

CHLOE²

THE CHANGING LANDSCAPE *of* ONLINE EDUCATION:
A DEEPER DIVE

THE CHANGING LANDSCAPE OF ONLINE EDUCATION (CHLOE) 2: A DEEPER DIVE

Quality Matters & Eduventures Survey of Chief Online Officers, 2018

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The Changing Landscape of Online Education (CHLOE 2): A Deeper Dive

INTRODUCTION

The Changing Landscape of Online Education (CHLOE) is an ongoing effort to survey chief online officers at U.S. colleges and universities about online learning policies, practices, and plans. CHLOE is a joint initiative of Quality Matters and Eduventures.

Online learning has been a feature of U.S. higher education for almost 30 years. Schools have been attracted to the delivery mode's potential to widen access for less traditional students, enhance the availability of study materials, and open the door to new teaching and learning possibilities.

In terms of enrollment, fully online students made up 13% of U.S. undergraduates in Fall 2016 and 28% of graduate students. Students studying partly online account for another 18% of undergraduates and 9% at the graduate level. Some schools have invested in fully online degree programs, others in blended programs, and some in online or blended courses. Many institutions run the gamut.

Enrollment data is now reported annually by the federal government, but CHLOE addresses the broader institutional impact of online learning. As online learning goes mainstream at some institutions—and remains marginal at others—it is important to do more than count students.

Online learning continues to both challenge institutional norms as well as conform or adapt to them. The history of online learning is defined by debate over whether the delivery mode demands special arrangements (e.g., quality standards, faculty pay and conditions, staff roles, and pricing) or is simply a new vehicle by which to convey standard practices. Is online learning fundamentally changing higher education, or simply enabling the sector to stay much the same?

The CHLOE Survey seeks to answer this and related questions, gathering data on policies, practices, and plans from a cross-section of colleges and universities. The CHLOE 2 sample grew by 75% from the first CHLOE Report (2016), but we recognize that our latest sample still falls short of a census. While we cannot be sure that the CHLOE 2 sample accurately represents the entirety of U.S. higher education or particular institutional subgroups, consistency between CHLOE 1 and 2 findings lends weight to our analysis. We look

forward to continuing to grow the CHLOE sample in future surveys. Please see “The 2017 CHLOE Survey Sample” section for details about the CHLOE 2 sample.

This second report, *CHLOE 2017: A Deeper Dive*, covers many of the same topics as the inaugural report but employs follow-up questions to delve into more detail. While our effort to engage for-profit institutions had modest results, it set the stage for further initiatives to better understand this important segment of online learning providers. Additional data is available in the Appendices to this report, which are included.

The third CHLOE Survey—which will move into many new areas of inquiry—will be administered in the field in Spring 2018, and we encourage online leaders to complete this survey on behalf of their institutions. A deeper understanding of how online learning is evolving and is managed across peer and other institutions can help leaders benchmark their own organizations.

EXECUTIVE SUMMARY

The CHLOE 2 (2017) Survey of online higher education saw participation increase by 75% over the CHLOE 1 (2016) Survey. This includes a small number of for-profit respondents that enabled CHLOE to offer the first tentative findings for that sector. Ranges and thresholds for programs by size were adjusted as follows: Large programs: more than 7,500 fully and partly online students; Mid-sized programs: 1,000 – 7,500; Small programs: less than 1,000.

The larger sample confirmed major findings of the first survey on such mainstream issues as: widespread perceptions that online learning is a revenue generator, increasing competition, and reliance on institutional budgeting processes to meet the needs of online learning. Enrollment growth is still the most frequently cited strategic goal and the prevailing consideration in budget deliberations. Stability outweighs the temptations of continued rapid technological change in about three-fourths of institutions.

Increased participation also shifted the sample’s balance between distributed management and centrally managed programs toward the latter, but with balance between the two still the prevailing mode. Chief online officers (COOs), the subjects of the CHLOE Survey, typically have a wide range of responsibilities spanning course and program development, training, technology selection, support and oversight, budgeting, quality assurance, planning, and policy.

Most online programs continue to grow or maintain stable enrollments, but 18% of two-year public programs experienced declines between 2016 and 2017. Typical declines were in the 10% range. The creation of new programs in all sectors continues to outpace enrollment growth, and large institutions plan to expand their program inventories by the greatest number in the next three years.

One result is increasing competition, with community colleges citing local competition, four-year schools pointing to regional or national competitors, and all sectors citing competition from public institutions most often. The rationales for higher and lower online tuition reveal different perspectives on the true costs of mounting online programs, and identify market influences on tuition rates.

CHLOE 2 confirms the distinction between institutions that focus on fully online programs versus those that stress course production, and begins to explore the current status and potential of blended programs. Most institutions rely on faculty to build courses “in house,” but less than half provide faculty stipends, and course ownership remains divided between faculty and institutions. Only 31% of responding institutions required use of instructional designers.

The presence of instructional design (ID) input in the course design process has a measurable effect on student-to-student engagement and the consistency of course technology and pedagogy. The predominant factors limiting this practice are cost and the preservation of faculty autonomy. Typical workloads for instructional designers vary widely by institution type and program size. Few institutions rely on alternate providers to deliver credit bearing online courses to their students, but about a third of programs would consider doing so or supplementing their programs from these sources.

Online learning is mostly asynchronous, but frequently emphasizes student-to-student interaction. The personalization of online courses is much less common in larger asynchronous programs than in smaller programs with a face-to-face component. Adaptive learning and learning analytics are poised to lead the next wave of widespread adoption. Game-based learning, simulations, badging, and micro-credentials may lead the one after that.

Quality assurance measures are widely embraced, but only a third of programs seek external validation of quality, though many more state the intention to do so in the future. Those that do not plan to do so cite the cost and their satisfaction with internal processes. CHLOE 2 confirmed earlier findings that the quality indicators preferred by institutions appear out of step with regulators' demands for outcomes measures. COOs report difficulty in gathering and interpreting outcomes data, but many would like to give more attention to post-graduation employment data.

THE 2017 CHLOE SURVEY SAMPLE

Figure 1. CHLOE 2017 Survey Sample

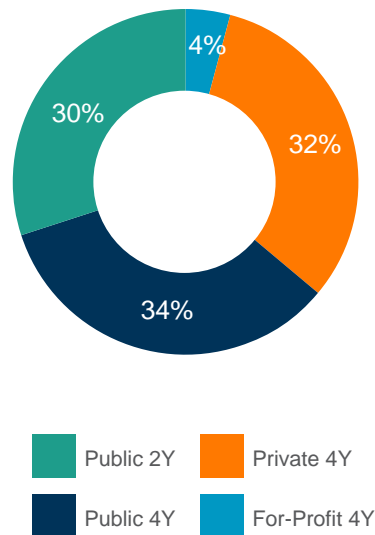
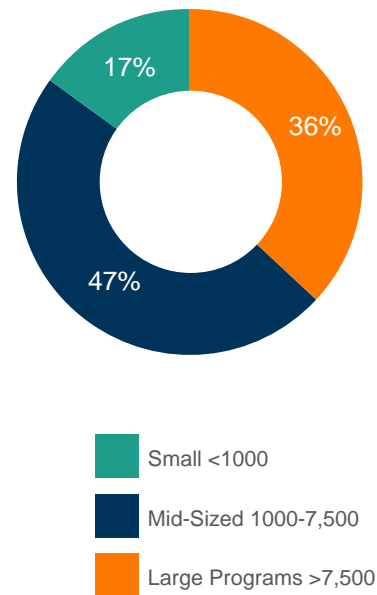


Figure 2. CHLOE 2017 Survey Sample by Enrollment



The first CHLOE Survey of chief online officers (COOs) at community colleges, four-year public, and four-year, private, nonprofit colleges and universities in 2016 documented a number of features in the organization and management of online learning in U.S. higher education. In the second survey, the CHLOE team was able to substantially increase the level of participation from the sectors listed above and to add a small number of for-profit programs' (Figures 1 and 2). See the breakdown of participating chief online officers by institution type in Table 1, comparing the first and second CHLOE surveys.

Table 1. Growth of CHLOE Survey Sample 2016 – 2017

Year	Public 2Y	Public 4Y	Private 4Y	For-Profit	TOTAL
CHLOE 2016	34	30	40	0	104
CHLOE 2017	55	61	59	7	182
% INCREASE 2016 / 2017	62%	103%	47.5%	NEW	75%

Table 2 indicates that the CHLOE sample contains marginal representation of the for-profit sector. Thus, the remaining three sectors, two-year and four-year public institutions and four-year private, nonprofit institutions, are over-weighted as compared to their proportions in the IPEDS data on exclusively online students by sector. Nevertheless, the larger overall sample allows us to validate and add nuance to findings from the first CHLOE Survey, and identify several instances where the expanded sample shifted the balance of responses on an issue. Regarding the for-profit sector, our conclusions in this report should be considered provisional, based on the small number and low proportion of the total sample. The spread of responses from this group, however, points to issues that merit further investigation in future CHLOE surveys if we can encourage greater participation from for-profit programs.

**Table 2. Comparison of CHLOE Sample with 2016 IPEDS Data
Fully and Partly Online Students**

	% Public 2Y	% Public 4Y	% Private 4Y	% For-Profit
IPEDS 2016	25%	28%	24%	23%
CHLOE 2017	30%	34%	32%	4%
DIFFERENCE*	+ 16.7%	+17.7%	+25%	-575%

* “+” indicates overrepresentation in CHLOE 2 and “-” indicates underrepresentation in CHLOE 2

Table 3 shows the breakdown of the survey sample based on the number of online students, defined as fully online students and students taking at least one online course. We designate those with more than 7,500 online students as “large” programs. We also consider these to be enterprise-level programs in which online enrollment is clearly a driving force, shaping many policies and strategic choices. “Mid-sized” programs are defined as those with 1,000 to 7,500 online students. Those with fewer than 1,000 such students are designated as “small” programs.

Table 3. Breakdown of CHLOE Sample – by Online Enrollment

Definition:	Large >2,500	Mid-Sized 500-2,500	Small <500	TOTAL
CHLOE 2016	10	39	55	104
Revised Definition including partly online students:	Large >7,500	Mid-Sized- 1,000-7,500	Small- <1,000	TOTAL
CHLOE 2017	27	86	66	179
% INCREASE 2016 / 2017	170%	120%	20%	72%

This excludes three institutions that report zero online students in IPEDS or do not report to IPEDS.

From 2016 to 2017, CHLOE was successful in increasing the proportion of large enrollment programs responding to the survey by more than twice as much as the mid-sized and small programs.

Thirty-seven percent of the CHLOE sample is comprised of relatively small online programs with fewer than 1,000 fully online and partly online students. Forty-eight percent is mid-sized, enrolling between 1,000 and 7,500 students, and 15% is drawn from the 50 largest enrollment programs in the U.S., with more than 7,500 fully and partly online students.

TYPE OF ONLINE LEARNING

“Online learning” is a useful shorthand term but blurs distinctions between fully online and blended offerings and between courses and programs. Figure 3 shows relative priority given by CHLOE 2 respondents to online courses versus online programs.

Figure 3. Online Courses, Online Programs, or Both?

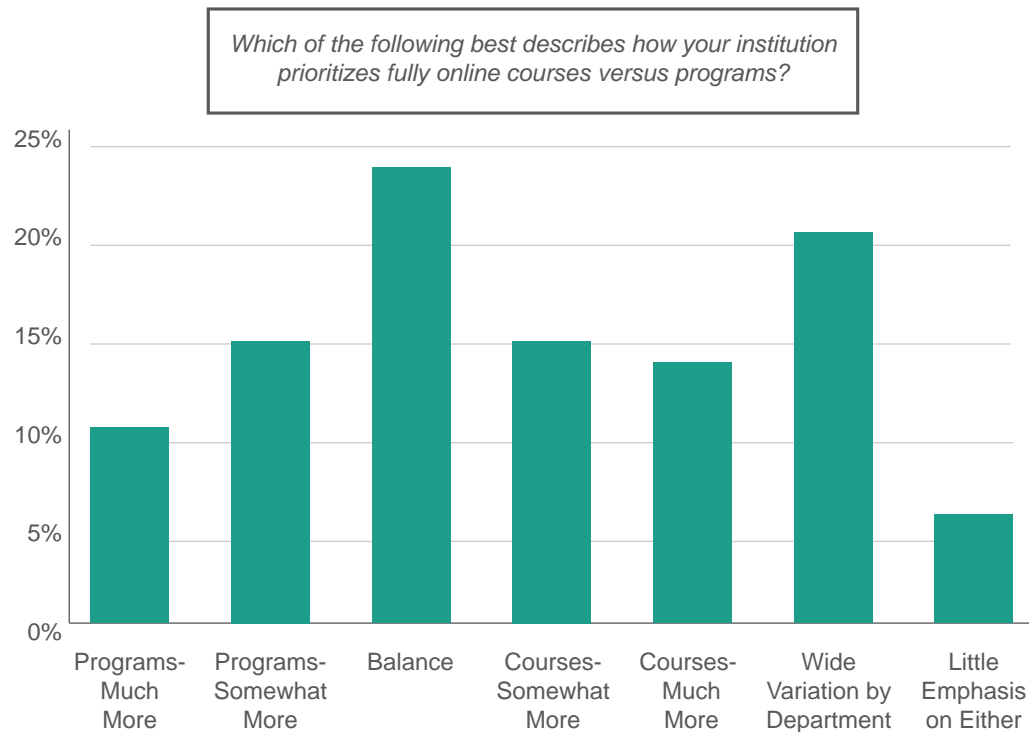
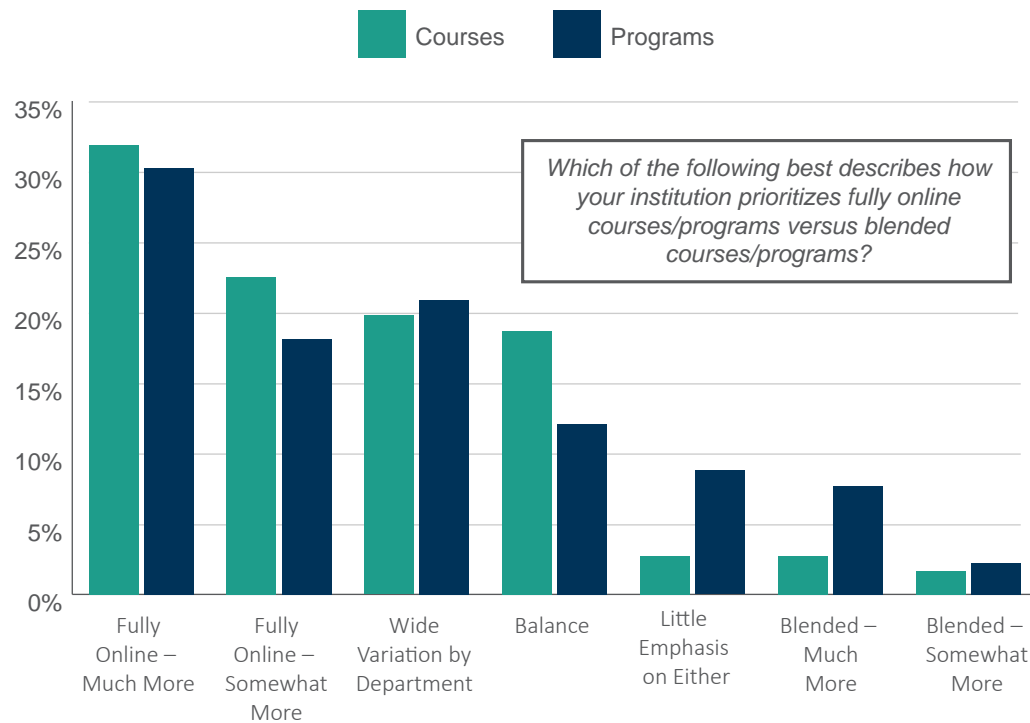


Figure 3 suggests that institutions face a wide range of choices, with no option commanding even a quarter of the sample. A balanced approach was most often cited, at 23%. Wide variation by department or field of study was next, suggesting that some institutions devolve such questions or see important differences by discipline. Of course, online programs are composed of online courses, making the line hard to draw. Many schools offer online courses to traditional-aged undergraduates and fully online programs to working adults.

Community colleges were more likely to cite online courses as dominant, and institutions with the largest number of fully online students naturally lead with online programs. Interest in fully online versus blended courses, and fully online programs versus blended programs, is shown in Figure 4.

Figure 4. Few Institutions Prioritize Blended Courses or Programs

Very few institutions see blended learning as a core strategy.

Emphasis on online over blended is much more pronounced than any difference in emphasis between online courses and programs. At the course level, 55% of respondents said online is emphasized more than blended. Forty-eight percent said the same at the program level, compared to 5% and 10% emphasis, respectively, placed on blended courses and programs. An emphasis on blended, for courses or programs, was least cited. Wide variation by department or a balance between online and blended accounted for 39% with respect to programs and 33% with respect to courses.

These findings might seem to contradict national enrollment figures—outlined in Appendix A—that show, at the undergraduate level at least, more blended than fully online enrollment. By definition, however, online courses tend to be more numerous than online programs that consist of multiple courses; and the bar

for “some distance”—enrollment in a single online course—is a low one. Another factor in the difference between an emphasis on online over blended rather than the other way around may be CHLOE’s focus on institutional strategy instead of faculty and department-level decision making, where the focus is on individual course activity.

It is nonetheless striking that few institutions, despite the range of colleges and universities in the sample, see blended learning as a core strategy. This would appear to counter both strong interest among prospective students in blended learning and the conclusion of many studies that a blended approach, rather than fully online or fully campus-based models, tends to produce the best student outcomes¹. In reality, busy adult learners may find fully online options to be pragmatic, even if it’s not first their preference; a pattern institutional programming may both respond to and reinforce.

¹ U.S. Department of Education (2009). *Evaluation of Evidence-Based Practices in Online Learning – a meta-analysis and review of online learning studies*; and Means, B. et al (2013). “The Effectiveness of Online and Blended Learning: A Meta-Analysis of the Empirical Literature,” *Teachers College Record*, Volume 115.

Offering lots of online courses means many students have some kind of blended learning experience—commonplace at US colleges and universities— but this is not the same as an institutional commitment to a particular blend. Blended learning may be under-developed as a institutional strategy because a structured approach demands choices and coordination many faculty and leaders seem unprepared or unwilling to make. Fully online and fully or predominantly campus-based programs suggest a certain clarity and familiarity, in terms of teaching and assessment while blended learning might be seen to occupy a broad no-man’s land, where no specific combinations of online and in-person activities have been spelled out and justified. Leaving the delivery mode question to the preferences of departments, faculty and students promotes choice and flexibility but may limit coherence and effectiveness.

