiple programs managing e-learning. Our

data reveal no standard method for managing e-learning services. However, focus group participants suggested that, at a minimum, institutions that are serious about e-learning initiatives should designate a center specifically for the coordination and management of any e-learning services that are centralized. The findings outlined later in this report suggest that institutions with a dedicated e-learning center are more mature in their e-learning initiatives. In addition, survey respondents whose institutions manage e-learning through a dedicated e-learning center were twice as likely as those managing e-learning through any other single means to consider themselves e-learning leaders or innovators.[24]

Respondents would like to more than double the e-learning staff in central IT.

Staffing for E-Learning

Figure 3 shows the median number of current central IT staff (per 1,000 students) dedicated to e-learning. (These data include all responding institutions in each Carnegie class, not just those that manage e-learning through central IT.) In addition, respondents were asked how many additional staff would be needed to provide e-learning services and support optimally. This response was added to the current number of staff to provide the "optimal" number of staff per 1,000 students, also shown in Figure 3. The median desired percentage increase in FTE staffing was 124% for all institutions. In other words, respondents would like to more than double the e-learning staff in central IT.

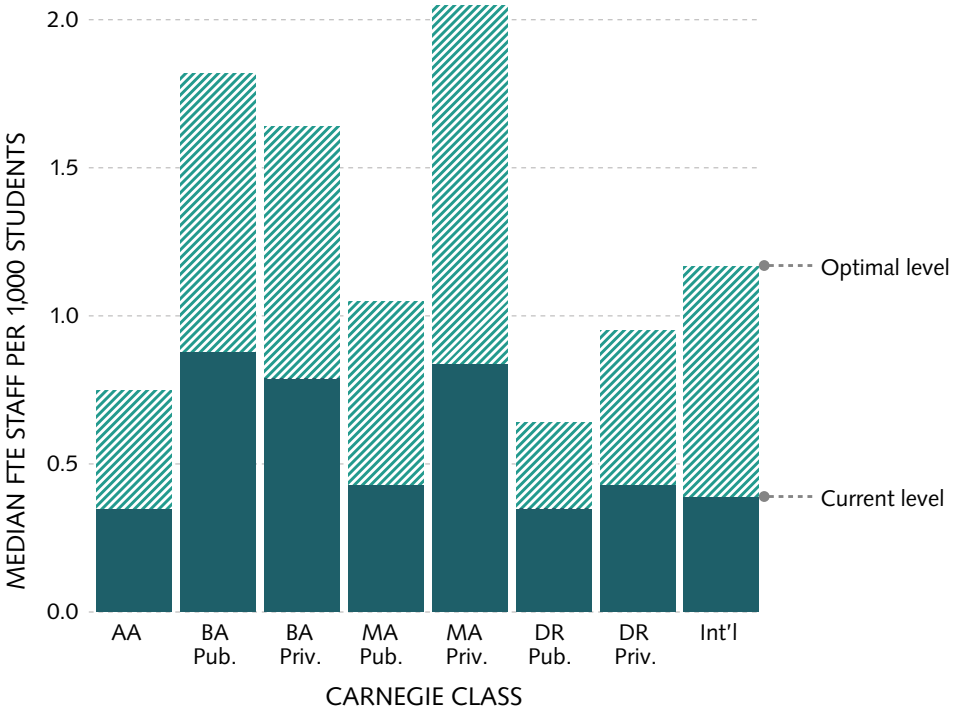


Figure 3. Number of Central IT Staff Dedicated to E-Learning Services and Support

Figure 4 displays the survey responses to questions about the staff roles needed or desired for e-learning versus the roles currently in place (quadrant divisions are based on median percentages). The roles perceived to be needed most (in orange) are instructional/course designers, professional development staff for e-learning, app designers/programmers, data analysts, videographers, graphic designers/animators, and support for enterprise IT systems in the e-learning space. Most of these roles involve direct support for faculty. More than 60% of institutions reported needing staff (or more staff) in these areas to support e-learning optimally. In addition, qualitative research from this study suggests that additional roles needed (that were not specified in the survey options) are e-learning project managers and classroom technology support staff.

Figure 4. Respondents' Assessment of Roles for E-Learning

Fewer than half of institutions have geographic information system (GIS) specialists, game designers, graphic designers, or app programmers for e-learning. Of these roles that are not generally in place, only app programmers and graphic designers are perceived to be needed.

Delivery of E-Learning Services

Figure 5 shows the percentage of institutions offering various e-learning services, as well as whether they are provided in-house or outsourced. More than one-quarter of institutions outsource the LMS, e-portfolios, and e-learning social networks. Eighty-one percent of institutions provide e-learning course delivery internally, and 87% provide tech support in-house.

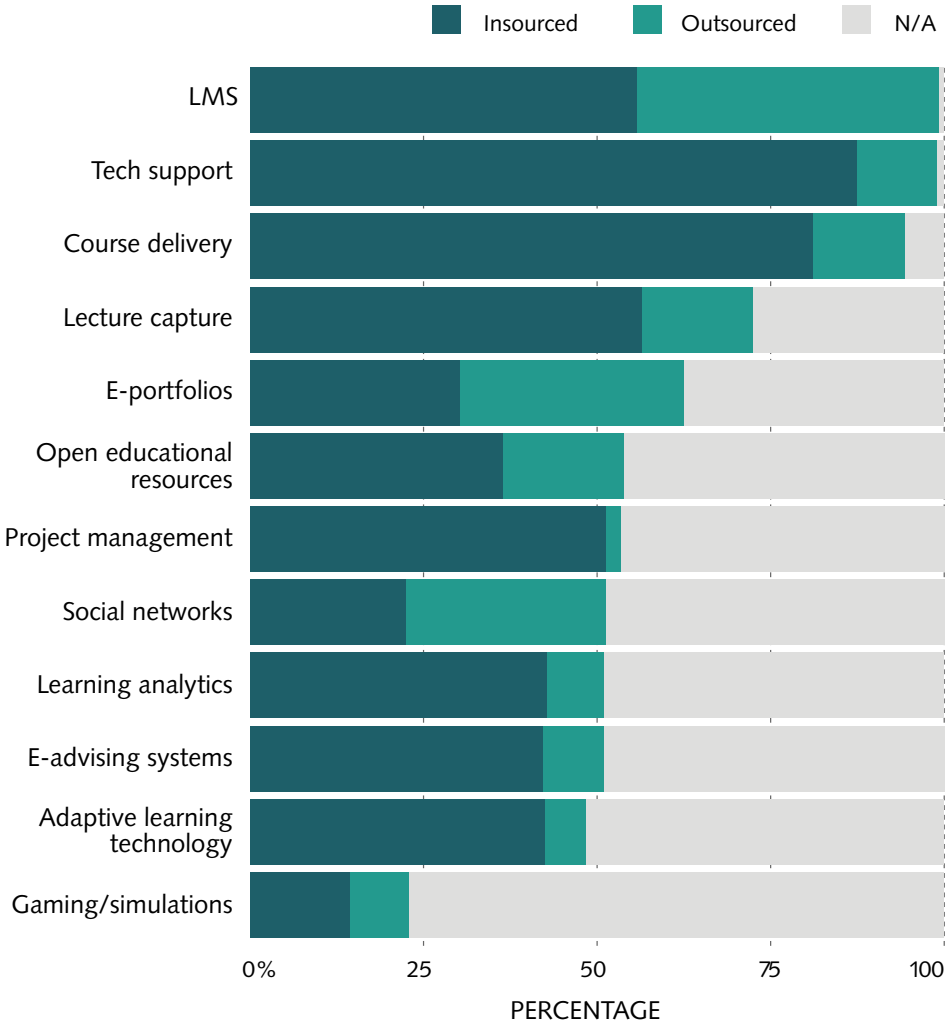


Figure 5. Percentage of Insourcing/Outsourcing for Various E-Learning Services

Gaming/simulations and open educational resources were of particular interest to undergraduates who responded to the 2012 ECAR student technology study.[25] More than half of survey respondents who expressed an opinion said they want their

instructors to use these technologies more. According to Figure 5, gaming/simulations and open educational resources are among the least common e-learning services delivered (either insourced or outsourced). Furthermore, as previously noted, IT does not perceive the need for more game designers. This indicates a disconnect between what students say they want and the technology services and support institutions presently provide.

Organization of E-Learning Services

Figure 6 shows whether the various e-learning services delivered are centralized or distributed. More than 90% of institutions provide an LMS, tech support, and a course delivery system, and the majority provide these most popular services centrally. The consensus of focus group participants was that it is generally a bad idea to have decentralized services for technologies that students use widely and frequently (such as the LMS) because it takes time to learn multiple new processes or technologies—time students need to be devoting to course material.

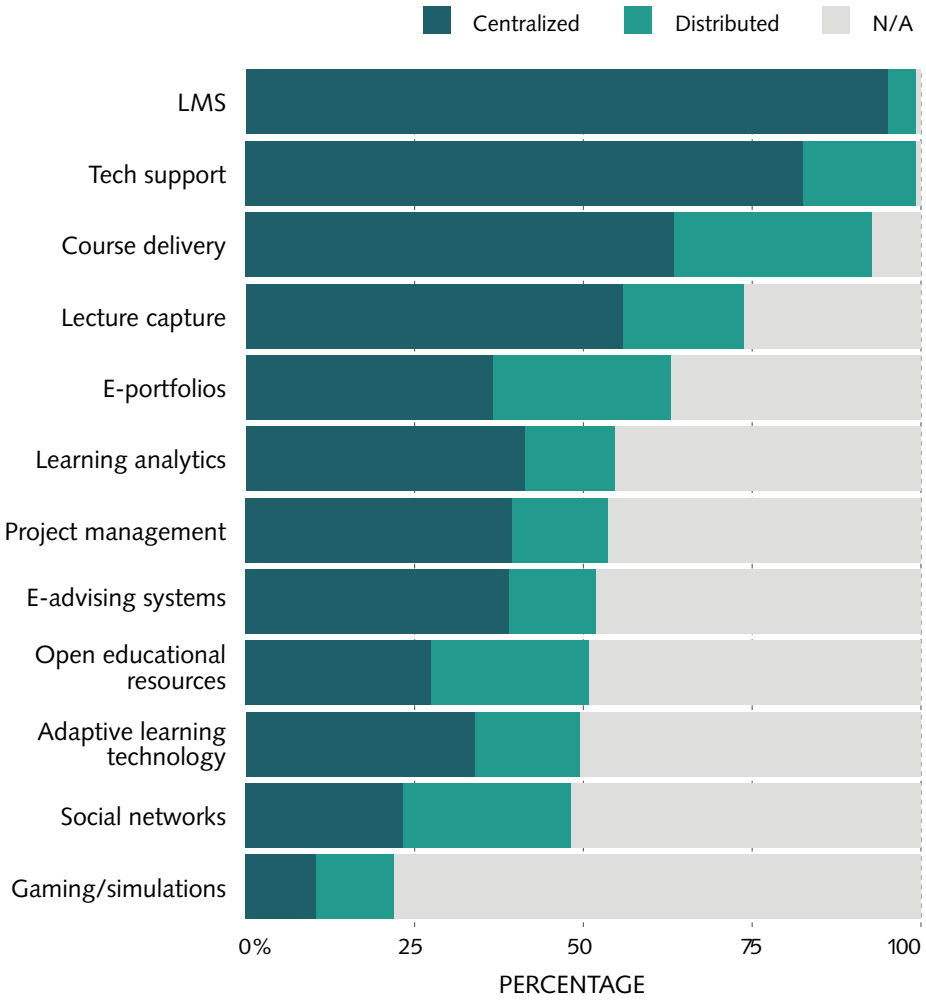


Figure 6. Provision of Various E-Learning Services

Deciding whether services should be centralized depends on needs and priorities. Centralized services provide more efficiency and are usually more cost-effective for the institution as a whole, as resources can be pooled to provide the best services for general use. However, if innovation in e-learning is desired, or if specialized programs require different e-learning technologies or services, pilot-testing e-learning initiatives locally may be the best approach.

Selection of E-Learning Technologies and Solutions

Respondents rated a number of factors in terms of their importance to the selection of technologies and services for e-learning delivery. Responses ranged from "not at all important" to "very important." These ratings were converted to a scale that corresponds to 0 (not at all important), 1 (somewhat important), 2 (important), and 3 (very important). The relative importance of these factors is illustrated in Figure 7.

In general, all factors were deemed at least somewhat important. However, the factors judged most important were reliability, the ability to keep student data secure, ease of use for both faculty and students, and effectiveness. The least important factor in selecting technologies or solutions for e-learning was the popularity (installed base) of these technologies. It appears, then, that institutions are open to the technologies and solutions that best work for them.

Smaller institutions are more likely than larger institutions to emphasize cost. They are also more likely to deem important the fact that a technology or solution has an installed base within the higher education community. Focus group participants shed some light on smaller institutions' distinct concerns about e-learning and online course offerings in particular. Institutions that adopted online course delivery when it first started becoming popular more than a decade ago established infrastructure and policies around e-learning that have had the chance to evolve and are now firmly in place. Those institutions were also able to capitalize on a booming economy in building their online course delivery systems. However, those who try to initiate online programs now are not simply behind the times; they are trying to build infrastructure from scratch during a period of budget cuts and decreased enrollments. In addition, some are losing many of their students to institutions offering cheaper online alternatives. One solution is to consider partnering with other institutions to deliver online courses. It's possible for institutions to outsource or partner for online content, student support services, and other operations involved in online course delivery. Examples of current providers/partners are Pearson, Academic Partnerships, and the Cisco Networking Academy.[26]

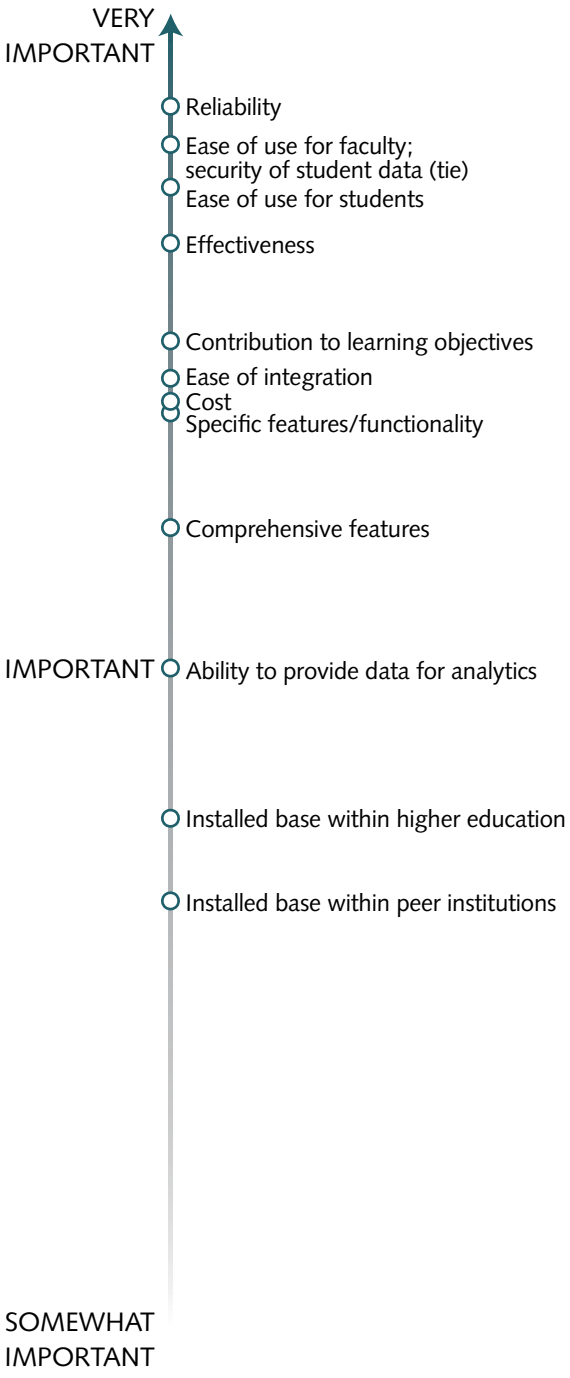


Figure 7. Relative Importance of Factors in Selecting E-Learning Technologies and Services

Concerns and Challenges of E-Learning Initiatives

Although some in higher education believe that e-learning is unsettling, disruption may be what is needed to overturn former business models and serve post-traditional learners. In higher education fashion, however, disruption will likely be gradual as institutions try e-learning initiatives with just a few courses or programs before diving in and changing their method of doing business.