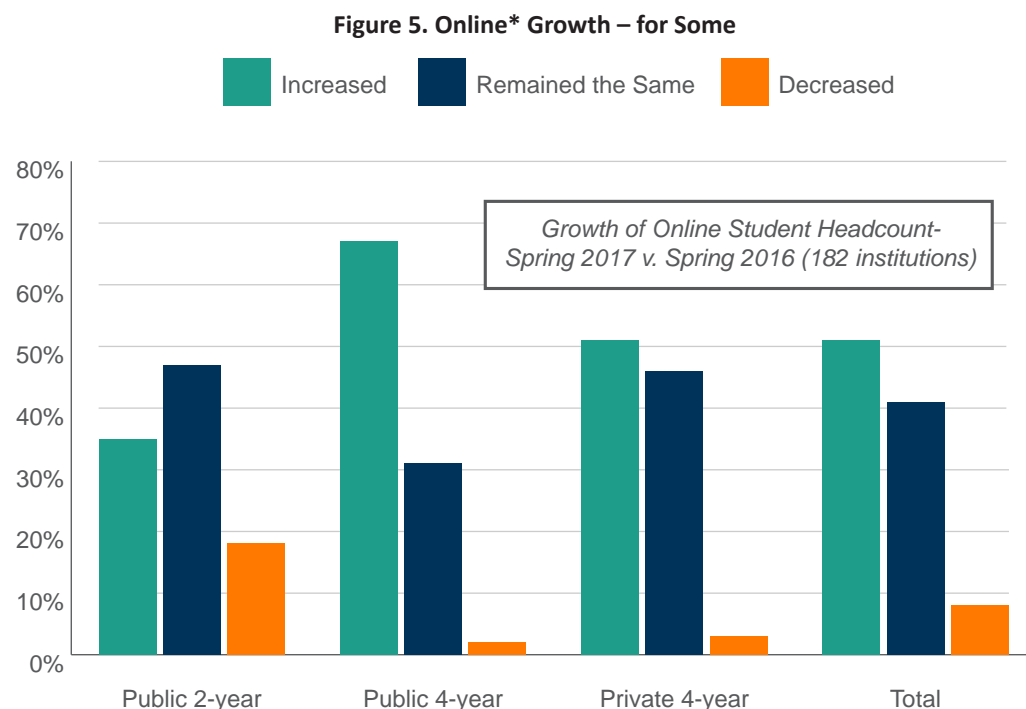
Emphasis on blended over online learning was cited by five four-year private institutions, four community colleges, and one four-year public institution. Almost all these institutions report smaller numbers of fully online students.

ENROLLMENT TRENDS

The words “online” and “growth” are often used in the same sentence. Online enrollment has continued to outpace overall enrollment in U.S. higher education, fueling greater student and institutional interest. Online, however, is not immune to broader enrollment trends—which are flat or down in many sectors and overall—and there is the risk of over-supply of online programs as ever-more institutions seek market share.

Appendix A summarizes federal data on online enrollment—both fully and partially online—for higher education as a whole. This shows continued strong growth, particularly at the graduate level and among four-year, nonprofit schools.

The CHLOE Survey offers insight into more recent online enrollment trends. The latest federal data reflects Fall 2016. The CHLOE Survey asked about fully online student headcount for Spring 2017 compared to the prior year (Figure 5).



* “Online” headcount refers to students enrolled in fully online programs and excludes students enrolled in one or more online courses as part of an otherwise campus-based experience.

Figure 5 confirms sustained growth in fully online enrollment at the majority of schools, but also cautions that a large minority are experiencing a more stable enrollment. At community colleges, stability was the most common response, which is consistent with federal enrollment data that showed, for the first time, a modest decline in online students at public two-year schools in Fall 2016. Declining online enrollment is rare in the CHLOE 2 sample but, again, most visible at community colleges.

Almost all the four-year institutions that plan to launch more than 10 new online programs in the coming years already have more than 20 such programs.

Excluding a few outliers that reported dramatic percentage growth from a small base, average online headcount growth was in the low double digits. This average spans considerable variation at the institutional level. For those institutions reporting declines, the typical annual decrease in enrollment was the same: about 10%.

Institutions were asked about perceived competition in the fully online program market. As reported in the first CHLOE Survey, the vast majority of respondents said they viewed the market as much, or somewhat, more competitive compared to five years ago. Few schools cited competition as being stable or showing wide variation by program.

The second CHLOE Survey posed a follow-up question about the top source of competition, by geography and institutional type. Community colleges, not surprisingly, were most likely to cite local competition, while four-year schools more often pointed to regional or national competitors. By institutional type, competition from public institutions was cited most often.

PROGRAM TRENDS

CHLOE respondents were asked to report the number of existing fully online programs and plans for new online programs in the next 1-3 years. Figure 6 looks at the distribution among public two-year schools.

Figure 6. Slowing Online Program Growth?

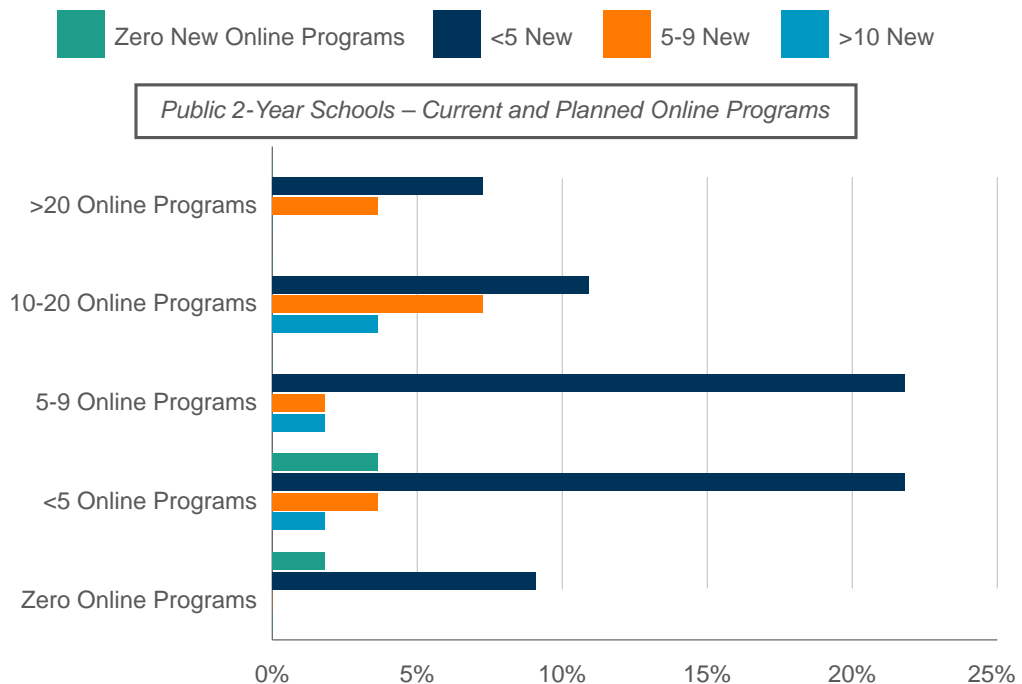
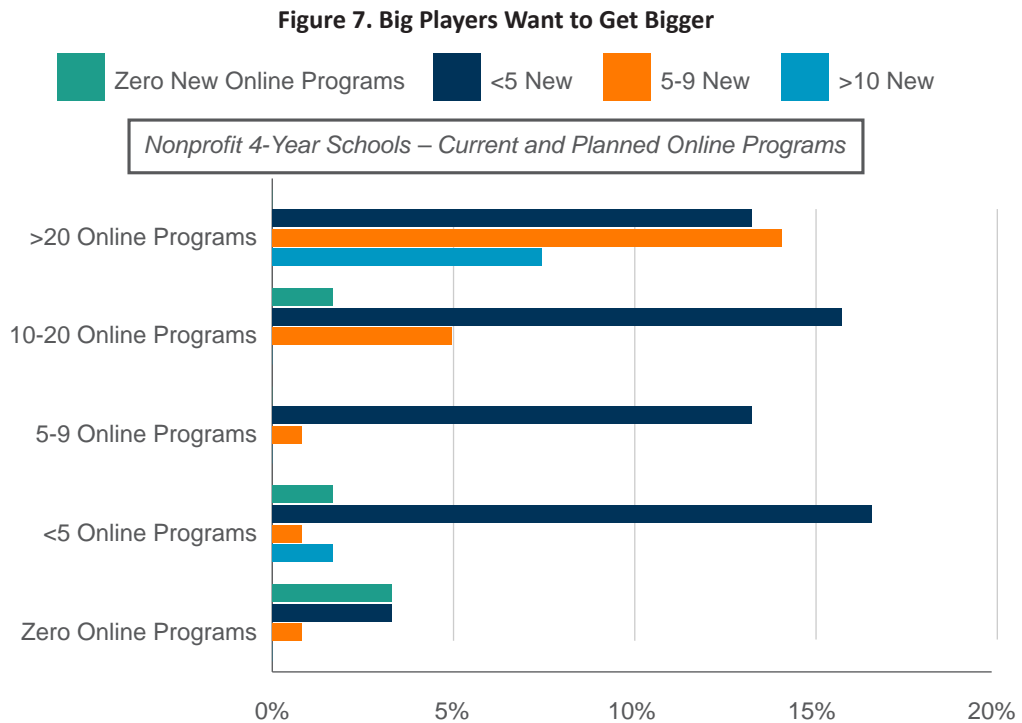


Figure 6 shows that the bulk (56%) of two-year school respondents currently have fewer than 10 fully online programs, and 71% plan to add fewer than five new online programs in the next few years. Sixteen percent plan to add 5-9 new online programs, and only 7% plan to add more than 10. It is interesting that none of the 11% of public two-year schools with more than 20 fully online programs already noted plans to add 10 or more new ones in the near future. This may reflect more limited geographical reach at many community colleges, a narrower programmatic range, or near-saturation in terms of authorized programs.

Figure 7 looks at the same data for nonprofit four-year schools—both public and private—which presented similarly.



Four-year schools exhibit the same concentration of smaller, current online program totals and modest plans for new programs; but there is also clear evidence of greater scale and ambition among a minority. Almost all the four-year institutions that plan to launch more than 10 new online programs in the coming years already have more than 20 such programs. Plans for launching 5-9 new programs are also clustered among institutions with at least 10 online programs currently in operation.

The combination of programmatic range, superior fit between online learning and graduate programming, and greater prevalence of far-reaching brands helps explain why increased online program scale is more evident among four-year schools.

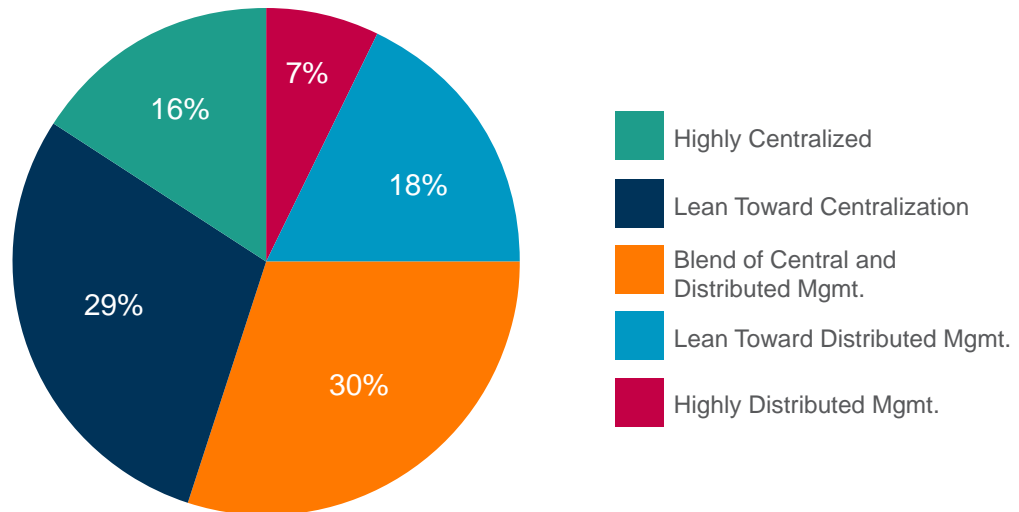
Only 33% of public two-year school respondents reported at least 10 current online programs, compared to 58% of nonprofit four-year school respondents.

MANAGEMENT OF ONLINE PROGRAMS

While organizational patterns of online programs identified in CHLOE 1, ranging from highly centralized to highly distributed, are confirmed by CHLOE 2, the balance has shifted toward greater centralization in the larger sample. Compared to CHLOE 1, 3% more programs report high centralization, 18% more

report leaning toward centralization, and balanced management is increased by 1%. In contrast, 12% fewer programs lean toward decentralization, and 10% fewer characterize their management as highly decentralized. These results are captured in Figure 8.

Figure 8. Management Ranges from Highly Centralized to Highly Distributed



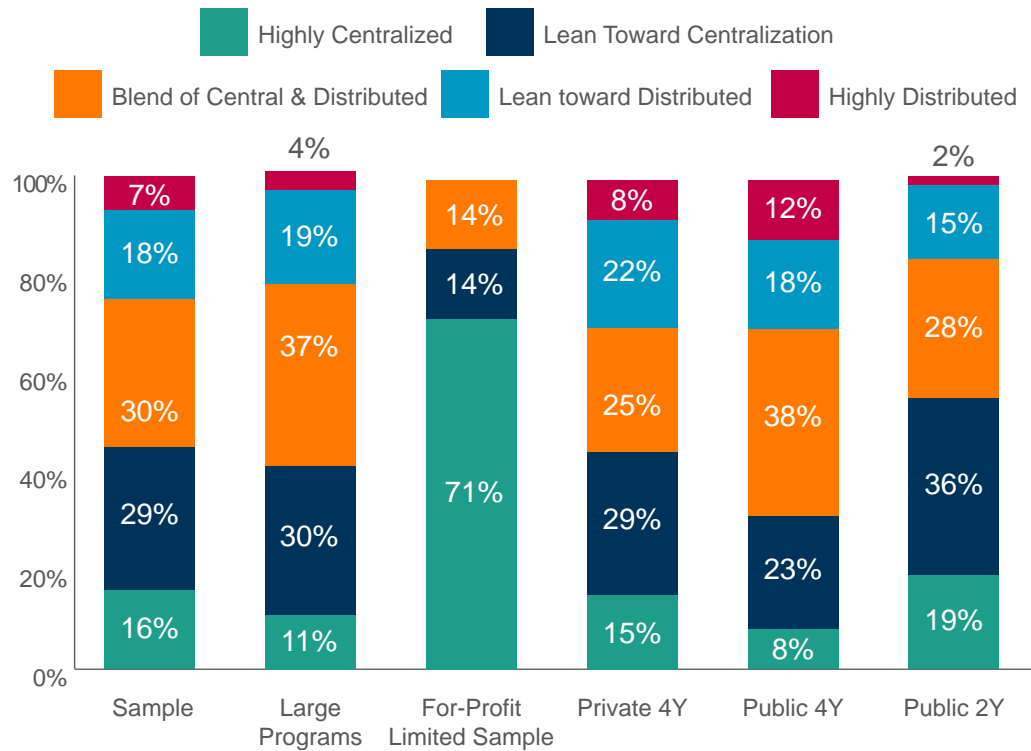
Two years of data are insufficient to interpret this as a trend or shift, but we will be interested to see if the tilt toward centralization is confirmed as participation in the CHLOE Survey grows, or if this apparent shift simply reflects a higher proportion of large programs in the second survey.

Thirty percent of the sample seek a balance between centralized and distributed management (Figure 9). The highest proportion of balanced management is reported by large enrollment programs (37%), followed by public four-year programs.

Forty-five percent of the sample either centralizes management of online learning functions or leans toward centralization. At one extreme, 85% of the small for-profit sample tilt toward centralization, followed by public two-year programs (55%). Public four-year programs are the most likely to practice distributed management (30%). This proportion (30%) is matched by private, nonprofit programs, which favor the two extremes, with 44% reporting centralized or leaning toward centralization and less likely to report a balance.

While these proportions may indicate some greater propensity toward centralization or distributed management by sector and size of program, it is clear that programs in each category span the range of management styles. This diversity would indicate that there are many other factors influencing the degree of central control of online learning, including established governance structures and institutional cultures that have shown great tenacity and adaptability over the years. The third CHLOE Survey will explore how the management of mainstream online programs fit into overall institutional governance.

There are many factors influencing the degree of central control of online learning, including established governance structures and institutional cultures that have shown great tenacity and adaptability.

Figure 9. Management Structures Tilt Toward Centralized Control

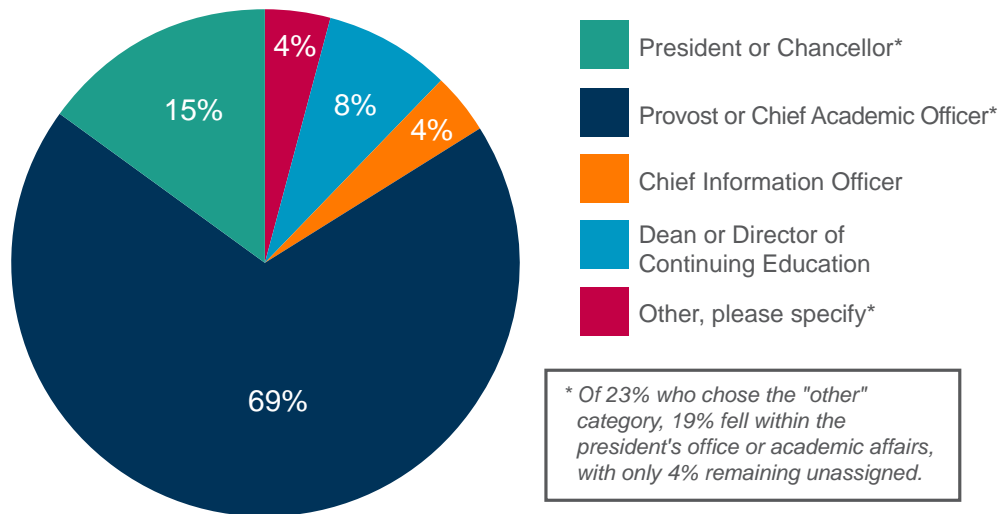
THE CHIEF ONLINE OFFICER (COO)

Chief online officers' deep knowledge of their online programs' policies, practices, and plans continues to be the basis of the CHLOE Survey. The second CHLOE Survey confirmed and enhanced our understanding of many of the observations in the first CHLOE Report regarding the chief online officer's position in the institution and his or her responsibilities.

As Figure 10 illustrates, most chief online officers report through academic affairs. The most common alternative report line is directly to the institutional president.

The first CHLOE Report identified more than 25 titles that capture this role in different organizational structures. The second CHLOE Survey produced an even longer list of titles. More than a third of respondents listed broad administrative titles that made no specific reference to their responsibility for online learning. In some cases, this means they have a range of duties, only some of which concern online education. This is clearly the case for those who listed such titles as provost or vice president for academic affairs. In others cases, officers may have an exclusive mandate related to online learning, but it is simply not part of their official title.

Among those titles that make a specific reference to online education, the most common terms, as one would expect, are: online learning or education, distance learning or education, and e-learning (hyphenated or not). Other titles, more revealing of a specific approach to online learning, included: web-based learning, extended learning, distributed learning, online and blended learning, online and professional studies, and online and off-campus programs.

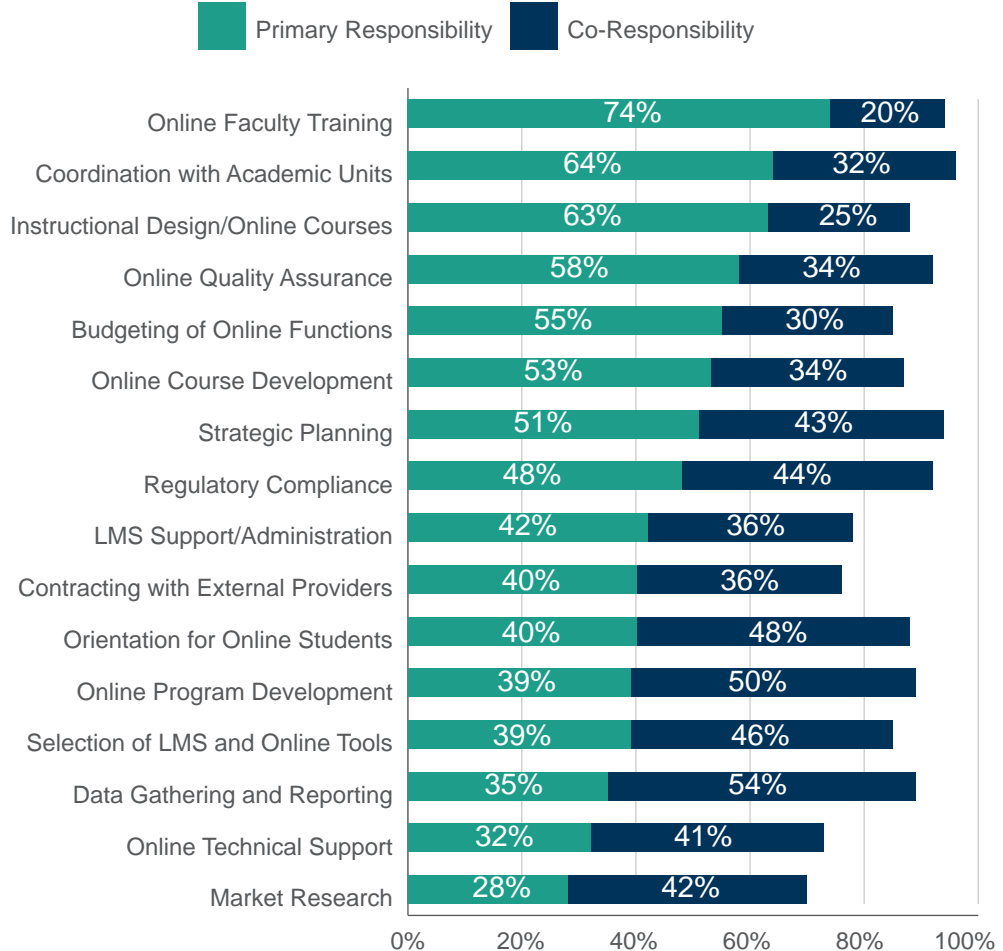
Figure 10. Chief Online Officer Report Lines – Academic Affairs Takes Charge

Still others refer to: technology-enhanced learning, instructional technology, emerging technology, faculty development, instructional design, academic services, academic innovation, innovative learning, support services, delivery and support, teaching and learning, and digital media/learning/education. In light of CHLOE's focus on innovation in online learning, it is notable that seven respondents report titles that include the word "innovation."

The absence of a single or prevailing title for [chief online] officers is not surprising for a set of functions that is relatively young and evolving as, indeed, online learning itself is.

The absence of a single or prevailing title for such officers tells us there is no consensus on the most appropriate designation for this role. This is not surprising for a set of functions that is relatively young and evolving as, indeed, online learning is. More significantly, these titles indicate the different ways the role is conceived, rationalized, and woven into the fabric of particular institutions. In some cases, the titles also tell us something about the focus of a chief online officer's responsibilities related to online education—whether building upon legacy missions to reach students at a distance, providing a wide range of student services for an online population, offering training and support to faculty as they transition to online teaching, or managing technological transformation.

The second CHLOE Survey went further in attempting to document the scope of chief online officers' duties by asking respondents to react to a long list of possible areas of responsibility and control. The question asked them to indicate in each case whether they had primary responsibility for the function or shared responsibility. Figure 11, below, ranks their responses in descending order of primary responsibility for the sample as a whole.

Figure 11. Chief Online Officers Wear Many Hats

[Respondents] characterizing their online programs as revenue generators outnumber those who see online as a drain on resources by nearly three to one (45% vs. 18%).

Between 80% and 95% of CHLOE's respondents indicated some involvement with all but four areas listed in Figure 11. More than half of them reported primary responsibility for the seven areas of online support listed at the top: faculty training, coordination with academic units, instructional design support and development for online courses, quality assurance, budgeting, and strategic planning.

The respondents were invited to list other areas of responsibility that were not in the list included in the CHLOE Survey. Their responses indicate that some have broader responsibilities for:

- Online support services
- On-campus technology
- Online policies
- Accessibility
- Intellectual property protection
- Library electronic services
- Faculty recruitment
- External representation

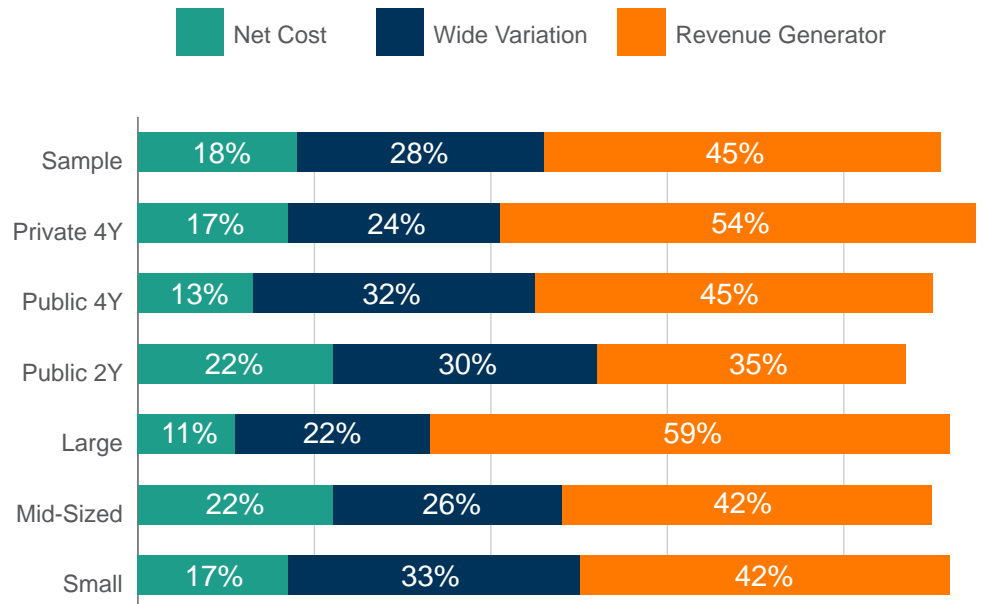
We cannot yet say how the sample as a whole would have ranked these issues among their duties, but we will be expanding our future surveys to capture a more complete picture.

For the past several years Eric Fredericksen, Associate Vice President for Online Learning at the University of Rochester, has been studying “online learning leaders” at four-year and, more recently, two-year institutions. He has been able to identify the online learning leaders at nearly 1,600 institutions. His leaders have an array of duties that correspond closely to CHLOE’s chief online officers².

REVENUE GENERATION AND RESOURCE ALLOCATION

On the question of whether online programs are a net drain on institutional resources or make a positive contribution to the institution’s bottom line, the CHLOE 2 Survey confirmed CHLOE 1 findings. Those characterizing their online programs as revenue generators outnumber those who see online as a drain on resources by nearly three to one (45% vs. 18%), with another 37% reporting wide variation among programs. Figure 12 shows the breakdown among programs by sector and size.

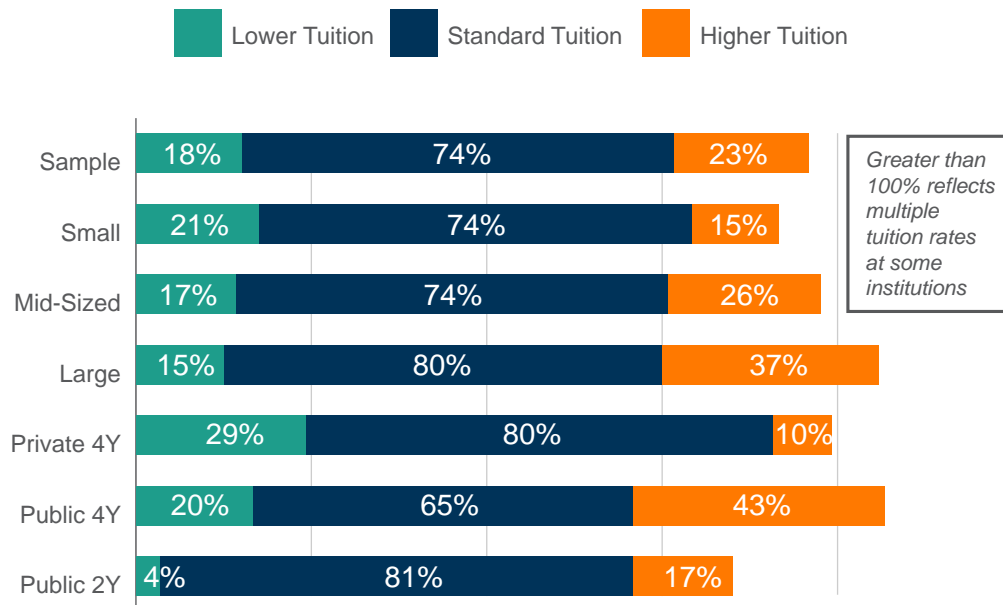
Figure 12. Online Programs: Net Cost or Revenue Generator?



It is striking that some of the largest institutions in our sample, those with more than 7,500 fully and partly online students, indicate that their online program is a net cost (11%) or varies between being a cost and a revenue generator. It is possible that heavy investment to build a large online presence, with an array of many online programs and courses, may result in present-term deficits in anticipation of longer-term revenues, but we do not at present have the data to test this hypothesis.

Looking at the sources of online program revenue, the CHLOE 1 and 2 Surveys found that most online programs (74%) charge the same tuition per course or credit hour as the on-campus rate. One-fifth of these programs, however, reported exceptions to this general policy. Figure 13 combines these exceptions with other programs reporting tuition above campus rates (23%) or below campus rates (18%).

² See Fredericksen, Eric E. (2017), “A national study of online learning leaders in U.S. higher education,” *Online Learning* 21(2), for his findings at four-year institutions.

Figure 13 Standard Campus Tuition Rates Prevail Online

Nearly a quarter [of respondents charging higher online tuition] acknowledge market factors (i.e., high demand and high reward programs) or rates charged by perceived competitors, as justifying charging a premium.

Several institutional sectors warrant comment, based on Figure 13. Two-year public colleges (mostly community colleges) show the fewest examples of lower tuition rates but are also among the least likely to charge higher tuition. We believe this pattern reflects regulated tuition rates in many places combined with severely limited resources to discount tuition in the sector as a whole. Large, enterprise-level programs are more than twice as likely (37%) to charge higher tuition for prestige and high-demand online programs as they are to offer lower online tuition. Many (29%) four-year, private nonprofits, whose standard tuition rates are typically substantially higher than those of public institutions, use lower tuition rates to attract online students.

The CHLOE 2 Survey asked respondents who indicated that their online tuition was higher or lower than standard campus rates for the factors that justify these differences. Figure 14 summarizes the reasons cited by the 23% of programs that charge online students more for some or all of their courses or programs. The most frequently cited reasons were: higher costs for online course and program development, online instruction, and online support services. Additional marketing costs were cited less frequently. Nearly a quarter acknowledged

market factors (i.e., high demand and high reward programs) or rates charged by perceived competitors, as justifying charging a premium for high-demand programs.

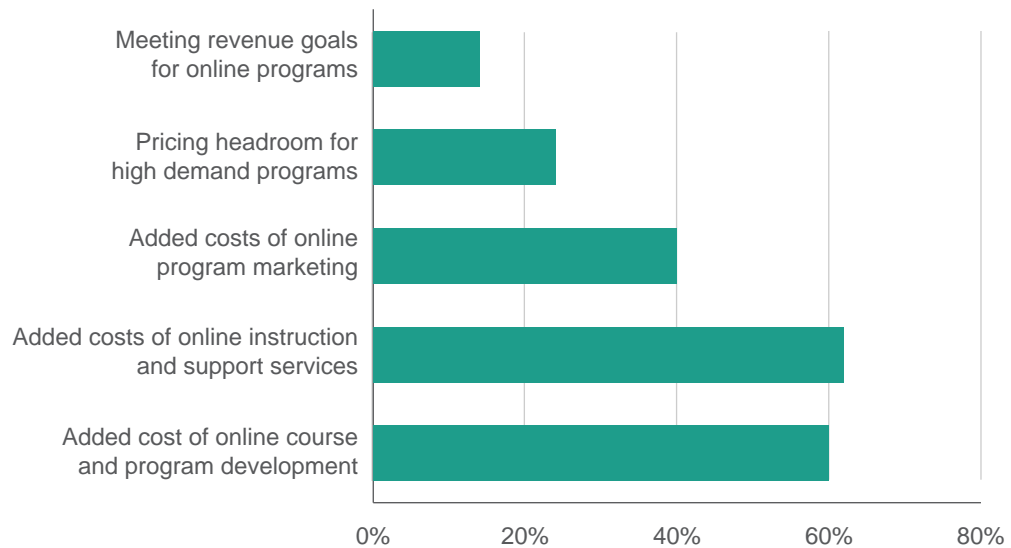
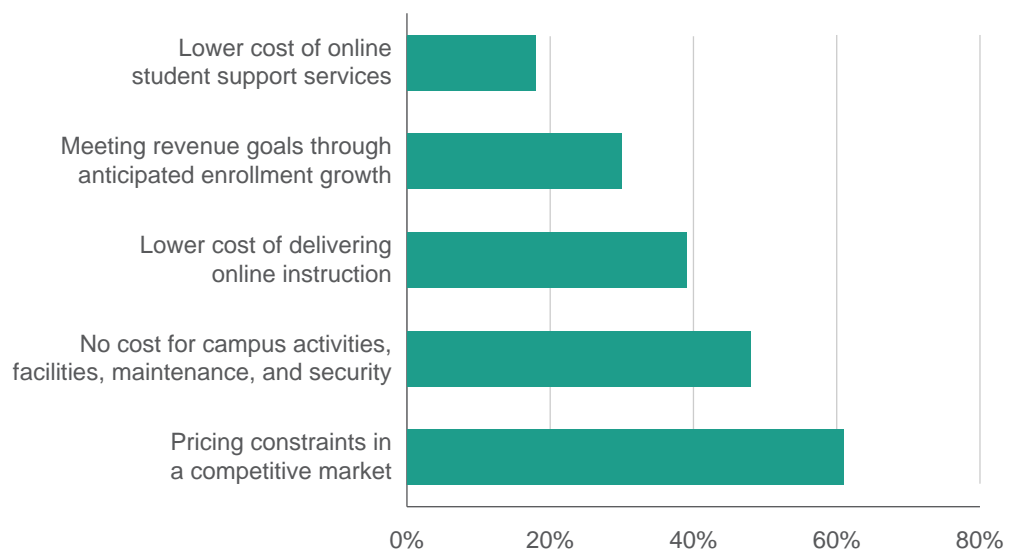
Figure 14. Why Some Programs Charge Online Students More

Figure 15 itemizes the reasons cited by those who charge lower tuition rates for some or all online courses and programs. The most common factor (61%) is constraint on tuition in a competitive market. Thirty percent indicate a strategy of achieving revenue goals by attracting more students at lower tuition rates. Cost savings are also cited as enabling some programs to reduce online tuition. Nearly half these programs (48%) cited savings from on-campus facilities and services unused by online students. Additionally, in stark contrast to the higher tuition group, 39% of this group claimed lower costs in delivering online instruction and online support services.

Figure 15. Why Other Programs Charge Online Students Less

In addition to a proportional share of fees charged to all students, online programs charge a variety of fees differently or uniquely to online students. These include term- or course-related technology fees charged only to online students, online course or credit-hour fees, and special purpose fees (e.g., proctoring fees). Table 4 displays the results from the CHLOE 2 Survey.

Table 4. CHLOE 2: Fees for Online Students by Sector and Size*

	Online course or credit hour fee	Technology fee paid by all students	Technology fee paid only by online students	Special fees, e.g., proctoring fee, or differential fee by academic program
Large	67%	33%	15%	4%
Public 4Y	65%	30%	23%	7%
Mid-Sized	56%	28%	19%	2%
Sample	51%	29%	17%	4%
Public 2Y	44%	35%	9%	2%
Private 4Y	44%	24%	17%	3%
Small	39%	29%	14%	6%

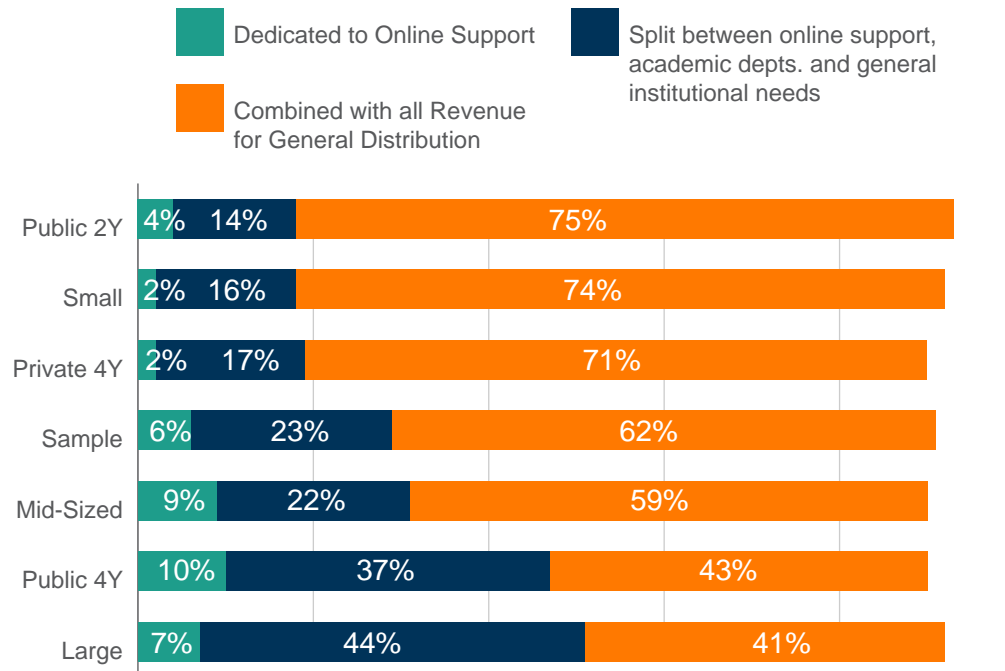
Multiple responses were permitted

Both online and on-ground students pay a common technology fee in about one-third of reporting institutions, while 17% of programs report a technology fee paid only by online students. More than half of all programs rely on course or credit-hour fees to generate additional revenue from online enrollment, with the greatest reliance on this source by large, mid-sized, and four-year public programs. Programs with less than 1,000 students taking online courses cite reliance on these sources least often. Few programs indicate that they charge special fees.