In regard to e-learning, institutions have chosen to be entrepreneurs (at the forefront of instituting e-learning initiatives), stewards (emphasizing conventional courses and programs that serve the traditional student), or something in between.[27] The question is, do they still have the choice? Those who were early adopters of e-learning a decade (or more) ago have already incorporated e-learning into their fabric. Those who are just now realizing they are hemorrhaging students to institutions with more innovative and flexible education options are having difficulty catching up with limited resources, especially for infrastructure needs.

To hear focus group participants put it, e-learning initiatives appear to have unsettled quite a few traditional institutions of higher education. For-profit universities, with a different business model and a flexible labor pool, are certainly leading in some respects—for example, faster provision of high-demand courses. Competition between nominally state-funded universities and for-profit universities appears to be motivating the former to emulate the latter, at least in terms of gaining a larger share of the tuition to be reaped from place-bound students who need or desire higher education credentials. Private not-for-profit institutions generally trail in their e-learning initiatives as they struggle with decisions about the extent of their foray into e-learning while continuing to serve what they see as their mostly traditional student base. Concerns about the quality of online courses also remain pervasive.[28]

Currently, a foggy landscape makes it difficult to develop transferable models from particular institutions, as many are still developing—or experimenting with—e-learning initiatives. To glean an array of best practices from which institutions can develop fitting strategies, it may be necessary to cherry-pick practices from all points on the spectrum: corporate e-learning, community colleges, for-profit colleges, and traditional universities. Given the large assortment of technologies, business models, staffing models, administrative configurations, compensation strategies, and the continuously changing opportunities in terms of meeting student/consumer needs, part of the problem in identifying the state of the art in e-learning is that it is a moving target. From the research conducted for this study, we have a large set of examples that suggest how—and in some cases how *not*—to implement e-learning on an institution-wide scale. These examples show clearly that the differences between institutions mean that what works for one institution does not necessarily work for another, and there are multiple paths toward instituting effective e-learning strategies.[29]

From the data we have collected, we have outlined several concerns and challenges institutions are facing as e-learning disrupts the business of the university, and we show how some institutions are meeting those challenges.

Financial Challenges: How Tuition Dollars and Fees Are Collected, What They Pay for, and How They Are Distributed

Focus group participants admitted that administrative decision making may focus on finances first because of the cash cow e-learning is perceived to be (via increased tuition streams from growing numbers of students). The temptation to enhance these new revenue streams by pushing the limits of enrollment in online courses may hinder pedagogy and attempts to design quality online courses as a result of raising student-to-instructor ratios.[30] In addition, there is some debate about whether online courses and programs should provide so much profit to nonprofit institutions, especially given that after the initial investment in online courses there is relatively little overhead compared with face-to-face delivery.[31]

Some of our participants talked of institutions that are moving to a new business model whereby instructors are paid per student rather than per course. The concern for some is that this new compensation model appears to favor quantity (of tuition dollars) over quality (of instruction). Some are also concerned that such a model will lead to instructors being hired on the basis of their e-learning experience (to ramp up more online courses faster) rather than their other pedagogical qualifications. The overarching concern is that e-learning experience will trump content experience, resulting in a decrease in course quality.

Institutions often have to recalculate what tuition dollars buy for different delivery modes. For example, should distance students pay for parking? Should face-to-face students pay the same technology fee as distance students? In addition, institutions have to decide whether revenue streams from tuition dollars in different modalities are treated the same way. For example, at many institutions a higher percentage of online tuition dollars (compared with face-to-face tuition) flows directly back to individual departments as an incentive to deans to promote the delivery of more online courses from their faculty. Another decision then concerns what portion of those dollars goes to incentivize the faculty to teach more online courses. Some institutions also dedicate a certain portion of online tuition dollars to shore up or maintain the infrastructure needed for online course delivery or to develop new e-learning initiatives.

Our survey data show that 82% of institutions offer at least several courses online, and more than half (53%) offer a significant number of courses online (Figure 8).[32] Private four-year institutions trail, with only 20% offering a significant number of online courses. Few respondents (2%) offer all courses online. Public institutions (68%) are almost twice as likely as private nonprofit institutions (36%) to offer a significant number of courses online.

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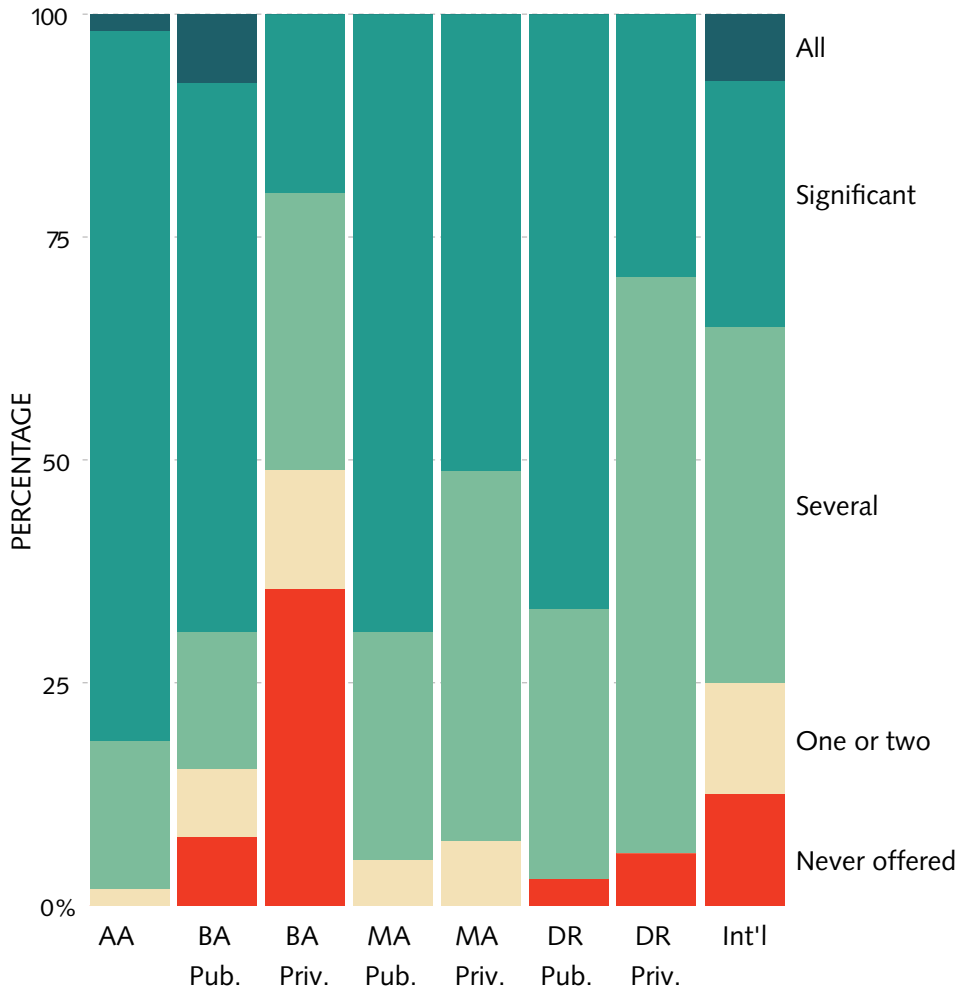

Figure 8. Number of Courses Offered Online, by Carnegie Class

AA institutions are the leaders in the number of online course offerings: 81% offer a significant number of courses online. A recent study by the Instructional Technology Council shows that distance education enrollments at community colleges grew by almost 7% last year. This increase offset the overall total enrollment decline of nearly 3%.[33] AA institutions may benefit from a higher ROI for online courses, given that lower-division courses typically have higher enrollments and lower costs than do upper-division courses.

Eleven percent of institutions have never offered a course online. Of this 11%, more than three-quarters (79%) have an interest in or plans for offering online courses in the future.

Reasons for having never offered a course online are provided in Figure 9. (This figure contains data from only 33 institutions.) Both survey and focus group data suggest that a major reason some institutions do not offer online courses is lack of leader interest, usually at the level of the president or provost. Focus group participants suggested that e-learning leadership is necessary to foster both faculty and student interest in online learning. According to some participants, online learning does not fit the mission of some institutions that serve a primarily residential student body and wish that to remain their primary market.