Enrollment growth dominates online program investment priorities.

CHLOE 2 did not query pass-through fees that may be going directly to an outside vendor for things such as access to online tools, resources and services, or remote proctoring. Future CHLOE surveys will explore this issue.

Turning to the distribution of online program revenue, Figure 16 indicates that the majority of programs (62%) depend primarily on a process that rolls up revenue from all sources and distributes it in annual allocations to various units, including online programs and support units. Exceptions to this widespread pattern are the largest, enterprise-level, online programs and four-year public institutions. Of these, roughly half dedicate all online revenue to the support of online learning or split revenue between online and general campus needs. The CHLOE 2 Survey did not explore the formula or criteria behind these allocation practices.

Figure 16. Most Online Programs Depend on Campus Budget Process

One of the influences in determining the allocation of revenue, both within online programs and in the institution-wide process, though not always decisive, is reference to the institution's strategic priorities. Table 5 displays the frequency with which particular goals affecting online learning are made explicit in strategic plans.

Table 5. Strategic Priorities Affecting Revenue Generation and Allocation by Sector

Strategic Priorities for Allocation of Institutional Resources	Public 2Y	Public 4Y	Private 4Y	Total Sample
Enrollment Growth	77%	70%	75%	73%
Widening Access	64%	65%	43%	56%
Student Completion Gains	72%	50%	35%	52%
Expanding Online Program Choices	60%	43%	51%	49%
Revenue Generation	38%	28%	63%	42%
Quality Enhancement of Online Programs	66%	20%	33%	40%
Enhancing the Student Experience	36%	31%	37%	36%
Cost Reduction	6%	9%	18%	11%
None of these noted in Strategic Plan	0%	4%	4%	3%

Based on these responses, strategic plans are most likely to make specific references to increasing enrollment, reaching a wider audience, and improving degree completion rates. Conversely, they are unlikely to mention efforts to reduce operating costs. About half of strategic plans address expanding the curriculum, but only 40% express a goal of enhancing program quality.

It is understandable in terms of their missions that public institutions are twice as likely to cite a goal to increase enrollment as one to generate additional revenue, although, in practical terms, the two go hand-in-hand. Private nonprofit programs are far more likely to address the need to generate revenue. Only a minority of the few for-profit schools in the CHLOE sample cite revenue generation (29%) and expanding online program choices (14%). Either we are faced with a different business model in this sector, focused on a limited number of professional programs for a well-defined audience, or our sample is too small to reflect the full range of online programs in the for-profit sector.

Strategic plans at two-year public institutions place considerably more emphasis than the rest of the sample on achieving higher student retention and completion rates, on expanding course/program options for their place-bound students, and on quality enhancements. Arguably, this combination reflects a more mature and comprehensive grasp of online learning's potential contribution to institutional mission than reflected in the strategic plans of other sectors. Four-year public institutions show the least deviation from the sample but place relatively less emphasis on quality enhancement of online learning.

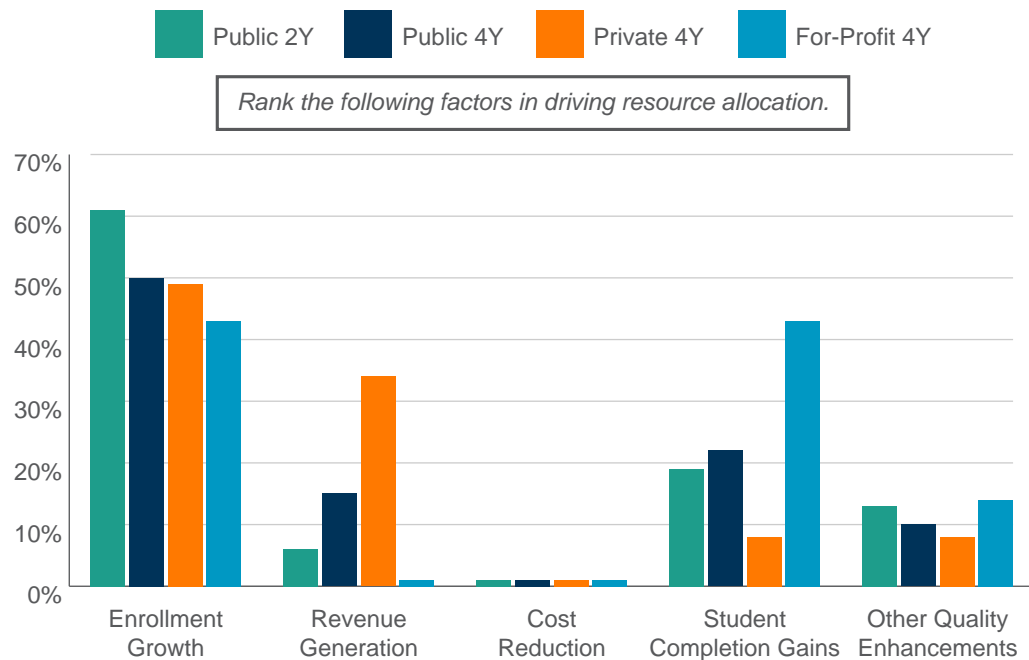
Four-year, private, nonprofit programs place less stress in their strategic plans on using online learning to attract a wider range of students or to facilitate student success. Instead, they place much more emphasis on the potential of online programs to generate revenue for the institution by reaching new audiences.

When we consider strategic priorities by enrollment level, it is noteworthy that the largest programs give greater weight to online program quality enhancements and much less to expanding program choices. This priority is not entirely consistent with indications elsewhere in the survey that these large programs have the most aggressive plans to add new programs in the next several years. Perhaps the explanation is that program growth may not be specifically noted in many strategic plans, or that quality enhancement is a newer effort while program expansion is taken for granted.

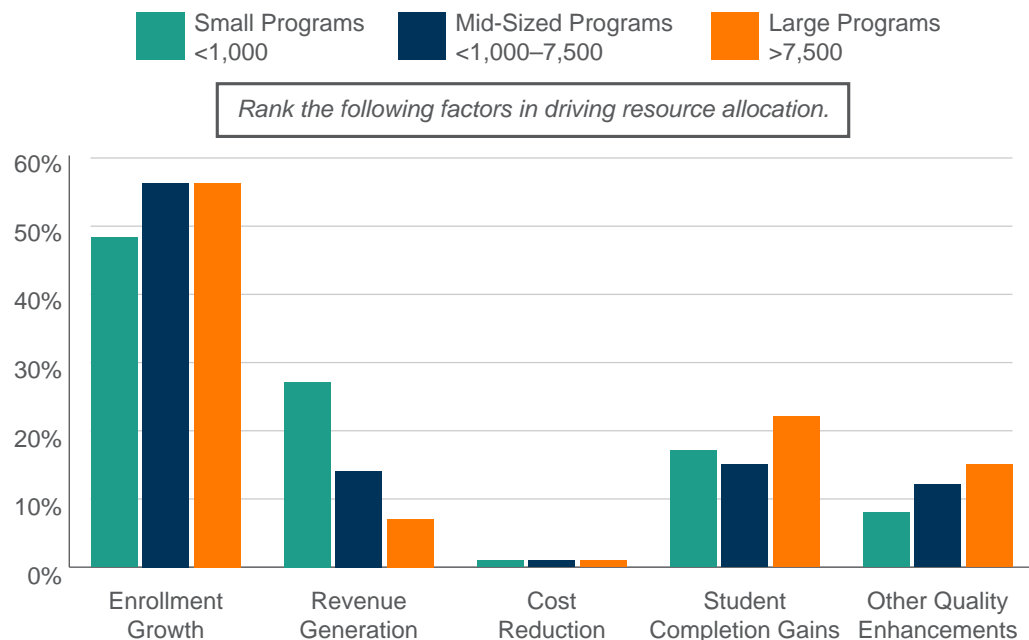
Further detail on the relative priority of strategic goals by school type and size can be found in Appendix B on Strategic Priorities in the Appendices to the CHLOE 2 Report, which are included.

As noted earlier, stated strategic goals may not always be decisive when choices among competing resource needs must be resolved. The CHLOE 2 Survey asked which factors online officers believe most influence resource allocation affecting their online programs. The results by both school type and size of online program (Figures 17 and 18) indicate that investments that are likely to result in enrollment growth are the most persuasive by a wide margin.

As noted earlier, enrollment growth generates additional revenue, but it is understandable that many institutions prefer to describe growth in terms that benefit students and institutional mission, rather than stress its effect on the bottom line. In our sample, only private nonprofit institutions cited revenue generation with any frequency (34%) as a determining factor in resource allocation. Curiously, none in our small for-profit sample did so.

Figure 17. Enrollment Growth Dominates Online Program Investment Priorities

On the other hand, the few for-profit respondents were most likely (43%) to stress student completion gains as a decisive factor in selecting targets for investment. The least influential of arguments to win resources are initiatives that promise to reduce operating costs. This may be a reflection of skepticism about the possibility of genuine cost reduction rather than a lack of interest in cost savings measures, but it does parallel the minimal interest in this issue that we observe in institutional strategic plans.

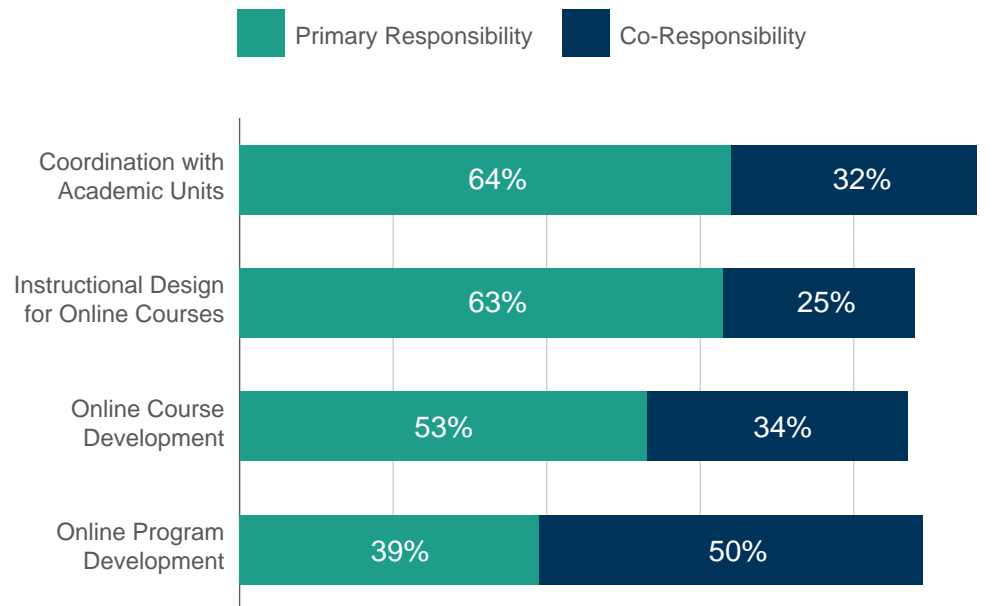
Figure 18. Enrollment Growth Dominates Investment Priorities Regardless of Program Size

The low priority of quality enhancements in the resource allocation process is consistent with what we have found regarding interest in experimenting with new tools and predictions of only supplementary change in the next few years. Relatively speaking, the largest enrollment programs show the greatest interest in advanced technologies and a willingness to experiment with them. This may reflect their better access to resources, but it may also help to explain how such programs have grown and continue to grow.

ONLINE COURSE AND PROGRAM DEVELOPMENT, OWNERSHIP, AND CONTROL

Almost all chief online officers report working closely with academic units at their institutions (Figure 19). One of the areas of responsibility they most commonly report in fulfilling this relationship is the provision of instructional design support for online course development. Nearly two-thirds report that they bear the primary responsibility for this service. More than half report primary responsibility for online course development, which suggests a deeper involvement in determining how the institution selects courses and allocates resources for online development.

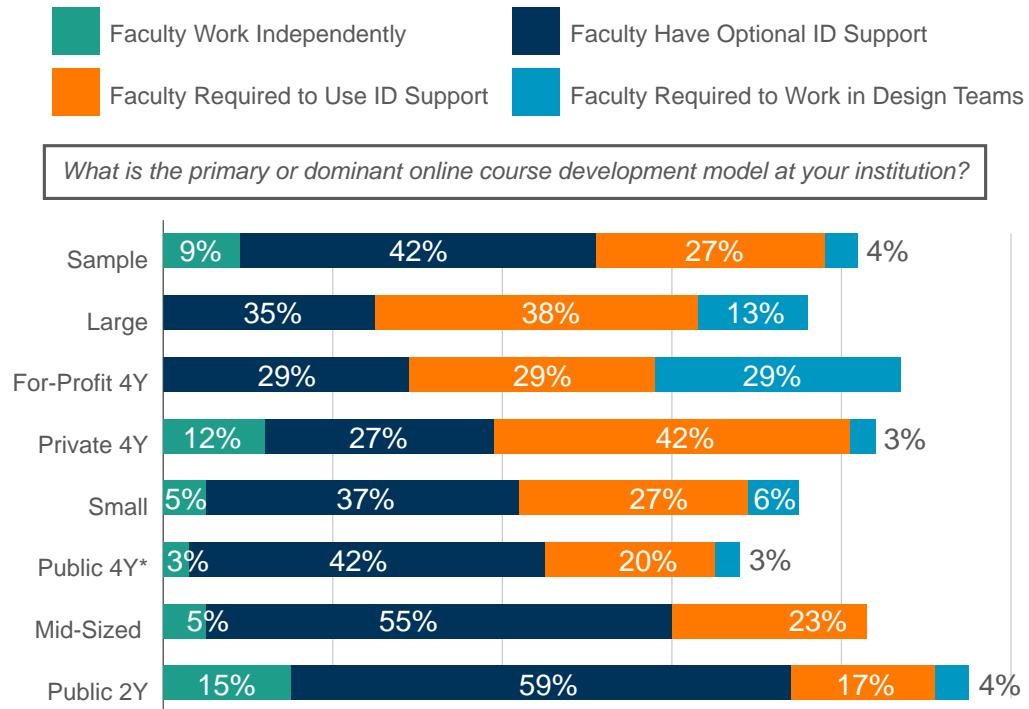
Figure 19. Chief Online Officers Are Engaged in Academic Development



Required use of instructional designers [is] limited by cost and faculty autonomy concerns.

The design of online courses involves embedding content and pedagogy in the online tools available for remote delivery. This can be done through a simple cut and paste process, transferring classroom materials into a new environment. Doing so is unlikely to address different norms of contact and interaction with students online, however, or leverage the many potential strengths of the online format. It is in this space that instructional design has flourished and has become a critical component of the course development process in many institutions. In these cases, instructional designers work directly with faculty members, or participate in design teams with subject matter, design, and technical expertise.

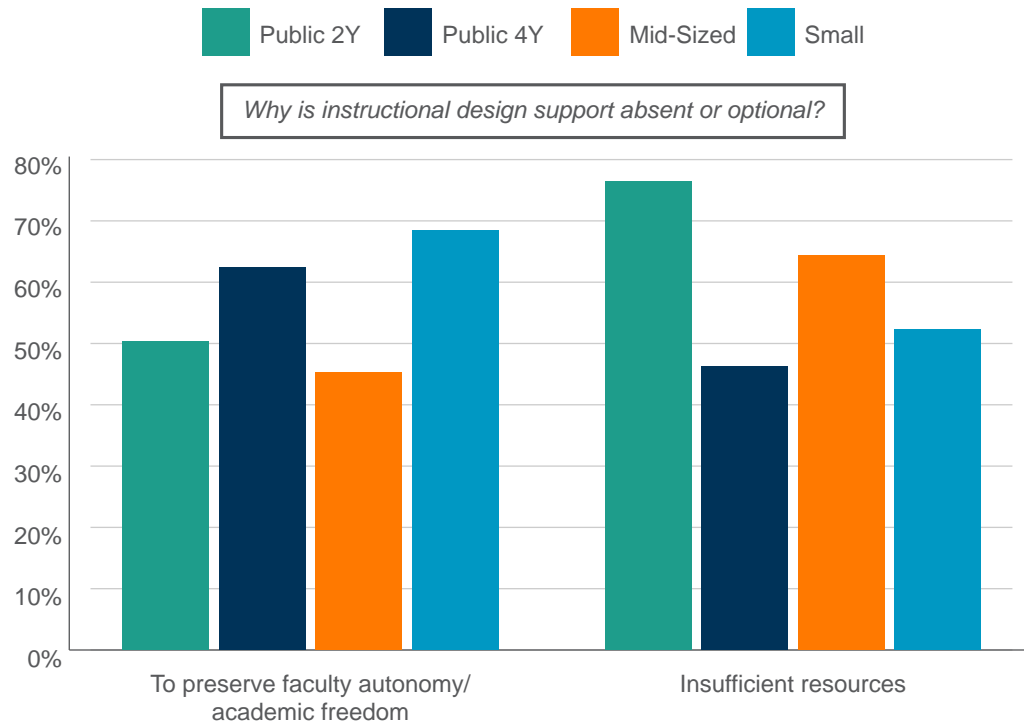
While the integration of instructional design (ID) into the course development process has gained widespread support, the CHLOE 1 and 2 Surveys found a wide disparity in institutional type (see Figure 20).