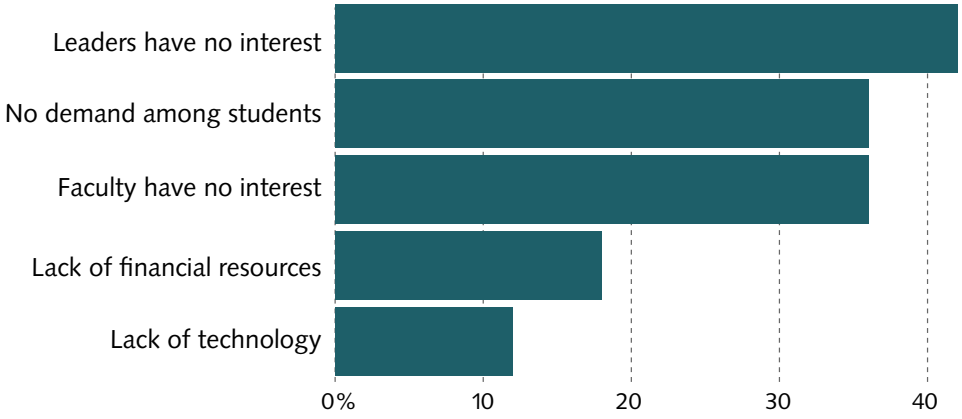

Figure 9. Reasons for Not Offering Online Courses (More Than One Response Possible)

Cultural Challenges: What It Means to Be a College Instructor, a College Student, and College Educated

Concerning adoption of e-learning initiatives, a majority of focus group participants identified faculty skepticism and reluctance to participate as major barriers. In addition, a recent study shows that fewer than one-third of chief academic officers believe their faculty think online instruction is legitimate or of value.[34] Some faculty are skeptical of the quality of e-learning courses, some do not want to take the time to learn new technology (a point supported by the survey data in Figure 10), and some believe that e-learning initiatives are negatively impacting the learning experience.[35] These concerns are not shared by this study's survey participants (mostly IT leaders).

Figure 10 shows that relatively few survey participants are (majorly or moderately) concerned that e-learning is transforming higher education for the worse. However, the technological know-how of faculty is a primary concern of our survey respondents. Smaller institutions are more likely than larger ones to be concerned about their faculty's technological know-how and their institution's ability to keep up with other institutions. Those at AA institutions are the least concerned about faculty skepticism. Private institutions are more concerned than public institutions about faculty skepticism and ROI.

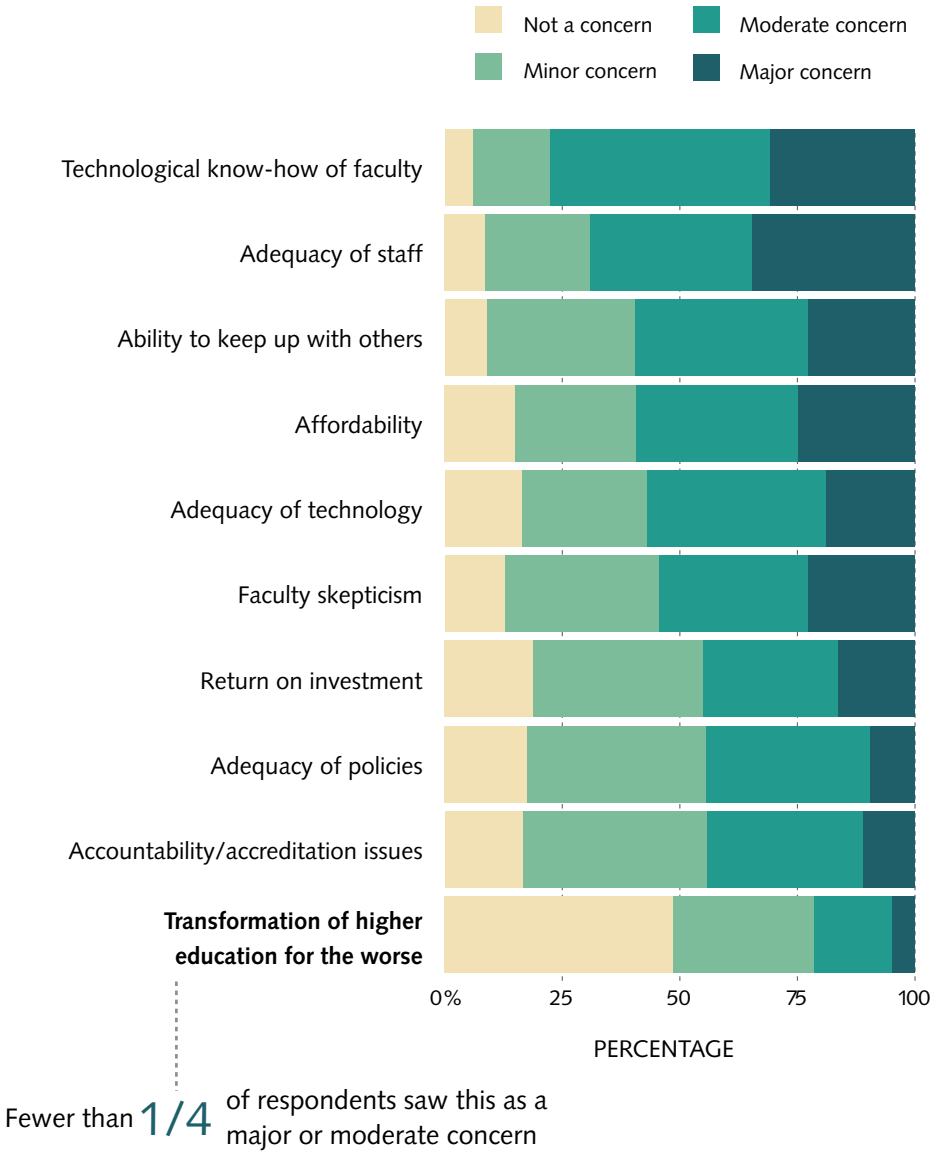

Figure 10. Concerns about E-Learning Initiative

The reluctance among some faculty to learn new technology or teach online courses may be a reflection of the concern that e-learning is changing what it means to be a college instructor. Data show that faculty are skeptical that technology helps to improve learning,[36] and nearly three-quarters of faculty members who teach MOOCs don't think their students deserve credit for taking them.[37] These beliefs may be what keep some faculty firmly tethered to their face-to-face courses. According to our focus group participants, getting faculty on board with e-learning initiatives beyond using an LMS remains a challenge, and there are multiple methods for addressing it.[38] One way is to use faculty who are already on board with e-learning to educate other faculty. Experienced faculty are often in the best position to speak to improved learning outcomes and improved pedagogy with e-learning. Another way of easing the transition to online teaching is to provide faculty with comprehensive training in technology and course design.[39] In addition, providing incentives in the form of a reduced course load, financial bonuses, or other perks may also increase the number of faculty willing to try employing more e-learning initiatives. Several of our participants suggested that faculty are more likely to embrace e-learning technology in incremental steps. For example, many faculty start with flipped-classroom experimentation and then graduate to a blended, hybrid, or fully online environment. However, academic leaders should not expect sweeping changes in faculty culture through the provision of these incentives. Our focus group participants suggested that slow and incremental changes will occur when faculty see other respected faculty incorporating e-learning into their teaching.

"There are still a number of faculty on our campus who question what we are doing to our students. [They think that if they are] not going to get the campus experience, they aren't going to get the interaction they used to get."