Figure 20. Only 31% Require ID or Team Input to Course Design

The presence of ID support in course design is consistent with a higher degree of reported student-to-student interaction, one of the most widely accepted best practices in effective online learning

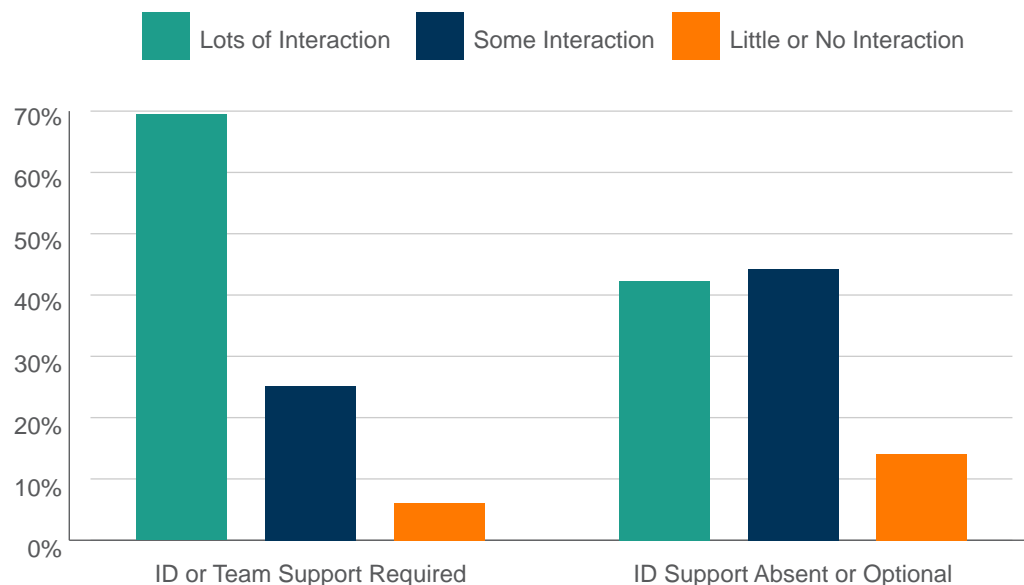
The data indicates that faculty members are most often required to work with instructional designers and teams in course development in the largest online enrollment programs and in CHLOE's limited sample of for-profit programs. Private institutions are nearly as likely to require faculty work with instructional and technical experts. At the other end of the spectrum, instructional design support is either absent or optional at the majority of community college and four-year public programs, as well as at institutions with mid-sized online enrollments.

Chief online officers from institutions that do not provide or do not require the use of instructional design support were asked why. The responses suggest two major reasons: sensitivity to issues of faculty independence and academic freedom and insufficient resources (Figure 21). None chose the third option offered, faculty contractual issues, although several mentioned this factor in their comments. Some suggested that use of design expertise was strongly recommended.

Figure 21. Required Use of IDs Limited by Cost and Faculty Autonomy Concerns

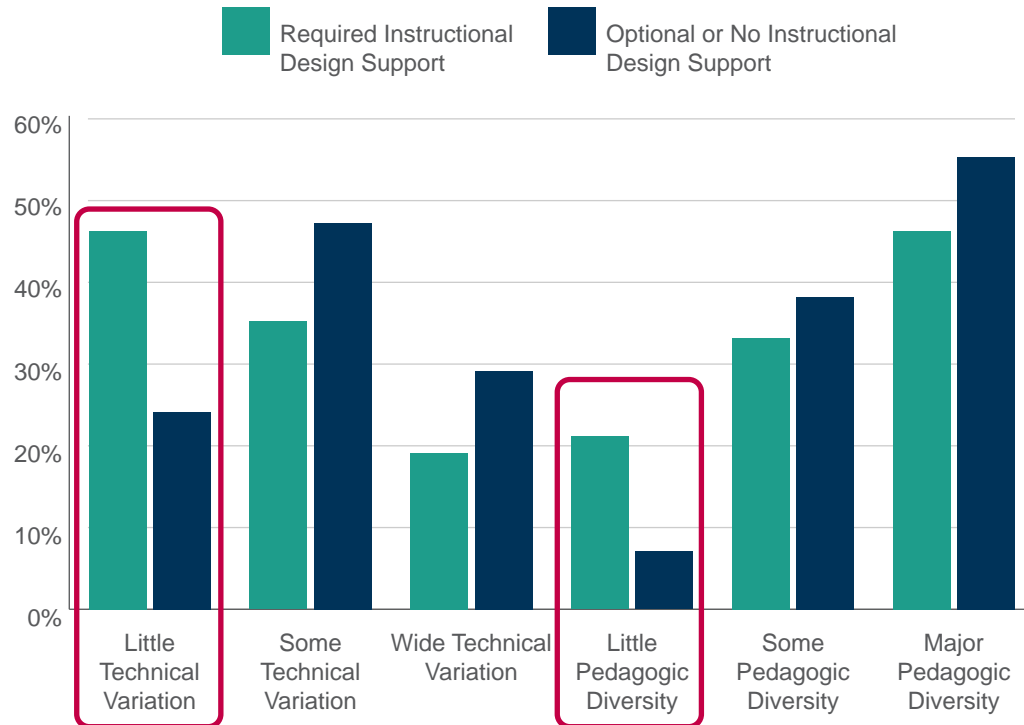
Public institutions appear to be most sensitive to the issue of faculty autonomy, but, for community colleges in particular, a lack of resources is the dominant factor. Cost is also a factor for many institutions with low and mid-sized online enrollment.

One consequence of the presence of ID support in course design is a higher degree of student-to-student interaction in the resulting courses (Figure 22), one of the most widely accepted best practices in effective online learning.

Figure 22. Required ID Support Increases Reported Student-to-Student Interaction

Another likely consequence of optional design policies is wider variability in the design of online courses. The impact is clearly seen when we relate responses to several questions on inconsistency or diversity in online teaching technology and pedagogy to responses on required versus optional instructional design support (Figure 23).

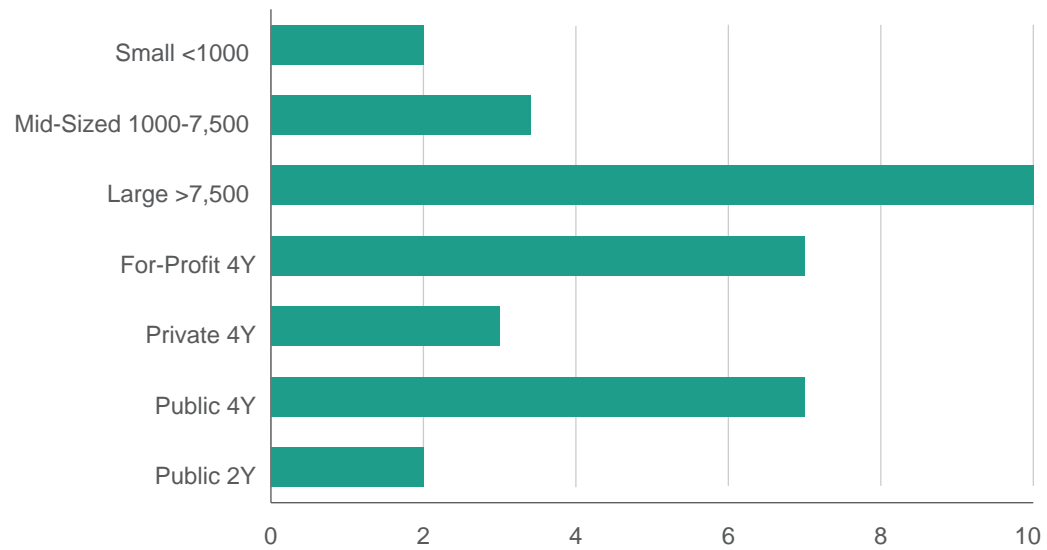
Figure 23. Required ID Support Reduces Variability in Technology and Pedagogy



Institutions must decide whether the benefits to students of consistent design outweigh considerations of faculty autonomy and justify greater investment in design expertise.

Institutions must decide whether the benefits to students of consistency and adherence to design standards that implement the full potential of their learning management system (LMS) and other online tools outweigh considerations of faculty autonomy and justify greater investment in design expertise.

Figure 24 calculates the workload of instructional designers. Since the CHLOE Survey asked for ranges rather than precise numbers, the instructional designers per program type are approximate. The lowest number possible to record was 1-2 instructional designers, which we estimated at 1.5.

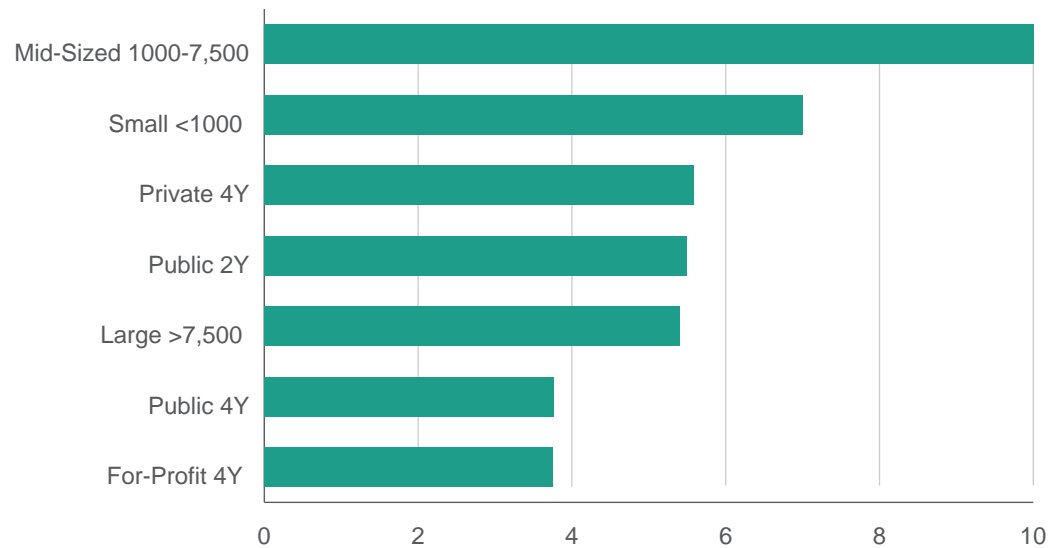
Figure 24. Instructional Designer Staffing Levels Are Proportional to Program Size

The low number of instructional designers in two-year public programs is not surprising, based on the limited resources available to such programs. It may account for the high proportion of community colleges that make ID support for faculty optional. The correspondingly lower revenue generated by smaller online programs may be a factor in their limited investment in instructional designers.

Figure 25 estimates the number of fully online degree and certificate programs supported per instructional designer.

Figure 25. Instructional Designer Workload Varies Greatly

Indicate the number of Instructional Designers supporting online course development.

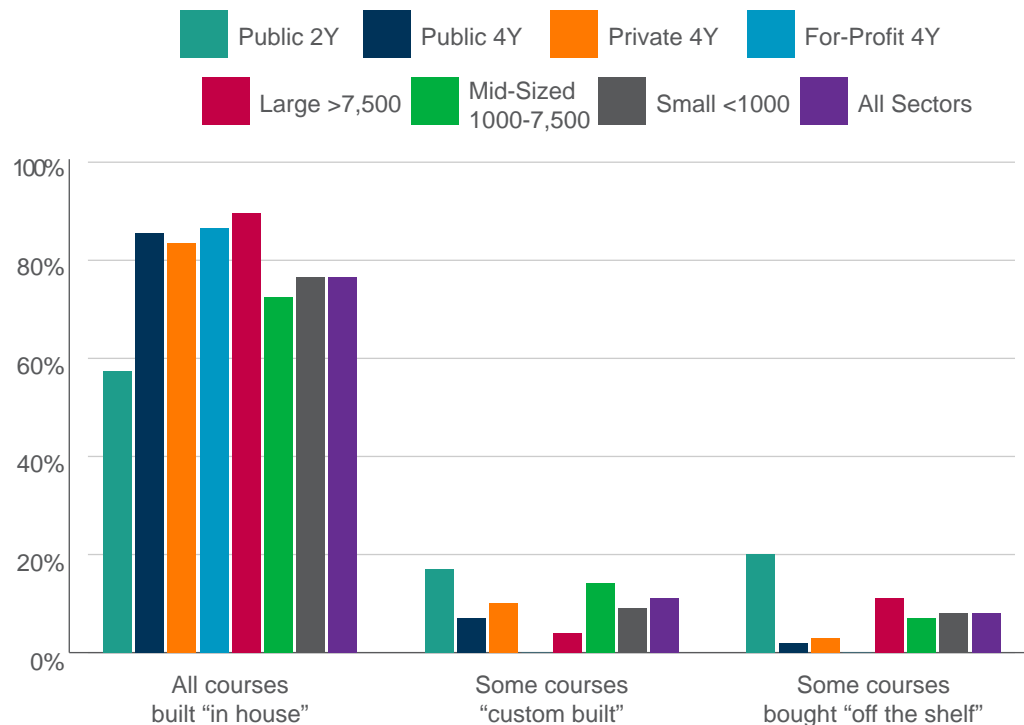


Based on the CHLOE 2 sample, four-year public programs have the highest ratio of instructional designers to fully online programs. The small for-profit group in the sample also indicates a high ratio of IDs to programs. Mid-sized programs have the lowest ratio, while four-year private, two-year public, and the largest programs fall in the middle.

The total workload for instructional designers is likely underestimated in Figure 25, since instructional designers typically also assist with online course design in blended programs, blended courses, and the supplemental use of LMS solutions in face-to-face courses. No widely accepted industry standards for the ratio of online courses or programs per instructional designer exists. Perhaps, as instructional design strengthens its identity as a profession, such standards will emerge.

Another option available to online programs to develop courses that take full advantage of technology and quality standards is to purchase such courses from external providers “off the shelf.” Or, they can engage with an online program management company (OPM) to provide or contribute expertise to a custom design process. The CHLOE 2 Survey asked whether online programs are making use of these options, rather than building all courses themselves (Figure 26).

Figure 26. Most Online Programs Build Their Own Courses

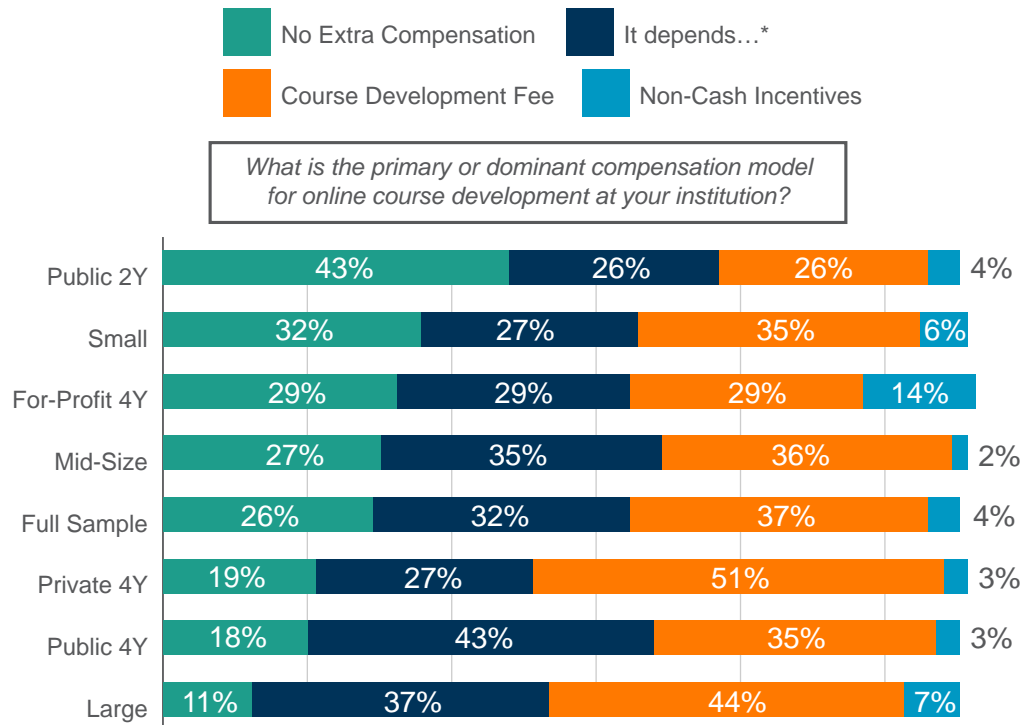


The CHLOE 2 Survey confirmed the CHLOE 1 conclusions that most online programs create their own online courses internally and that two-year public institutions are more likely than other sectors to buy externally developed courses, either “off the shelf” or custom-designed, to meet their needs. This evidence may seem paradoxical on the surface, since community colleges typically operate with inadequate resources and staffing compared to others. With higher faculty teaching loads and limited instructional design staff, some community colleges are compelled to consider acquiring commercially developed online courses through short-term contracts with vendors, despite the upfront cost. Further investigation would be needed to confirm, as we suspect, that these investments are focused on core courses with high enrollment, justifying the investment of scarce resources.

Among the 12% of respondents indicating use of OPMs, a third of public two-year and four-year programs with such relationships use them to facilitate or manage course design, as do 44% of four-year, private, nonprofit OPM users.

Of course, the faculty role remains central to course development in most online programs, whether faculty members receive design support or are left to their own devices. CHLOE 2 looked at the compensation they receive for this service (Figure 27). Note that non-cash incentives could include release time from teaching, grants for computer equipment, etc.

Figure 27. 37% of Programs Provide Online Course Development Stipends



* Text responses indicated some cases in which compensation was provided and other cases when it was not

This figure compares all sectors, including our small for-profit sample, and schools by online enrollment range. The proportions did not change substantially between CHLOE 1 and 2. Two-year public institutions are least likely to provide extra compensation to faculty for developing online courses, followed by low-enrollment programs, which may not generate much revenue and rely on faculty enthusiasts. Compensating faculty is common practice in the majority of four-year, private, nonprofit programs, followed by large-enrollment programs.

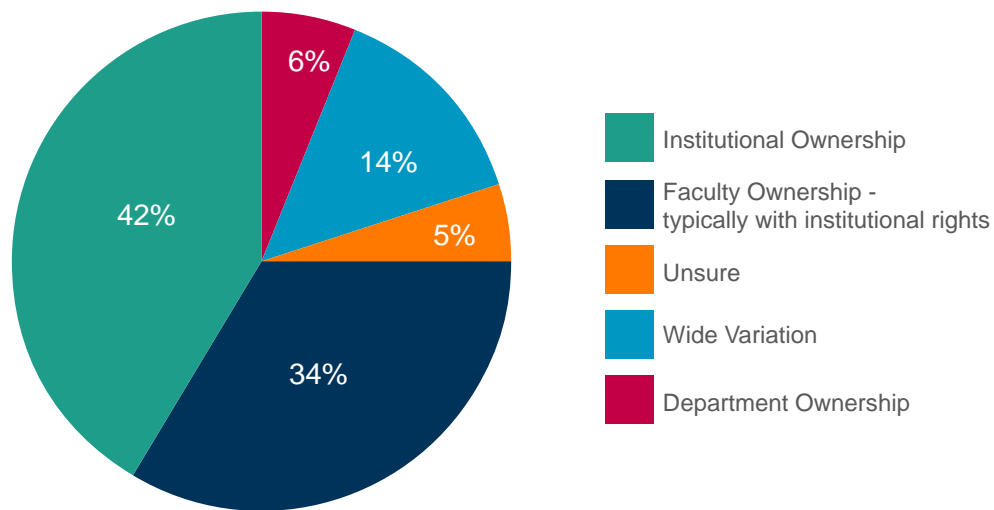
Overall, 26% of programs report that they do not compensate faculty in any special way for creating online courses. Another 32% report varying practices by academic unit, faculty status, or individual preference. Adding an estimated one-third or more of these variable instances to the non-compensated total, the total proportion of faculty who do not receive additional compensation for their online course development efforts appears to be in the 35-40% range. For most of these faculty members, this responsibility is an expectation of their employment.

A trend toward treating online course development as a regular faculty responsibility, rather than an additional task meriting special compensation, would seem to be further evidence of the mainstreaming

of online learning. On the other hand, institutions in rapid development mode and others seeking greater control of the timeliness, consistency, and quality of course development, or having particular concerns about course ownership rights, continue to provide compensation. Future CHLOE Surveys will revisit this course compensation issue periodically to see if there is a trend in one direction or the other.

A related issue is whether faculty course creators/subject matter experts or their institutions own online courses. The CHLOE 2 Survey (Figure 28) found a continuing division of practice on this issue. In our 2017 sample, 39% indicated institutional ownership, and 6% reported academic department ownership, which we treated as a form of institutional ownership. Thirty-one percent reported faculty ownership with different levels of institutional access, and 14% of respondents were either unsure or reported wide variation within the institution.

Figure 28. Course Ownership Policies Vary Widely - Between and Within Institutions

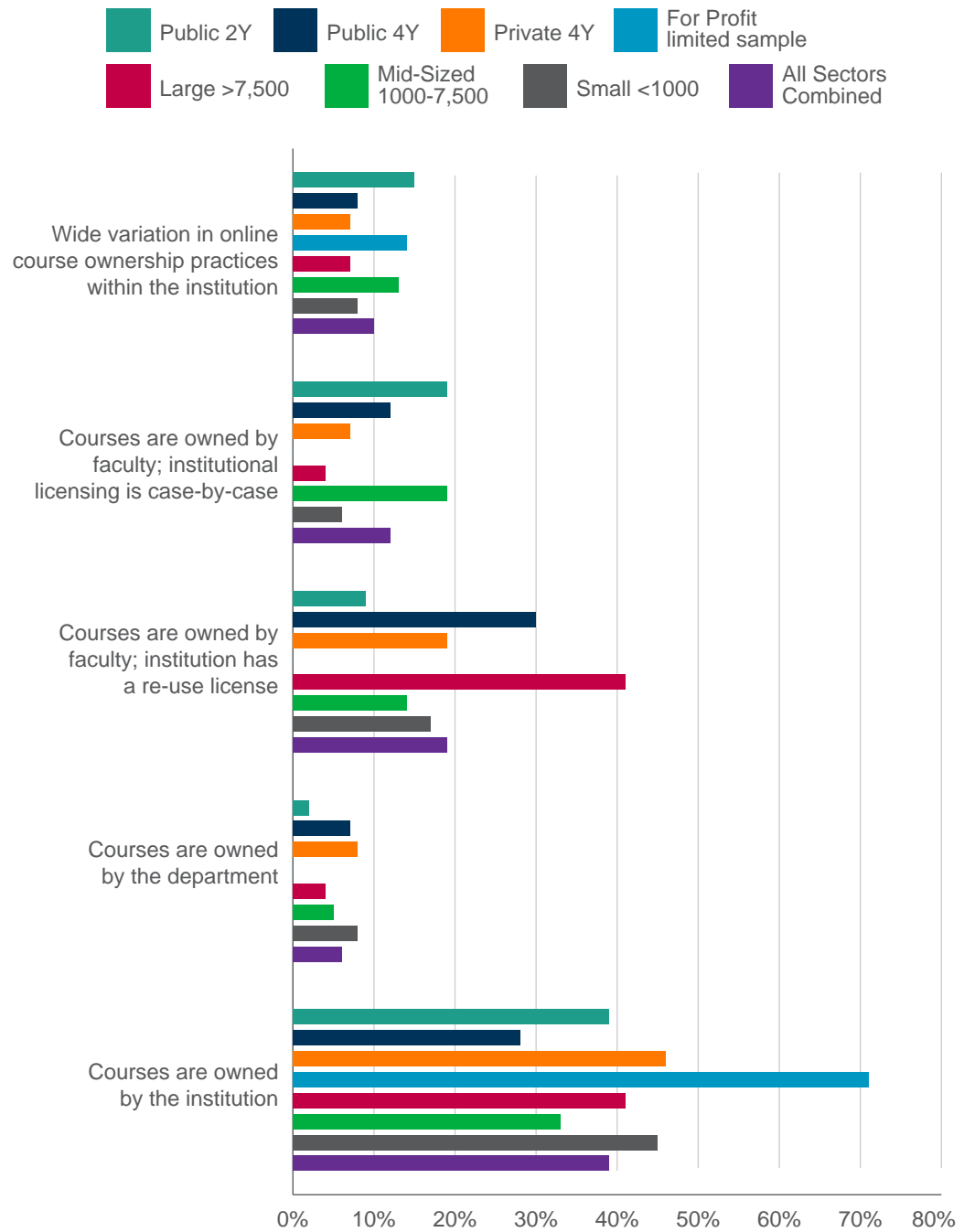


Institutions in rapid development and those seeking greater control of the timeliness, consistency, and quality of course development, continue to provide course development stipends.

It appears that some institutions treat course development as a work-for-hire issue while others pay faculty stipends or provide other compensation to establish institutional ownership. Faculty proponents claim online ownership rights on the same basis as the ownership of materials developed for the classroom and the result of their research activities. For institutions and online programs, the main issue is ensuring the long-term availability of online courses to assure students that requirements can be met on a timely basis. For faculty, the main issue is their right to continue teaching an online course, once developed, at the sponsoring institution or at any other institution of their choosing. Models that assure institutional and faculty access to online courses will likely continue to evolve.

For a detailed breakdown of the types of online course ownership, see Figure 29. Not surprisingly, the for-profit programs show the greatest tendency toward institutional ownership. Four-year public programs are the least likely to assert institutional ownership. Large, enterprise-level programs make the greatest use of reuse licenses, guaranteeing the long-term availability of courses. With outright ownership at 41% of programs and reuse licensing at another 41%, these large programs show the

greatest overall control of online curriculum—a mission-critical issue for them, and a possible direction for other sectors as well.

Figure 29. Course Ownership Patterns by Sector and Size

QUALITY ASSURANCE AND ACCOUNTABILITY

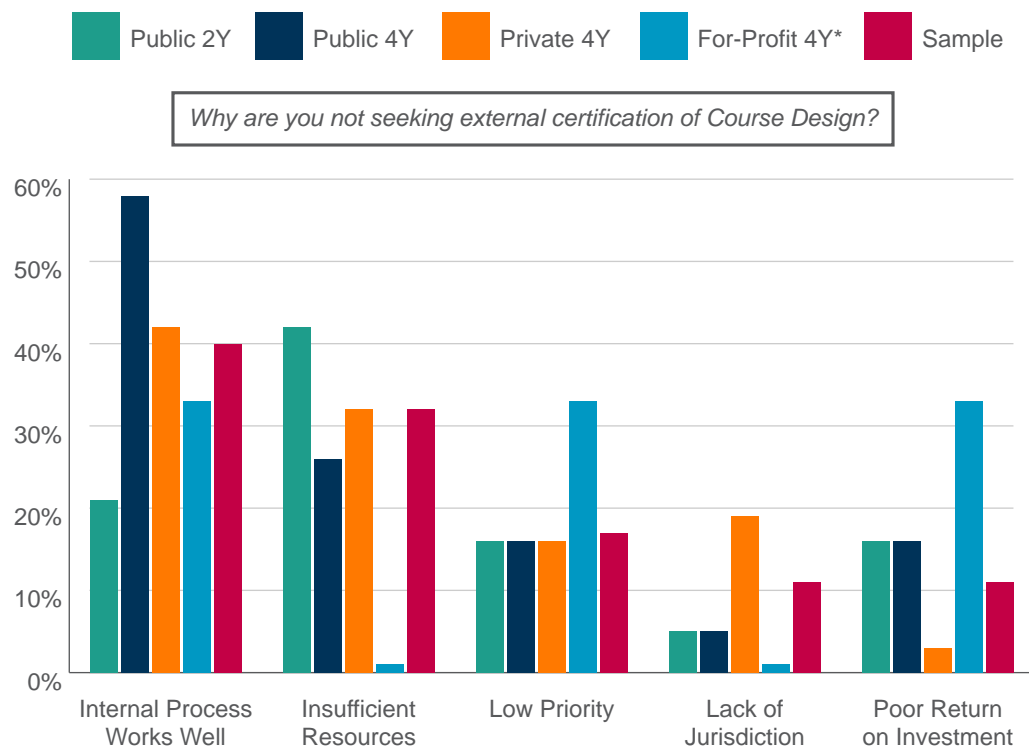
The second CHLOE Survey corroborated and added to the findings of the first survey regarding the adoption and application of quality standards. With the larger sample, there were some small year-over-year shifts, up and down, but none caused us to revise our basic conclusions. The most recent results are captured in Appendix C—a series of charts on quality assurance (QA)—that are included in this report.

The adoption of quality standards for online faculty development, course design, and program design, typically accompanied by training for faculty and staff, has become standard in the great majority of online programs. Quality benchmarks for student outcomes are almost as widely adopted, although, as explained below, we have concerns that the commonly measured outcomes may be too limited and not sufficiently responsive to stakeholder concerns. We also continue to see a lag in setting and applying quality standards to online support services.

The CHLOE 2 Survey confirmed that, on average, only about one-third of institutions in our sample are engaged in external evaluation of some or all of their online programs. While this statistic suggests the potential for future expansion of these efforts, there is also clearly a segment of the online learning community, about 40% of our sample, which shows little interest in participating in voluntary external quality assurance.

To better understand the obstacles to future adoption of external QA, the CHLOE 2 Survey asked chief online officers, in each of five quality assurance areas surveyed, why their institutions are not seeking external validation of their online programs' quality and have no plans to do so. Figure 30 summarizes their reasons for not seeking external validation of course design quality, the area in which external quality assurance is best established.

Figure 30. Many Programs Are Satisfied with Their Internal QA Process

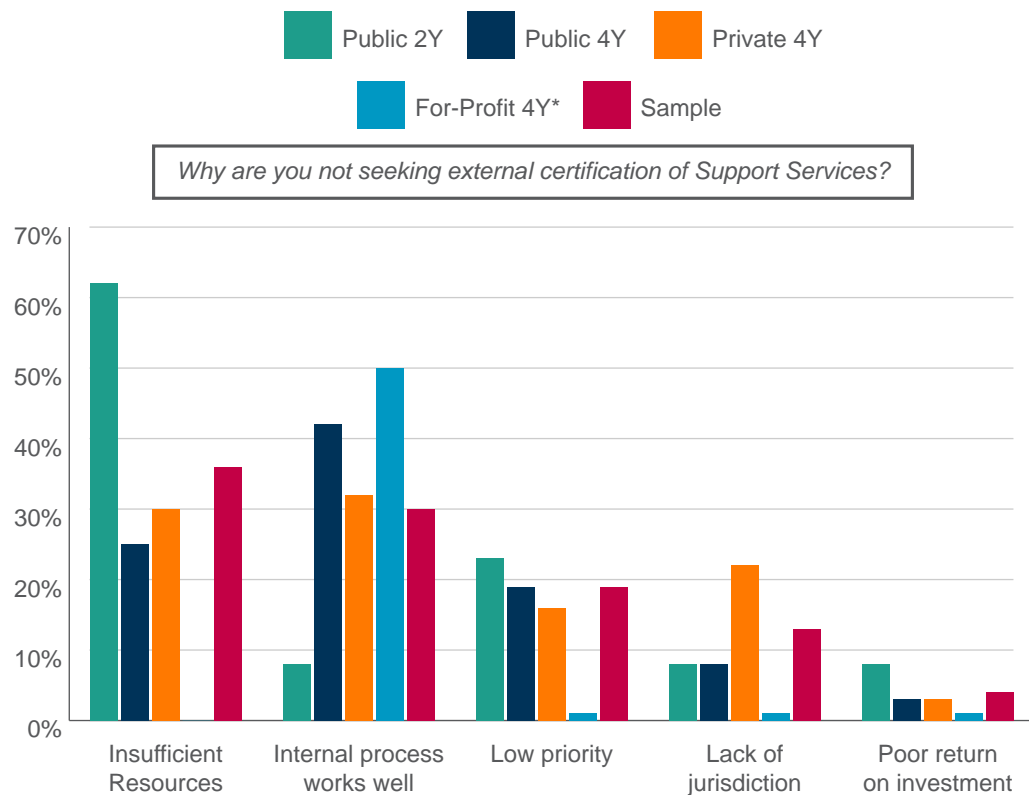


* For-profit participation was too low to reliably reflect the entire sector.

The two most common reasons cited for choosing not to engage in an external certification process for online courses are the cost in both dollars and staff time, and the belief that an internal process is sufficient to meet their needs. The extremes are community colleges, which put less emphasis on confidence in their internal process and correspondingly greater emphasis on a lack of resources to support external certification. Additionally, our small for-profit sample, which does not claim a lack of resources at all, expresses low confidence in the value of external certification.

In Figure 31, we see a similar pattern in the reasons cited for not seeking external validation of quality in online support services; the least common of the five QA areas surveyed. Again, community colleges stand out in viewing their internal process as insufficient and stressing that a lack of resources prevents them from engaging in this lower priority area of external quality assurance.

Figure 31. Cost Limits External Certification of Support Services, Particularly in Community Colleges



** For-profit participation was too low to reliably reflect the entire sector.*

External certification of the components of a quality online program can: broaden awareness of widely adopted best practices within the institution; promote constructive change; and reassure students, other stakeholders, accreditors, and regulators. The CHLOE 2 Survey suggests that QA providers will find it challenging to convince online programs not currently seeking external validation that the effort and cost are worthwhile. On the provider side of the equation, creative strategies to reduce the cost and time demands of external QA could have a major impact on adoption.

QUALITY METRICS AND ACCOUNTABILITY

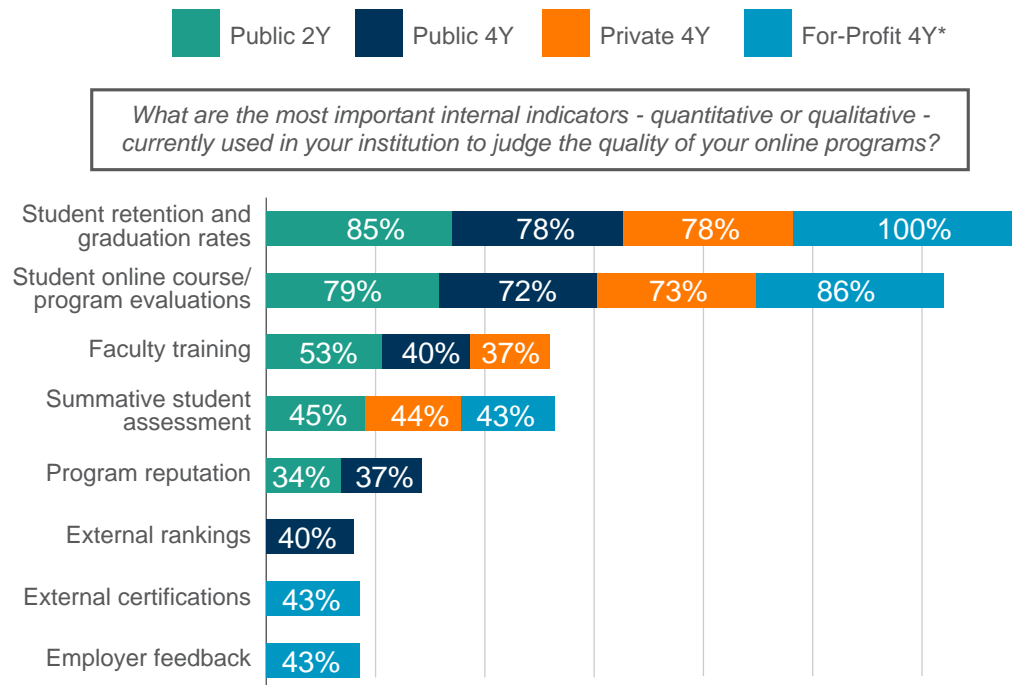
Chief online officers measure the capacity and performance of online programs for the purposes of continuous improvement, resource allocation, strategic planning, and external accountability. The CHLOE 2 Survey asked them to select from an extensive list the five most relied-upon metrics currently in use by online programs within their institutions. Their choices confirmed findings in the first CHLOE Report.

In Figure 32, we see that there is broad agreement across sectors regarding the two most important measures: student retention/graduation rates, and student evaluations of courses and programs. Both appear to be problematic at present in terms of external demands for accountability. Longitudinal data on student retention and graduation rates has historically been limited to first-time, full-time students, which is a tiny fraction of online students. It, therefore, does not capture the outcomes for the growing population of nontraditional students in general and online students in particular.

There are hopeful signs, however, in the expansion of IPEDS categories since 2012 to include fully and partly online students, and since 2016 to include outcomes data for nontraditional students (although online students are not yet fully distinguished in the data). With several more years of IPEDS data, we can look forward to being able to make more reliable comparisons between online and face-to-face student success rates within and among institutions.

Student evaluations, which may be quite informative within the institution or program, are non-standardized and seldom shared with regulators or the public. With this limitation so closely tied to principles of academic freedom and student-teacher confidentiality, student evaluations are unlikely to ever become a standardized benchmark of program quality.

Figure 32. All Sectors Agree on the Top 2 Quality Indicators – But Differ on the Next 3



* For-profit participation was too low to reflect the sector as a whole.