—CIO

E-learning provides a greater range of educational opportunities for students. However, information from our focus groups suggests that these opportunities are not without risks in terms of the skills students bring to the online learning environment, faculty online teaching skills, the quality of pedagogy and instructional design, and equal access to the online environment:

- Students accustomed to the classroom setting may perform differently online because of the changed relationship they perceive between themselves and instructors.
- Students may find that instructors are not sufficiently responsive because of the instructors' workload or unfamiliarity with new technology.
- Given the propensity of departments to hire adjuncts for online teaching, coupled with the lack of rewards some institutions give tenure-line faculty for online instruction, some students are more likely to have a less experienced faculty member at the helm of a distance course than an on-site course.
- The requirements of reading, following instructions, reducing distractions,[40] and exercising self-discipline are difficult to communicate to the very students who most need to understand the perils of enrolling in online courses if they are not equipped to handle the different learning environment. Some students taking online courses are more likely to fall behind, and this could widen an existing achievement gap.[41]

- "Bandwidth divides" and data caps may mean that many students do not have equal access to online courses and programs.[42]

Despite these risks and the fact that most institutions now offer at least some courses online, many of our participants stated that students are clamoring for more online courses, more blended and hybrid courses, and more integration of technology into the classroom environment in general. Data from ECAR's 2012 student study show that 70% of students believe that having some online components in a course produces the most conducive learning environment for them.[43]

Finally, our focus group participants noted that many faculty, staff, and administrators are concerned that e-learning is changing what it means to have a college education. E-learning makes education more transparent by making it more public. Online courses draw greater scrutiny because of concerns over learning outcomes and student identity. In addition, credit hours as the long-standing measure of higher education achievement are being questioned. Time on task is now considered more important than it used to be, as is competency on a topic.[44] Several institutions are offering direct assessment programs on a mostly experimental basis, moving away from the credit hour as the standard.[45]

"We're a small, traditional, private university. People aren't going to spend the tuition money to come to us online when they could do it at [a state university] for a third of the price. But where we've really tried to gain our foothold is our master's programs, our graduate programs for our graduates. So someone gets a degree, moves away; well, hey, come back to our online program. You can have a master's degree from [your alma mater].

—Department Chair

Quantitative Challenges: Opportunities for Big Data Tracking of Institutions, Faculty, Staff, and Students

E-learning initiatives facilitate the collection of large amounts of data, enabling analytics that can inform decisions about teaching, learning, and strategic initiatives. Analytics can help recalculate the cost and value of education and specific programs in more fine-grained analyses, allowing institutions to fine-tune strategic initiatives. Analytics can be used to provide early interventions for at-risk students in response, for example, to students' low scores on quizzes or low interaction with the LMS.[46] Analytics can also serve as external evaluative metrics for instructors, fundamentally changing the way instructors report their success in teaching. Opportunities for data use are growing, and many institutions are employing sophisticated analytics in their decision making; nevertheless, a good number of institutions are behind in their analytics endeavors.[47]

Qualitative Challenges: New Business Models for "Traditional" Institutions

The provision of online courses produces revenue—sometimes substantial revenue—for both nonprofit and for-profit institutions. This revenue usually comes with a lower overhead than that of face-to-face courses.[48] However, no single model emerges for determining the proportion of courses that should be taught online, how e-learning services should be managed, or whether MOOCs should be considered.[49] Academic leaders need to consider both their mission and their market when strategizing about

e-learning initiatives, as well as how these initiatives will impact their business model and their reputation.[50] Our focus group participants provided insight into these possible impacts:

- Increases in online course offerings may lead to the outsourcing of some faculty functions. Often, adjuncts teach online or distance sections. In the future, however, it may become the norm for full-time, tenure-track faculty to teach online from more remote locations.
- Online education often precludes hiring at the last minute because online courses are frontloaded in terms of course design. Online course design initially takes much more time than face-to-face course design, and it is still desirable—and current practice—at most institutions for faculty to have heavy input in course design. Not including faculty in the design of their courses would raise political, cultural, pedagogical, and academic freedom policy issues that many academic leaders do not want to broach. Therefore, faculty involvement in the design of an online course can occur as much as a semester or more before the course begins.
- Online courses may be designed and offered on demand rather than in the traditional sequential model.
- The increase in online program offerings may lead to the outsourcing of some staff roles (e.g., financial aid, registration). It may also lead to an increase in shared services (e.g., financial aid, registration, CMS/LMS) across campuses or within systems because borders between campuses may get fuzzier.
- It may be beneficial—and is now possible—to outsource entire programs (e.g., general education) or entire degrees to vendors. This could lead to problems with accreditation. (See the Accreditation section below.)
- There may be an increased demand at certain institutions for courses tailored to local economic and employment circumstances (e.g., a regional company may want more engineers on staff or more computer programmers with a working knowledge of biology). Institutions may find their niche in tailoring courses or entire programs to the fluctuating economic circumstances of their region.
- Institutions may find it beneficial to create entire terms that are online only. Some institutions are creating mini terms between regular semesters or during the summer that are entirely online. This gives students who dropped out of courses or who otherwise did not begin their studies at the start of a traditional semester the opportunity to catch up with their peers and decrease their time to degree.
- Some institutions are experimenting with bundling or packaging certain courses on DVDs for remote asynchronous usage, which has been targeted especially for military and some international students who may not have reliable Internet connections.
- The metrics for faculty workload may need to be updated or changed. According to our focus group participants, the development of an online course (in comparison with a face-to-face course) requires more of an instructor's time. This is

particularly true when instituting the course but also to a certain extent with subsequent offerings, as course updates and content often need to be coordinated and iterated with a team. Faculty scheduling cannot be expected to remain the same for an online course as for a face-to-face course. Faculty need incentives in the form of a reduced workload (in the areas of teaching, research, or service) or increased salary, especially when teaching online for the first time.

- Online courses and programs require 24/7 IT support. According to the EDUCAUSE Core Data Survey, only 13% of responding institutions had a 24/7 help desk in 2012, and this percentage was unchanged from 2011.[51] Our participants agreed that maintaining viable online courses requires 24/7 support for the "anytime, anywhere" expectations of students taking these courses.
- Academic leaders may also have to consider the impact of free course offerings on the mission and business model of the institution. For some institutions, it makes sense to offer some free courses (MOOC or non-MOOC) to students as a recruiting tool and to get students interested in certain programs.

"I am flummoxed by the notion that the gold standard for quality became face-to-face courses only after we had developed online learning. We never scrutinized face-to-face courses, and now we put all of these online courses under the microscope."

—Teaching and Learning Director

Quality Concerns: Online Learning under a Microscope

When e-learning is implemented effectively, multiple positive outcomes are possible, including interesting new insights into where, when, and how learning happens.[52] Insight into pedagogical best practices can be gleaned from careful and thoughtful use of analytics to reveal how instructors spend their time, how instructors hold students accountable for course content, and which practices make a course successful (however success is quantified). Instructors can learn from their students and provide greater opportunities for communication among students than might exist in a traditional face-to-face classroom.

According to a recent study, more than three-fourths of academic leaders believe that the quality of online instruction is at least equal to and sometimes superior to that of face-to-face instruction.[53] Faculty development programs in online teaching can reveal keys to successful pedagogy as more faculty members participate in continual evolution of best practices for their fields of study. Full utilization of the connective power of the Internet can increase student access to expertise. Our focus group participants and accreditation interviewees echoed a sentiment now pervading the online learning literature: Online courses generally not only match traditional delivery methods in quality but also many times surpass them.[54] The ubiquity with which institutions appear to use quality rubrics (e.g., Quality Matters)[55] to scrutinize their online courses has resulted in a compensatory effort to overcome what are gradually appearing to be outmoded concerns about online course quality.

Accreditation Concerns: Standards for Quality and Learning Outcomes Do Not Vary with the Delivery Method

One of the concerns about e-learning—and online education in particular—is the quality of education provided. Accrediting agencies exist to ensure that all education provided by higher education institutions meets acceptable quality standards. Interviews with leaders of seven accrediting agencies (four from regional accrediting agencies and three from programmatic accrediting agencies) illustrate how accreditation standards have adapted to the growing number of online, hybrid, and blended courses, and to MOOCs.[56]

Accreditors from both regional and programmatic agencies are of one mind when developing standards for online or distance education: Their standards are no different from those applied to traditional face-to-face courses. Accreditors emphasize quality and learning outcomes regardless of delivery mode. Online programs and courses are not scrutinized with a different lens. There are no separate standards for faculty quality or training, and there are no separate standards for online students or their learning outcomes. In fact, the distance or online course sections of most accreditation manuals are relatively brief.[57] The onus is on the institution to provide evidence of quality and learning outcomes that meet accreditation standards, regardless of the delivery mode.

Although regional accreditors do not have separate standards for online or distance courses or programs, one challenge is making institutions aware of changes in federal standards and helping them address those. For example, the federal government has a distinct requirement for distance courses that involves the verification of student identity. The burden of such verification falls upon the institution. The institution must provide a written description of the method(s) used to verify student identity as well as the procedure used to protect the privacy of students' information while verifying their identity. Institutions must also disclose any additional charges for identity verification up front (e.g., fees associated with proctoring). At present, a unique login ID suffices to meet the federal requirement for student identification. Some accreditors predict that more stringent or multiple methods of ID verification may be required in the future (e.g., fingerprint identification). Some also point out that good pedagogy in the form of one-on-one instructor–student interaction (even online) is the best strategy for ensuring that students are who they say they are. Many of the interviewees also stressed that the challenge of verifying identification and the solutions for dealing with it may apply to face-to-face courses as well (especially with large classes). However, the federal requirement mandates ID verification for online or distance courses only.

In addition, federal requirements obligate institutions to report to a regional accreditor whenever the institution foresees undergoing a "substantive change." Substantive changes can involve modifications to the institution's mission or the nature of the

student body. They also include additions of locations, campuses, or programs. The offering of distance courses or distance programs constitutes a substantive change when the first distance course is launched and also when the number of distance courses reaches 50% within a program.

Accreditation leaders identified a few challenges associated with online or distance courses:

- Institutions should be cautious about contracts with vendors when outsourcing some aspects of e-learning. Institutions need to ensure that they—and not the vendor—are in charge of which students are admitted and what students are told about the program in terms of content and expectations.
- Because of technical limitations, students may not have equal access to courses. Adult or continuing education students in particular may be more "technology challenged" than their traditional-student counterparts. To address this challenge, institutions should ensure that technical assistance is readily available on a 24/7 basis. Some program accreditors require a technical assistance document to be in place.

Accreditation standards change not so much by looking ahead but in response to what institutions are already doing. Accreditors have remained on top of their standards for online and distance courses largely because they decided early on—in some cases as early as the 1980s—that distance courses would not be judged by a different set of standards. "All students, all locations, all modalities" is a motto consistently applied to accreditation standards. The intent has always been to ensure that distance or online courses meet the same high-quality standards as traditional courses.

Accreditors stand ready to approach even newer methods of course delivery in the same way. Although the occasion to allow MOOCs for credit has not yet arisen,[58] accrediting agencies are ready to incorporate MOOCs in the accreditation process if needed. Standards already exist for transferring credit and for converting noncredit activity to credit activity. It will be up to each institution to demonstrate how well MOOCs deliver in terms of the quality of the learning experience and learning outcomes. In addition, accreditors are prepared to accommodate programs based on "direct assessment," whereby students earn degrees not through credit hours but by demonstrating competencies. At least one direct assessment program has already been accredited.[59] Accreditors are open to accommodating other new methods of delivery with an unwavering emphasis on quality and learning outcomes, balancing federal requirements with the needs of institutions.

The Maturity of E-Learning in Higher Education

The maturity indices developed by ECAR serve three functions. First, a maturity index can provide a starting point for institutional leaders to discuss strengths and weaknesses and outline a plan of action to capitalize on assets and make progress in areas where they lag. Second, a maturity index can be used intrainstitutionally to benchmark progress across time or across departments. Third, a maturity index can be used interinstitutionally to provide peer comparisons of progress.

Maturity in e-learning measures progress along seven dimensions: Priority, Ongoing Evaluation/Training, Policies/Governance, Investment in Faculty/Staff, Readiness, Outcomes Assessment, and Synergy. The following section reports on maturity scores derived from items on the e-learning survey. Some of the maturity items on the survey were based on Sloan-C's "Quality Scorecard for the Administration of Online Programs."[60] Figure 11 displays the means for each of the maturity factors that were derived from a factor analysis of the survey items. The survey questions sought the degree of agreement with a number of items on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). These means represent the e-learning maturity of higher education institutions in general. It will be possible to assess the maturity of a single institution using ECAR's interactive E-Learning Maturity Index.[61]

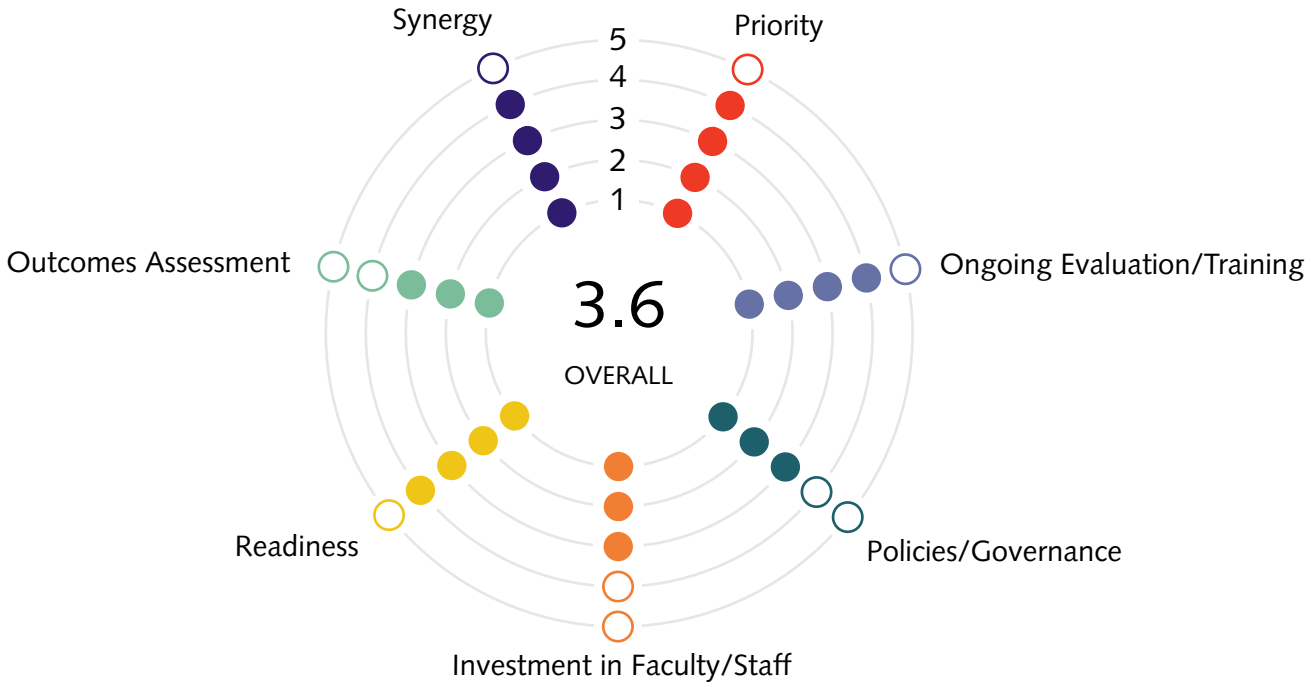

Figure 11. Maturity Factor Means

Larger institutions (measured by student FTE) are more mature than smaller institutions on four of the seven maturity factors: Policies/Governance ($r = .17$, $p = .00$), Ongoing Evaluation/Training ($r = .12$, $p = .04$), Priority ($r = .15$, $p = .01$), and Readiness ($r = .18$, $p = .00$).

Synergy of E-Learning Systems

Figure 12 displays the percentage of respondents who agree or strongly agree that their institution has in place the respective items making up the Synergy factor.

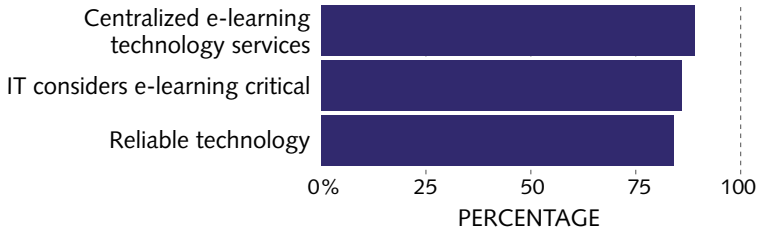

Figure 12. Percentage of Respondents Agreeing That Items Making Up the Synergy Factor Are in Place at Their Institution

Synergy was used here to describe the "coming together" of e-learning systems. According to our focus group participants, having at least some e-learning services centralized and having them reliable were major factors that, when combined with an IT leadership that considers e-learning a critical part of the mission, results in an overall strategy for the institution that is more effective than allowing disparate units to go it alone with e-learning initiatives. Institutions are generally doing well on this factor. Most institutions have centralized the majority of their e-learning technology services. In addition, most consider their e-learning technology delivery systems to be mission critical in terms of the support provided, and most consider these delivery systems to be highly reliable.