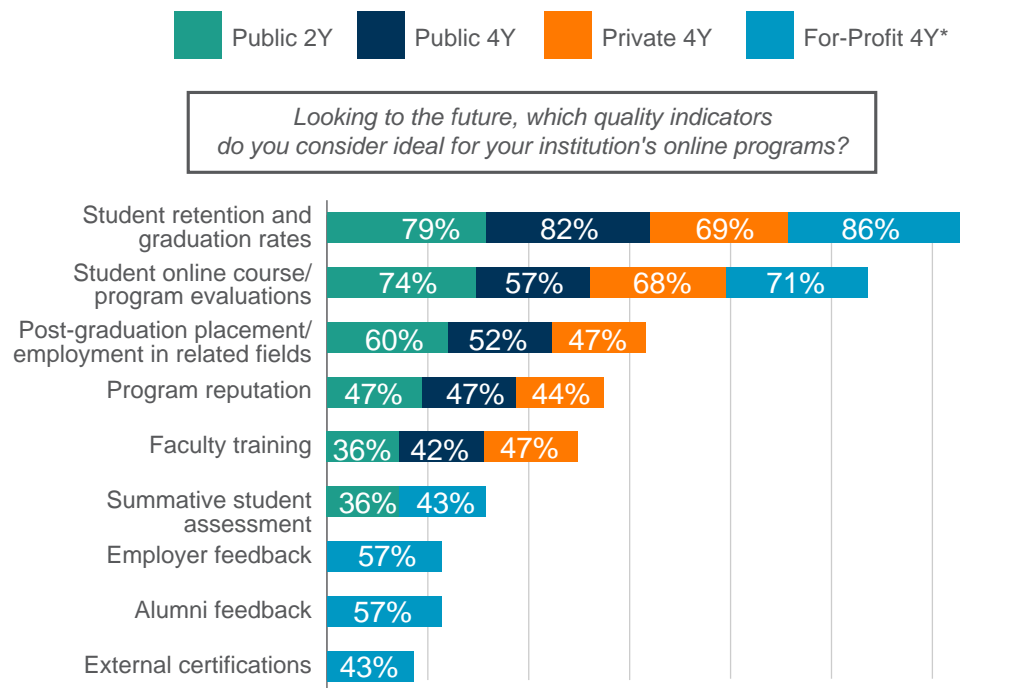
Beyond the first two indicators, there is less agreement among institutions and external stakeholders about the value of other commonly applied quality measures, such as documented faculty training to

teach online, summative assessment of online students, and online program reputation. There are no universally accepted standards for faculty training, nor, because of its subjectivity and a lack of widely agreed-upon criteria, is program reputation a reliable and comparable indicator of quality. The same may be said of summative assessment, particularly if institutions or programs use their own summative measures rather than standardized ones that are nationally recognized.

Our small sample of for-profit programs diverged significantly from other sectors by including external certification and employer feedback in their current top five measures of online program quality. If reflective of this sector as a whole, the inclusion of these measures would indicate a greater concern for externally validated quality measures. Only greater participation of the for-profit sector in future surveys, however, could establish whether this difference is widespread.

The CHLOE 1 and 2 Surveys also asked what measures of quality chief online officers would prefer to see applied to their online programs in the future. The recent results are displayed in Figure 33. While the top two measures noted above remain unchanged, chief online officers indicate a preference to rely more heavily on program reputation and post-graduation employment. The added emphasis on post-graduation employment may help to satisfy stakeholder demands for measurable outcomes that validate the return on investment in higher education by individuals and society. Faculty training to teach online continues to round out the top five measures.

Figure 33. Post-Graduation Placement Might Soon Crack the Top 5 Quality Indicators



** For-profit participation was too low to reflect the sector as a whole.*

In Figure 33, the small for-profit response shows the greatest differentiation from the other sectors, adding alumni feedback to its mix of quality measures. Overall, however, chief online officers' priorities, at least in public and private non-profit programs, do not bode well for a voluntary shift toward outcomes-based quality measures in the near future.

Do these preferences reflect their belief that the same quality measures will continue to meet the concerns of regulators and accrediting bodies? Or do they see a continuing dichotomy between internal measures of quality and external demands for accountability? CHLOE 3 will explore this issue in greater depth.

The CHLOE 2 Survey updated CHLOE 1 findings regarding the availability and adequacy of data to measure performance in our list of quality criteria. As before, the results in Table 6 suggest a serious lack of information available to online program managers, their institutions, and external stakeholders, particularly about evaluating student outcomes.

Table 6. Large Gaps in Data Collection and Analysis

Does your institution have adequate data to demonstrate performance on each of the possible quality indicators for online programs listed below?	Sample	Public 2Y	Public 4Y	Private 4Y	For-Profit 4Y*
1. Faculty Credentials	91%	90%	85%	95%	100%
2. Retention/Graduation Rates	88%	85%	87%	91%	100%
3. Cost of Attendance	80%	78%	80%	79%	86%
4. Student Course/Program Evaluations	79%	74%	67%	91%	100%
5. Faculty Training	73%	74%	70%	73%	86%
6. Student Achievement of Program Objectives	62%	65%	53%	64%	100%
7. Expenditures Per Student	60%	70%	50%	59%	86%
8. Standardized Test Performance	48%	43%	52%	50%	58%
9. External Rankings	47%	28%	64%	49%	58%
10. Program Reputation	45%	37%	54%	46%	29%
11. Loan Repayment Statistics	42%	43%	35%	46%	72%
12. Student Debt	42%	4%	2%	5%	14%
13. External Certifications	37%	33%	32%	43%	58%
14. Post-Graduation Employment	33%	35%	18%	44%	72%
15. Graduate Earnings	28%	26%	20%	32%	72%
16. Employer Feedback	26%	29%	15%	33%	43%
17. Alumni Feedback	26%	18%	22%	32%	58%

* For-profit participation was too low to reliably reflect the sector as a whole.

One-third or more of institutions lack adequate data

More than half of institutions lack adequate data

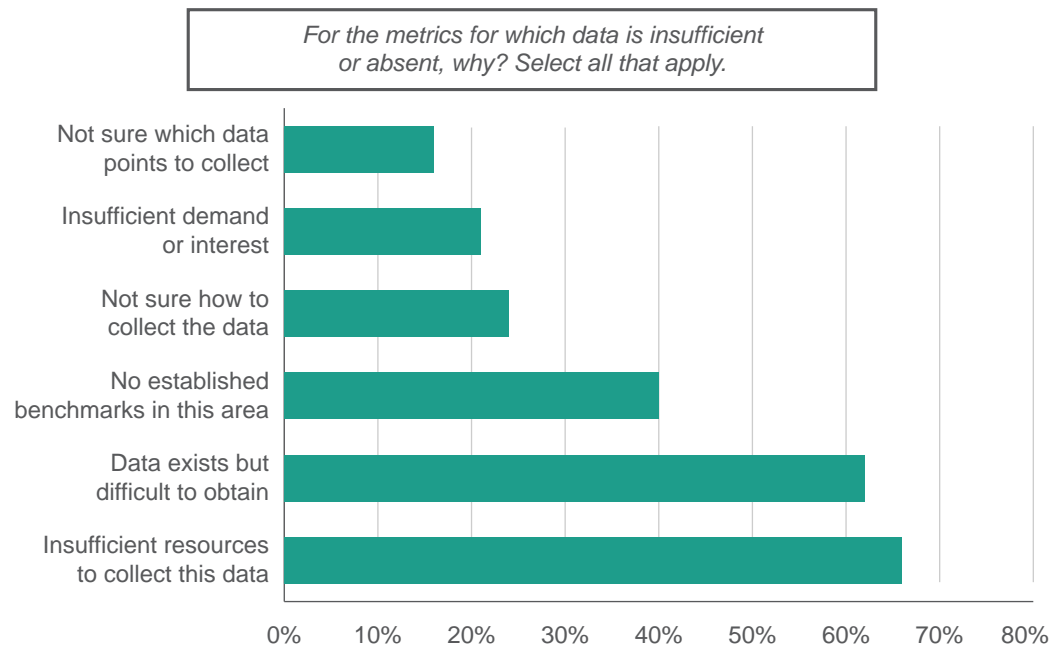
Five of the eight criteria in Table 6 for which data is most widely available to chief online officers and their institutions are inputs, rather than student outcomes. The three student outcomes in the top group—retention/graduation rates, student evaluations, and student achievement of program objectives—are all related to the learning process. Items nine and 10 are, at best, indirect indicators of program quality and are subject to the limitations noted earlier.

If we focus on outcomes and outcomes-based data measuring the student and societal impact of the learning experience, items 11 to 17, we find widespread deficiencies in data collection. These are ways to measure the return on investment in higher education that stakeholders, regulators, and accreditors are increasingly demanding; some of which Congress may codify and mandate in the next reauthorization of the Higher Education Act. As noted in the first CHLOE Report:

There may be trouble ahead for institutions that have not paid sufficient attention to these measures and have not developed either rationales to defend their performance or strategies to improve it.

The CHLOE 2 Survey pressed further to understand this gap in outcomes data availability, asking chief online officers why this data was not being collected and studied. Most cited the difficulty in obtaining (non-institutional) data and the lack of resources to do so. The results are summarized in Figure 34.

Figure 34. COOs Believe that Outcomes Data is Harder to Collect



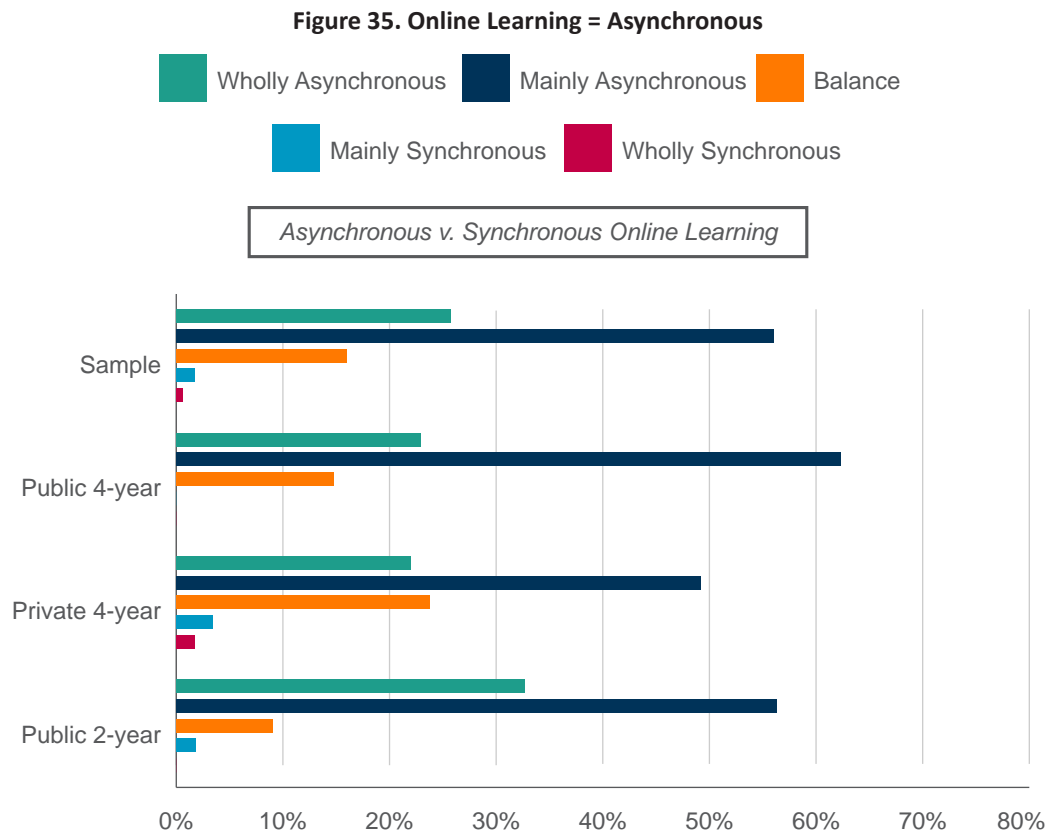
The reasons COOs believe that outcomes data is harder to collect enumerated in Figure 34, combined with the preferences expressed by chief online officers in Figure 33 suggest that it would take an external stimulus (e.g., a mandated reporting process or adoption of performance-based funding that includes criteria for collection and evaluation of these metrics) to become standard practice.

TEACHING LEARNING AND TECHNOLOGY

This section examines some of the pedagogical particulars of online learning among CHLOE 2 institutions. Topics include: synchronous versus asynchronous methods, relative interaction among students, scope for personalization, and any role for face-to-face. The online tools, technologies, and instructional techniques employed by institutions are explored, as are plans for innovation.

What is online learning like?

Consistent with the results of the first CHLOE Survey, respondents to CHLOE 2 overwhelmingly pointed to wholly or majority asynchronous online learning at their institutions. Figure 35 shows the results by institutional type.



In the CHLOE 2 sample, 82% of respondents said their online programs are wholly or mainly asynchronous. It was exceptional for a school to say synchronous is the dominant model, although 16% of the sample indicated a balance between synchronous and asynchronous. The fact that 56% of schools describe their online programming as mainly rather than wholly asynchronous suggests that synchronous delivery plays a limited role in many programs.

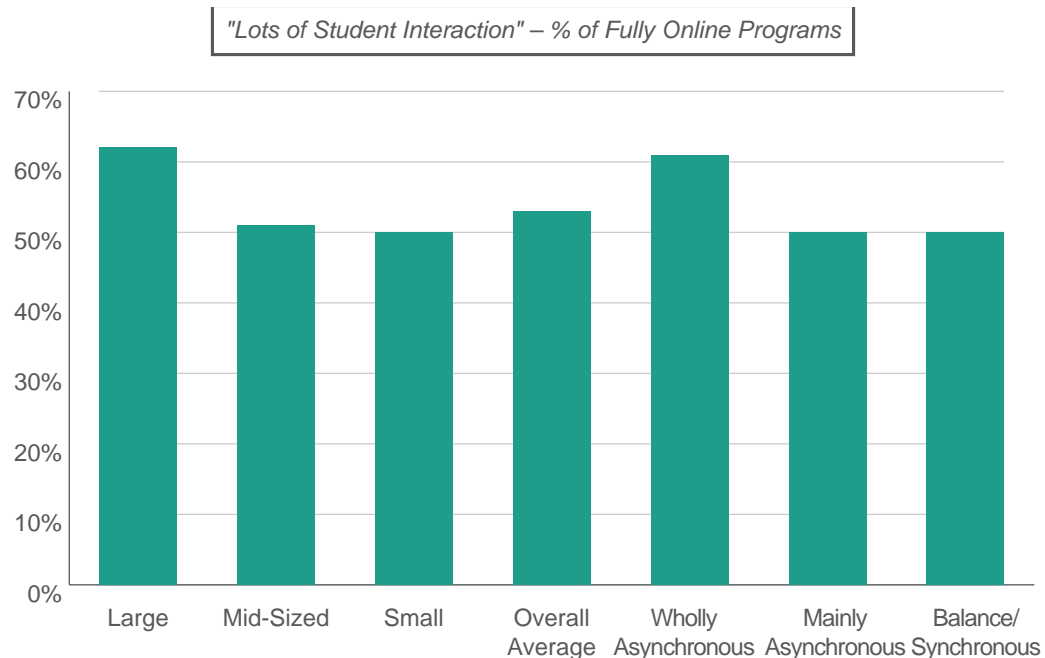
These findings are consistent with the much stronger emphasis on online compared to blended courses and programs noted earlier in this report. Small, medium, and large institutions, in terms of online enrollment, all cited asynchronous as the dominant model. The small number of for-profit respondents reported a 100% wholly or mainly asynchronous ratio, as did 93% of large institutions (with more than 7,500 fully and partly online students).

CHLOE 2 asked several follow-up questions exploring why institutions did not employ more synchronous or more asynchronous delivery. The most common reason for not employing synchronous delivery was student preference, cited by 65% of schools that say their online programs are wholly or mainly asynchronous. Faculty preference was noted by 55%, and 25% cited technology barriers. Only 10% said cost was the driving factor. Open comments clustered around the greater flexibility of asynchronous delivery for working adults (and for faculty) and across time zones, and a number of respondents argued that synchronous delivery mimics the physical campus in an uncritical way. Research, said some respondents, makes the case for asynchronous learning as a superior pedagogical experience.

The handful of respondents that pointed to wholly or mainly synchronous delivery also made their case about student preference. There is not yet sufficient data on online course or program outcomes to judge whether asynchronous dominance is driven by efficacy or convenience. Asynchronous models may be easier to scale, which is likely another factor behind school choices.

The second CHLOE Survey sought to dig further into varieties of online learning. One variable of interest was student interaction. Figure 36 compares the perceived level of interaction with each type of online delivery and enrollment category.

Figure 36. Asynchronous Means More Student Interaction?



Student-to-student interaction is widely regarded as a valuable component of learning; both champions and critics of online delivery often cite interaction as a reason to favor or dismiss the modality. The challenge is making an objective assessment of interaction, in terms of volume and value.

Figure 36 shows that CHLOE institutions think about half of their fully online programs embody lots of student interaction. “Some interaction” was chosen by 37% of programs and “little or no interaction” by 11%. This spread suggests that there are significant differences in terms of pedagogic intent and practice among fully online programs that appear similar on the surface. It would be a mistake to assume that more interaction is essential to student success, but it is notable that CHLOE respondent schools think about half their fully online programs do not generate lots of student interaction.

In some cases, individualized learning pathways—maximizing assessment of prior learning, self-paced study, and customized activities and assessments—may result in more limited student interaction. A lack

of interaction may also be viewed as pedagogically preferable, at least for certain students under certain circumstances. Individual faculty and teaching styles may influence relative interaction, for good or ill.

Emphasis on student-to-student interaction appears to be related to the type of online delivery. Sixty-two percent of schools offering fully asynchronous online programs believe their programs are characterized by “lots of interaction.” In contrast, fewer than 50% of schools that checked “mainly asynchronous,” balanced, or synchronous reported “lots of interaction.” It is impossible to separate perception and

reality here, but it may be that fully asynchronous online programs work harder to stimulate student interaction to compensate for the complete absence of live classroom contact.

Figure 35 may vindicate schools committed to asynchronous delivery that argue it matches student preference and supports good pedagogy. The fact that large programs also emerged with an above-average ratio of fully online programs with lots of student interaction may highlight the benefits of scale and experience in improving the quality of online learning.

Among the small for-profit sample, 75% of fully online programs—all asynchronous—were said to foster lots of student interaction. The ratio was only 43% among community colleges. This lower figure may be tied to a less academically accomplished student body where faculty may have to work harder to generate class discussion. Somewhat higher ratios among four-year schools may derive from the large number of online programs at the graduate level.