Priority Placed on E-Learning

Figure 13 displays the percentage of respondents who agree or strongly agree that their institution has in place the respective items making up the Priority factor.

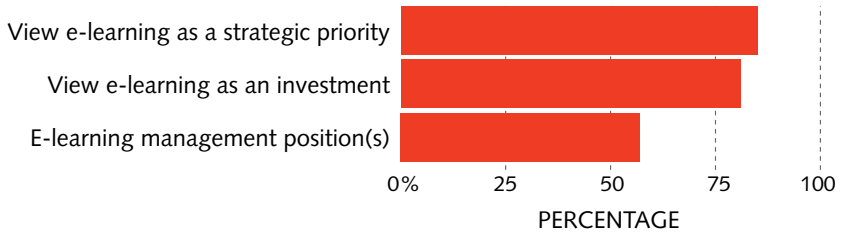

Figure 13. Percentage of Respondents Agreeing That Items Making Up the Priority Factor Are in Place at Their Institution

Most institutions view e-learning as both a priority (85%) and an investment (81%). However, just over half (57%) have a senior position or positions for e-learning management.

Readiness

Figure 14 displays the percentage of respondents who agree or strongly agree that their institution has in place the respective items making up the Readiness factor.

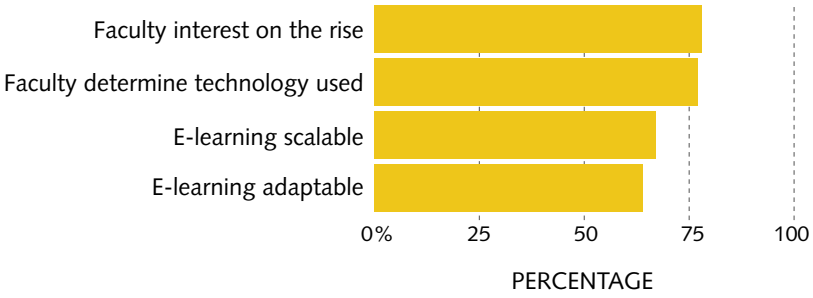

Figure 14. Percentage of Respondents Agreeing That Items Making Up the Readiness Factor Are in Place at Their Institution

More than three-fourths (78%) of respondents agree that faculty interest in incorporating technology into teaching is on the rise. In addition, at most institutions faculty play a large role in determining what technologies are used in their courses. About two-thirds of respondents agree that their e-learning services, programs, and technologies are both scalable and adaptable. Therefore, most institutions have both a ready faculty and ready technologies for e-learning, now and in the foreseeable future. Although focus group participants reported that many faculty members are still reticent about engaging in e-learning initiatives, these data suggest that a gradual cultural change in faculty interest is likely occurring.

Ongoing Technology Evaluation and Training

Figure 15 displays the percentage of respondents who agree or strongly agree that their institution has in place the respective items making up the Ongoing Technology Evaluation/Training factor.

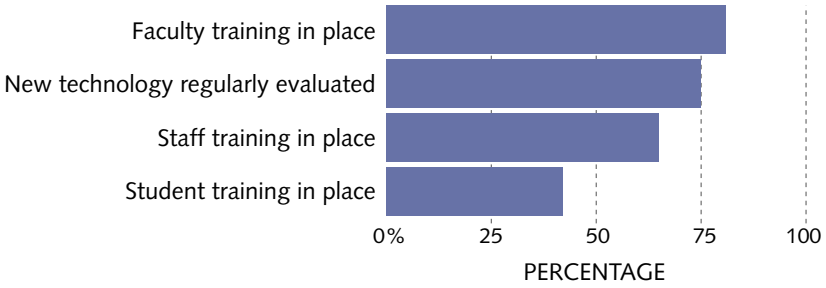

Figure 15. Percentage of Respondents Agreeing That Items Making Up the Ongoing Technology Evaluation/Training Factor Are in Place at Their Institution

Three-fourths of institutions appear to regularly evaluate new technologies for possible use in e-learning courses. Most institutions (81%) provide faculty training in new e-learning technology and skills, and about two-thirds (65%) provide this training for staff. However, fewer than half (42%) provide training for students to learn this technology. This finding is important in light of the data showing that almost two-thirds of students stated it was important for them to be better skilled or trained at using technology, and fully one-third did not agree they were prepared to use technology upon entering college.[62] Clearly, institutions can do more to target students who need technology training and provide that training for them.

Policies/Governance

Figure 16 displays the percentage of respondents who agree or strongly agree that their institution has in place the respective items making up the Policies/Governance factor.

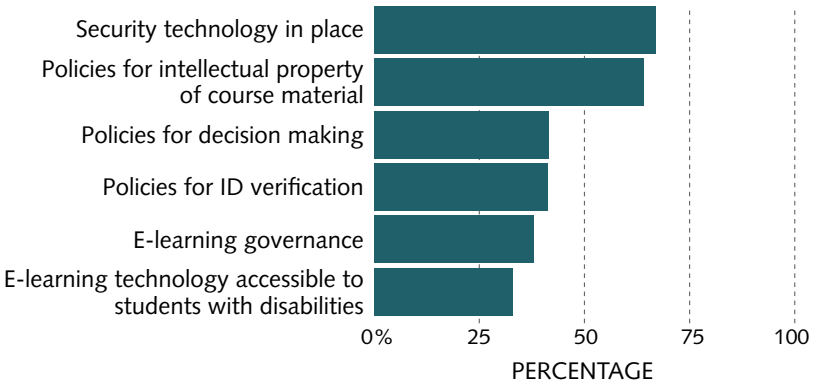

Figure 16. Percentage of Respondents Agreeing That Items Making Up the Policies/Governance Factor Are in Place at Their Institution

This factor includes whether institutions have appropriate policies and guidelines in place to verify students' identity, enable effective decision making about e-learning initiatives, ensure the security of e-learning initiatives, and determine the ownership of intellectual property of course material. It also includes whether institutions have an effective, established mechanism in place for e-learning governance and whether they effectively provide alternative technologies for students with disabilities to engage in e-learning.[63]

Fewer than half of respondents (41%) agree they have appropriate policies to enable effective decision making about e-learning, and fewer than half (41%) agree they have appropriate guidelines in place to verify students' identity. Almost two-thirds (64%) agree they have policies outlining the intellectual property of course material. Only 38% agree they have an established mechanism in place for e-learning governance. Two-thirds (67%) agree they have appropriate technology to ensure the security of e-learning. Only one-third agree that e-learning is accessible to students with disabilities.

Investment in Faculty and Staff

Figure 17 displays the percentage of respondents who agree or strongly agree that the items making up the Investment in Faculty/Staff factor apply to their institution.

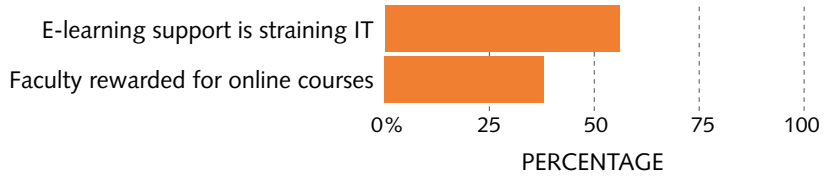

Figure 17. Percentage of Respondents Agreeing That Items Making Up the Investment in Faculty/Staff Factor Apply to Their Institution

More than half of respondents agreed that the provision of e-learning support is straining IT resources and staff. In addition, only 38% of institutions reward faculty for designing and delivering online courses. These results do not align with the priority institutions place on e-learning initiatives and the growth and revenue e-learning provides them. Clearly, institutions need to invest more in faculty incentives for designing and delivering e-learning courses as well as in the IT staff and resources needed to support provisioning for e-learning.

Outcomes Assessment

Figure 18 displays the percentage of respondents who agree or strongly agree that their institution has in place the respective items making up the Outcomes Assessment factor.

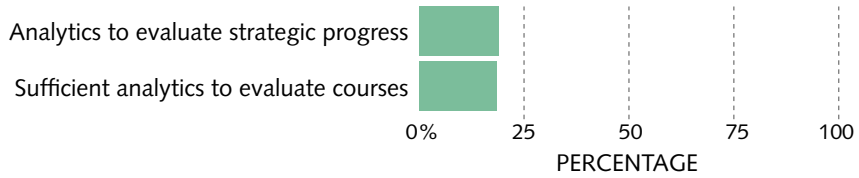

Figure 18. Percentage of Respondents Agreeing That Items Making Up the Outcomes Assessment Factor Are in Place at Their Institution

This is the area in which institutions need to make the most progress. The vast majority (81%) do not agree that they have sufficient or effectual analytics to ensure the efficacy of e-learning courses or to measure the impact that e-learning initiatives have made on strategic goals. Mature institutions place more importance on selecting technologies and services for e-learning that deliver on data for analytics.

Relations between Maturity Factors and Other Variables

The factors derived for e-learning maturity were correlated with other items on the survey.

Maturity in E-Learning Is Associated with Flexibility in Course Design Support

Respondents were asked to indicate on a scale from 1 (instructors are constrained to available technology in planning and designing their courses) to 7 (we expand technology provisioning and support to meet the needs of course design) to indicate how flexible their institution is in supporting individual technology needs in course design. The mean response was 4.7, and this did not vary with Carnegie class, control, or institution size. Therefore, institutions in general are moderately flexible in expanding technology provisioning and support to meet course design needs.

All seven maturity factors were significantly positively correlated with this item, indicating that more mature institutions are more flexible in expanding technology provisioning and support to meet course design needs.

Maturity in E-Learning Is Associated with Current and More Satisfactory Staff Levels

The number of current FTE central IT staff dedicated to e-learning was correlated with four of the seven maturity factors: Policies/Governance ($r = .19$, $p = .00$), Ongoing Evaluation/Training ($r = .21$, $p = .00$), Priority ($r = .20$, $p = .00$), and Synergy ($r = .14$, $p = .01$). This indicates that institutions seeking to become more mature on these factors should look to increase the number of central IT staff dedicated to e-learning.

When the maturity scores were correlated with the desired percentage increase in central IT staff dedicated to e-learning (FTE), five of seven of the maturity scores were significantly negatively related to desired staffing growth: Ongoing Evaluation/Training, Priority, Synergy, Outcomes Assessment, and Readiness. This indicates that those institutions low in maturity on these e-learning factors were the ones most in need of increased staff. Those high in maturity expressed a lower need for increased staff.

Mature Institutions Select E-Learning Technologies and Services Differently

More mature institutions (based on overall maturity score) place greater importance than less mature institutions on ease of use, features, contribution to learning objectives, ease of integration, security, reliability, and effectiveness when selecting services or technologies for e-learning. Less mature institutions place the greatest importance on cost when selecting e-learning services and technologies.

Mature Institutions Have a Dedicated E-Learning Center

Institutions with a dedicated e-learning center are more mature in the areas of Policies/Governance, Priority, and Outcomes Assessment. Having a dedicated e-learning center reflects a higher priority and greater interest from academic leadership. In addition, a dedicated e-learning center can make it easier and more efficient to develop policies and governance around e-learning as well as to coordinate the analytics necessary to demonstrate e-learning's contribution to learning and strategic outcomes.

Conclusions

The majority of students are now nontraditional, and their demand for more technology and the flexibility it offers has fueled the drive for e-learning initiatives in higher education. However, not all institutions are meeting this demand, and many feel that they are lagging in their e-learning initiatives. Institutions in general need improvement in the areas of outcomes assessment, policies and governance around e-learning, and investment in faculty and staff.

Smaller institutions especially are behind in their e-learning initiatives. This could be because they focus more on cost and which services and technologies are popular rather than on what is going to be most effective for their institution. Smaller institutions may benefit from outsourcing or partnering with companies, vendors, or other institutions for e-learning provisioning.

IT leaders are most concerned about the technological know-how of faculty and the adequacy of e-learning staff. When selecting e-learning technologies and solutions, they emphasize reliability, security of student data, ease of use for both faculty and students, and effectiveness. For the most part, IT leaders see their institution as ready to embrace the increased use of e-learning technologies and services.

Recommendations

- **Make e-learning initiatives part of the institution's strategic plan and budget, and set specific goals for e-learning initiatives.** If, for example, the goal is increased access, which student populations will be targeted? Rural students? In-state students previously outside the institution's market share? International students? Military students? Outline the circumstances and specific needs of these students and have a firm plan for how e-learning will address those needs.
- **Faculty development programs should be deployed as e-learning technology is adopted.** Help faculty incorporate technology for e-learning into their courses, particularly in online courses.
- **Establish clear e-learning incentives,** but be realistic about the speed with which faculty interest in teaching with technology will grow.
- **Designate an office or center specifically for e-learning management.** Decide on the basis of needs and priorities whether services should be centralized or localized. For efficiency, centralized services are probably the best option. Localized services provide for innovation and idiosyncratic use.
- **Develop a strategy for identifying students who need technology training,** and develop technology training programs for them. These initiatives may increase retention and persistence, particularly for online courses.
- **Institutions that are behind on e-learning initiatives should consider outsourcing or partnering with others** for online content, student support services, infrastructure resources (e.g., LMS hosting), and other operations involved in online course delivery.
- **Make course design support as flexible as possible.** Assess whether faculty are consistently being asked to constrain their course design to the available technology. Would a more flexible approach or newer and more varied technologies enhance pedagogy? Would they be easier to use?
- **Consider increasing the number of staff to support e-learning initiatives.** Course/instructional designers and professional development staff are especially critical.
- **When selecting e-learning technologies and services, focus on ease-of-use criteria, specific features, contribution to learning objectives, ease of integration, security, reliability, and effectiveness.** Cost should not be the primary criterion.

Methodology

Survey Data. Quantitative data for the 2013 ECAR study of e-learning was obtained from a survey of 311 member institutions. Survey invitations were sent to all EDUCAUSE primary representatives. Table A summarizes respondents by Carnegie Classification and institution size. Data collection took place during February 2013.

Table A. Survey Respondents

		Carnegie Class									
		AA	BA Pub.	BA Priv.	MA Pub.	MA Priv.	DR Pub.	DR Priv.	Other*	Int'l	Total
Student FTE	<2,000	13	7	26	1	9	0	0	15	2	73
	2,000–3,999	12	2	18	8	21	0	1	5	4	71
	4,000–7,999	13	2	0	8	11	2	2	5	1	44
	8,000–14,999	10	0	1	17	0	6	8	0	7	49
	15,000+	6	2	0	5	0	25	6	0	9	53
	Unknown	0	0	0	0	0	0	0	4	17	21
Total		**54**	**13**	**45**	**39**	**41**	**33**	**17**	**29**	**40**	**311**

** Institutions classified as "Other" include faith-based institutions (seminaries) and specialized schools, such as art schools.*

Focus Groups. In addition to survey data collection, two face-to-face and five online focus groups were conducted, with a total of 30 participants. Focus group participants consisted of faculty members, educational/academic technology officers, CIOs, operations specialists, and course/instructional designers. Participants were selected from attendees at EDUCAUSE 2012, ELI 2013, and the Mid-Atlantic Regional Conference 2013 who had one of the above job titles and expressed an interest in participating in a focus group on e-learning. An honorarium was provided for each participant. Participants were provided with the focus group questions beforehand (Table B).

Table B. Focus Group Questions

Question
1. What are some of the advantages e-learning has provided your institution?
2. What have been/continue to be some of the challenges associated with e-learning?
3. What are some of the technologies your institution uses to deliver e-learning? What are the key factors to consider when selecting these technologies?
4. What are some of the ways your institution's business model has changed (if at all) with the integration of e-learning?
5. Let's say we developed a maturity index on a scale of 1 to 5, where 1 means an institution has no or barely minimal support for e-learning, and 5 means an institution is one of the most advanced e-learning institutions in the country. Let's say you were in charge of assessing institutions on this scale. What would you look for or what would need to be in place to move an institution up the scale? [concrete indicators]

Interviews. Two sets of telephone interviews were conducted to provide supplementary information for this study. The first set of interviews was conducted with senior officials at seven accrediting agencies (four regional and three programmatic). Further detail on these interviews can be found in the section on accreditation. The second set of interviews was conducted with five academic/educational technology officers and directors of e-learning at five different institutions. Further detail on these interviews can be found in the e-learning "snapshots."

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