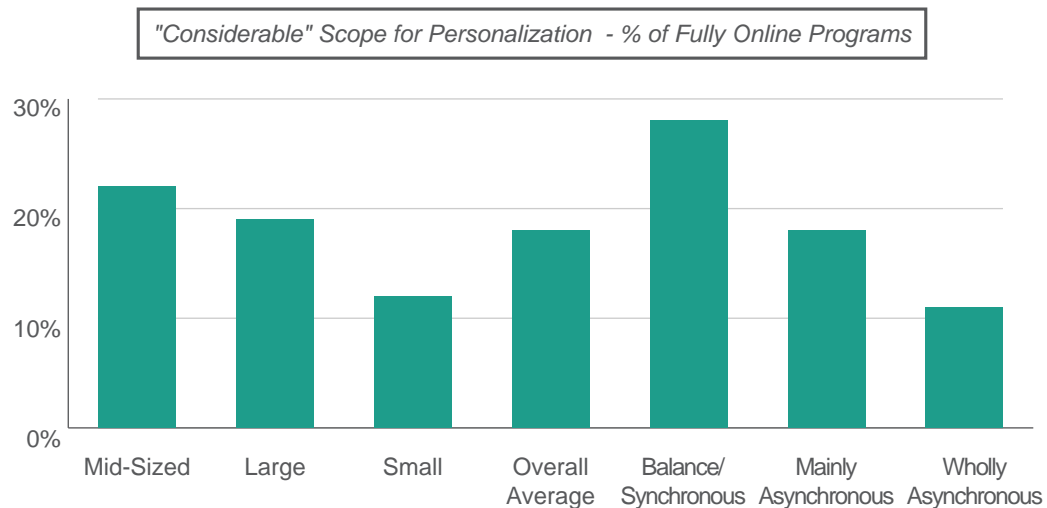
Another dimension of pedagogical debate is relative personalization of the learning experience. “Personalization” is multifaceted and open to interpretation. Greater personalization is said to better tailor learning to the needs and preferences of individuals, boosting engagement and potentially reducing time and cost. Revived

interest in the forms of competency-based learning and the emergence of adaptive learning software are cases in point. Institutional efforts to add greater personalization, through CBE or adaptive learning, are generally in their infancy, and it is not yet clear whether personalization will emerge as a defining feature of the online higher education market, and in what ways.

CHLOE 2 asked institutions about opportunities for personalization in their fully online programs (Figure 37). Examples of personalization might include the ability for individual students to gain credit for prior learning or to select their own curriculum, courses, or learning pathways.

There may be trouble ahead for institutions that have not paid sufficient attention to [outcomes] measures and have not developed either rationales to defend their performance or strategies to improve it

Figure 37. Scale Inhibits Personalization?



CHLOE respondents characterized only 18% of their fully online programs as offering considerable scope for personalization, which is much lower than the 62% that chose “lots of student interaction.” Considerable personalization may be seen as being in tension with operational efficiency. All students in an online class following the same curriculum and doing the same courses in order may place fewer demands on faculty and support staff than those in a personalized model.

“Some scope for personalization” was the response for 27% of fully online programs in the sample, and 54% of programs were thought to have little scope for personalization. These figures suggest that most online programs still have a common curriculum and learning activities that all students are expected to follow.

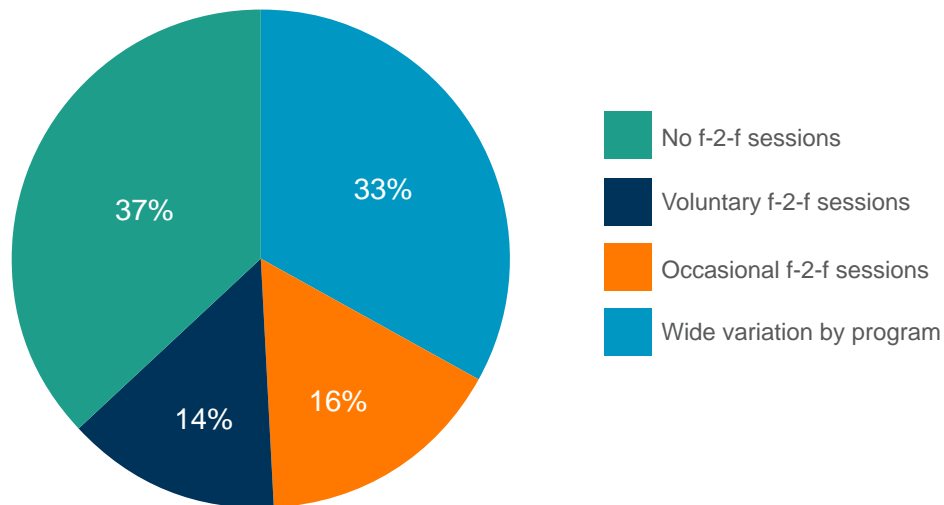
Greater personalization appears to be associated with synchronous online learning or a balance between synchronous and asynchronous. Only 11% of wholly asynchronous online programs were judged to permit considerable scope for personalization, but the ratio was 18% for mainly asynchronous and 28% for a synchronous or balanced approach.

Size alone is not the explanation. Among schools with fewer than 1,000 online students, only 12% of fully online programs were said to have considerable scope for personalization. Yet no large institution—in terms of online student headcount—described a predominantly synchronous approach. Therefore, the combination of synchronous or balanced delivery and smaller enrollment scale may permit greater personalization. Evidently, departure from the wholly asynchronous norm means more choice for students, in terms of delivery mode specifics. Overall, relative personalization cannot be neatly accounted for in terms of size, institutional type, or online learning modality.

The final online program feature considered in CHLOE 2 was the role of any in-person instruction or interaction (Figure 38). Fully online programs often portray zero campus visits or in-person meetings as a virtue, but some include required or optional offline elements.

The most common reason for not employing synchronous delivery was student preference

Figure 38. Required Face-to-Face Sessions Are Rare



It is perhaps surprising that for notionally fully online programs, only 37% of CHLOE schools say that face-to-face sessions are entirely absent. Sixteen percent of institutions with fully online programs require occasional face-to-face sessions in at least some cases, and another 14% say such sessions are voluntary. One-third of the sample point to wide variations by program, a reminder that at many schools online learning has grown up in different forms and at different times across academic departments, and there is limited institutional uniformity.

Community colleges and private four-year schools were somewhat more likely to say occasional face-to-face sessions were required, and for-profits least likely. This may reflect the exclusively or predominantly local markets served by many such schools. Among institutions with a large online headcount (7,500 or more), only 11% said face-to-face sessions are required, compared to 16% for mid-sized and 18% for small schools. Large schools most often indicated that such sessions are absent and were least likely to point to wide variation by department. This suggests that online enrollment scale—often spanning an open-ended geography—is more difficult to achieve if the logistics of face-to-face sessions must be accommodated and if academic departments are pulling in different directions.

It may be that fully asynchronous online programs work harder to stimulate student interaction to compensate for the complete absence of classroom contact

Schools that reported asynchronous delivery as dominant were only slightly less likely than average to cite mandatory face-to-face sessions as the norm, while institutions committed to synchronous delivery, or a balance of synchronous and asynchronous, were somewhat more likely to do so. For some schools, synchronous and face-to-face sessions may overlap or be synonymous. By far the most common answer for synchronous and balanced schools was that any role for face-to-face delivery ranged widely by academic department.

CHLOE respondents reinforced this sense of pedagogical diversity in response to a question about the relative commonality of online teaching and learning techniques across programs and academic departments. “Some diversity” was the most common response (50-60%), regardless of institutional type or size of online enrollment. The only exceptions were for-profit schools, which were most likely to cite “little diversity.” Indeed, institutions with fewer than 1,000 online students, at the course and program level combined, were next most likely to report minimal variation. Smaller scale implies fewer academic departments active online in

the first place. Even among schools with greater than 7,500 online students, a third acknowledged “significant” pedagogic diversity.

Regarding the prevalence of particular online learning tools and technologies, Figure 39 shows the proportion of CHLOE 2 respondents who indicated a particular category or type of online learning technology as among the five most “important or innovative” at their institution.

Figure 39. LMS Is King

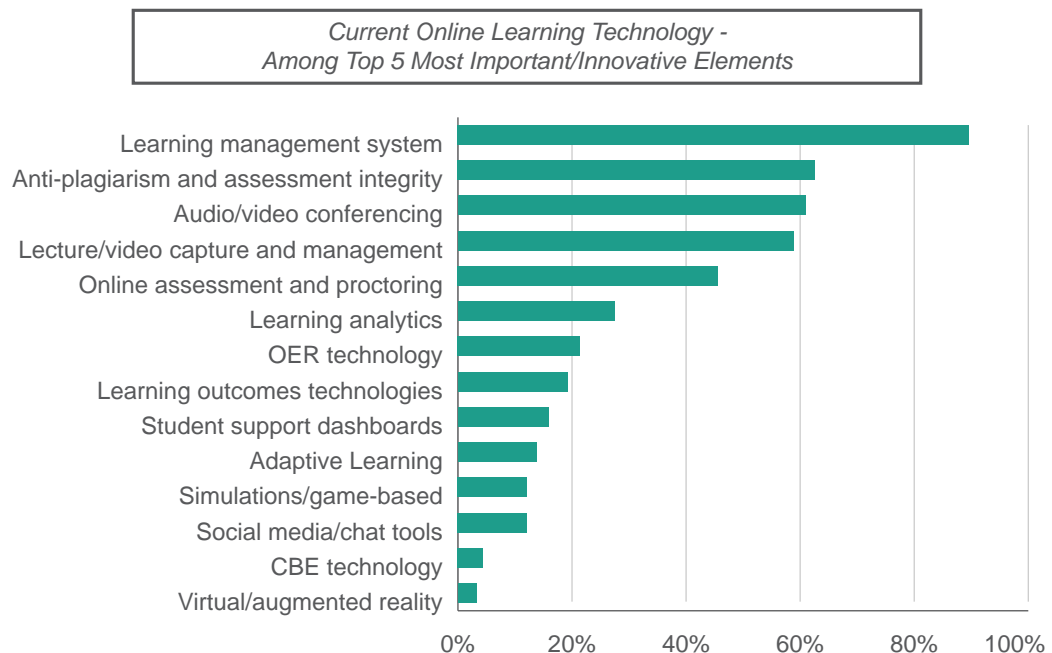


Figure 39 matches the findings of the first CHLOE Survey: established tools like the LMS, anti-plagiarism software, and conferencing and lecture capture software dominate the list of what chief online officers see as their most important/innovative online learning technologies. More novel tools, such as learning analytics, open educational resources (OER), and adaptive learning, exhibit significant but only minority “Top 5” citations. The LMS is not simply a tool in its own right but increasingly a platform that hosts and integrates an open-ended array of other tools.

CBE tools, in vogue in recent years, are rarely cited (regardless of online enrollment scale); and virtual/augmented reality brings up the rear. It is notable that any school currently sees this technology as meriting inclusion in the top five, and this is something to track in future CHLOE surveys.

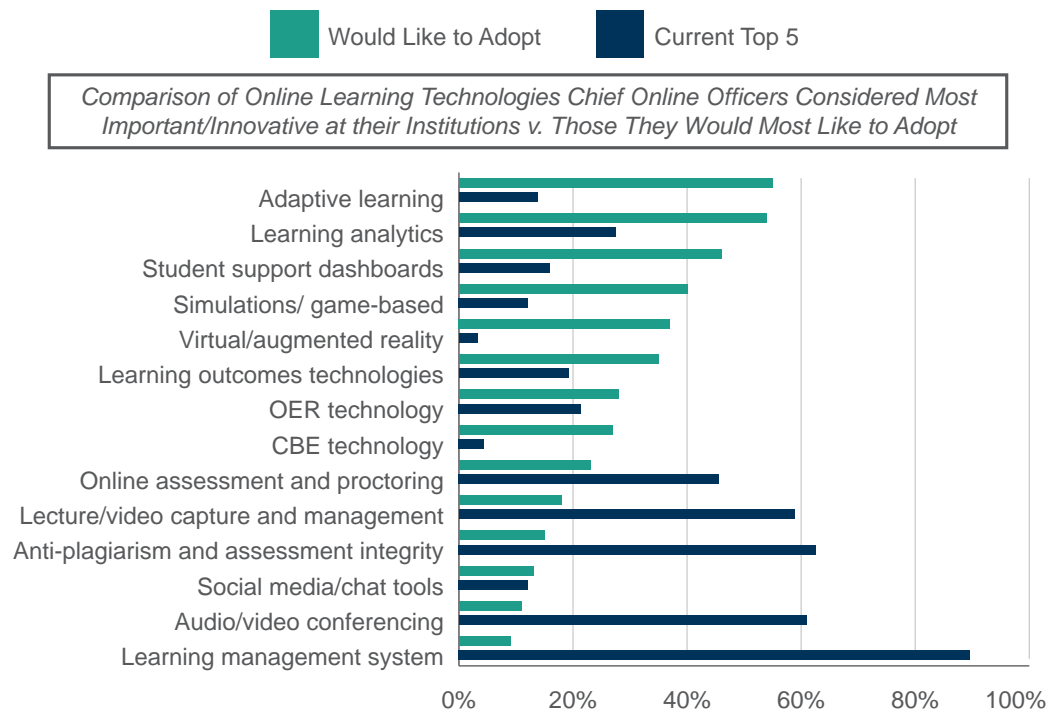
It is perhaps surprising that for notionally fully online programs only 37% of CHLOE schools say that face-to-face sessions are entirely absent

Community colleges were more likely to cite adaptive learning and learning outcomes technologies as important or innovative than were respondents from nonprofit, four-year schools (20% compared to less than 10%), perhaps aligned with greater remediation needs and higher student attrition. Conferencing and lecture capture technologies were most important to private, four-year schools, consistent with greater interest in synchronous and face-to-face elements of online learning. The small for-profit school sample presented majority adherence to simulation and game-based learning, compared to 12% for the sample as a whole; innovation perhaps spurred by the stiff competition for-profits have faced in the online market in recent years.

In most areas, online enrollment scale is not aligned to technology adoption. Exceptions include online assessment and proctoring and student support dashboards, where schools with more than 7,500 online students were substantially more likely to report “Top 5” placement. The management of large, distributed student bodies is an obvious explanation.

The CHLOE 2 Survey asked which of the same tools and technologies chief online officers would most like to adopt for their online programs (Figure 40).

Figure 40. Learning Analytics Is the Next Big Bet?



The biggest gaps between current and desired adoption were for adaptive learning, learning analytics, student support dashboards, simulations/game-based learning, and virtual/augmented reality. Rankings for current and desired adoption were closest for OER and social media/chat tools. Both are among the more familiar tools on the list, perhaps suggesting greater institutional experience and awareness of pros and cons.

Close to 30% of CHLOE schools would like to adopt CBE technologies but these respondents were less enthusiastic relative to other under-developed options. Schools with more than 7,500 online course and program students were most taken with CBE: 56% versus a sample average of 27%.

Four technologies achieved combined current and desired adoption greater than 75% of the sample:

- LMS = 98% (with 90% current Top 5 adoption)
- Learning analytics = 81% (with 28% current Top 5 adoption)
- Lecture/video capture and management = 77% (with 59% current Top 5 adoption)
- Anti-plagiarism and assessment integrity = 77% (with 63% current Top 5 adoption)

This suggests that learning analytics is the only currently non-mainstream technology destined for truly mainstream adoption in the near future. Adaptive learning is next with 69% combined current and desired adoption (only 14% current), and learning outcomes technologies third at 54% (19% current).

As in the first CHLOE Survey, chief online officers were asked to characterize the nature of recent teaching, learning, and assessment technology change for their fully online programs and anticipated change in the coming years. Table 7 plots institutions on both axes.

Table 7. Half of CHLOE Respondents Cite or Anticipate Major Technology Change for Their Fully Online Programs (total exceeds 100% due to rounding)

Past Changes: Over the past few years, to what extent have your institution's fully online programs changed in terms of teaching, learning, and assessment technologies and tools?

Future Changes: Over the next few years, what level of teaching, learning, and assessment technology change do you anticipate for your institution's fully online programs?

FUTURE CHANGES → PAST CHANGES ↓	FUTURE Few Changes	FUTURE Supplementary Changes	FUTURE Major Changes
<u>PAST</u> Major Changes 36%	3%	23%	10%
<u>PAST</u> Supplementary Changes 49%	3%	36%	10%
<u>PAST</u> Few Changes 17%	6%	7%	4%
<u>FUTURE TOTALS</u> →	12%	66%	24%

How should one read Table 7? The table divides CHLOE 2 respondents into nine categories, based on the extent of self-reported online learning technology change in the past few years and anticipated change in the next few years. So, for example, from the top left, 3% of schools report major change in recent years

but anticipate few changes going forward; whereas, 23% of schools report major change in recent years but anticipate supplementary change going forward.

Figure 7 suggests that CHLOE respondents are more likely to see major technological change for their fully online programs in their recent past than in their near future. Over one-third of the sample (36%, top row) pointed to major changes in recent years, but only 24% (third column) think change of that magnitude is on the horizon. The innovation vanguard is occupied by 10% of schools that cite both past and future major technology change.

Large online providers, with 7,500 or more online students, were most likely to highlight past (52%) and future (41%) major technology change. Schools in the “small” online enrollment category (less than 1,000 online students) were next most likely to cite past major change (41%) but least likely to look to such change in the coming years. This may be consistent with a relatively recent commitment to online learning at many schools with smaller online student headcount and the changes that implies. Few such schools may be ready to tackle yet more upheaval so soon. Perceptions of past and future technology change were quite similar between community colleges and all types of four-year schools.

A new question on the CHLOE 2 survey concerned why institutions planned to introduce new technologies and tools into their fully online offerings. Predefined answers ranged from efforts to improve student success and enhance the faculty experience, to regulatory demands and cost savings. Figure 41 shows the average rank across nine possible options.

Tabel 8. Student Success is the Dominant Driver of Technology Change

Final Rank	Motivations for Technology Change	Average Rank
1.	Improve the student experience/ and student success	1.8
2.	Improve the faculty experience	3.9
3.	Overcome limitations of current technology	4.3
4.	Experiment with new solutions	4.9
5.	Comply with regulations	5.4
6.	Improve administrative processes	6.0
7.	Achieve potential cost savings	6.1
8.	Stand out in crowded market	6.2
9.	Keep up with competition	6.5

By far the most commonly cited motive for considering technology change for online programming was to improve the student experience and boost student success. Enhancing the faculty experience came second.

Of course, technology change could indicate valuable innovation but might also stem from poor past investments or implementation, rendering additional change more a matter of catching up. Indeed, this motive—limitations or problems with existing technologies or tools—was the third most-cited.

Administrative gains, cost savings, standing out in a crowded market, and keeping up with the competition were rarely cited as prominent motives.

It is striking that schools engaged with a modality defined by breaking campus norms are not particularly worried about technological innovation as a force of competition, and few see such innovation as a way to stand out from the crowd. This speaks to the relative absence of online program competition on explicitly technological or pedagogical grounds. Schools tend to compete on convenience, flexibility, and program relevance; as well as on conventional notions of institutional or programmatic prestige. Indeed, many schools assert differentiation in these areas when in fact what they offer is commonplace.

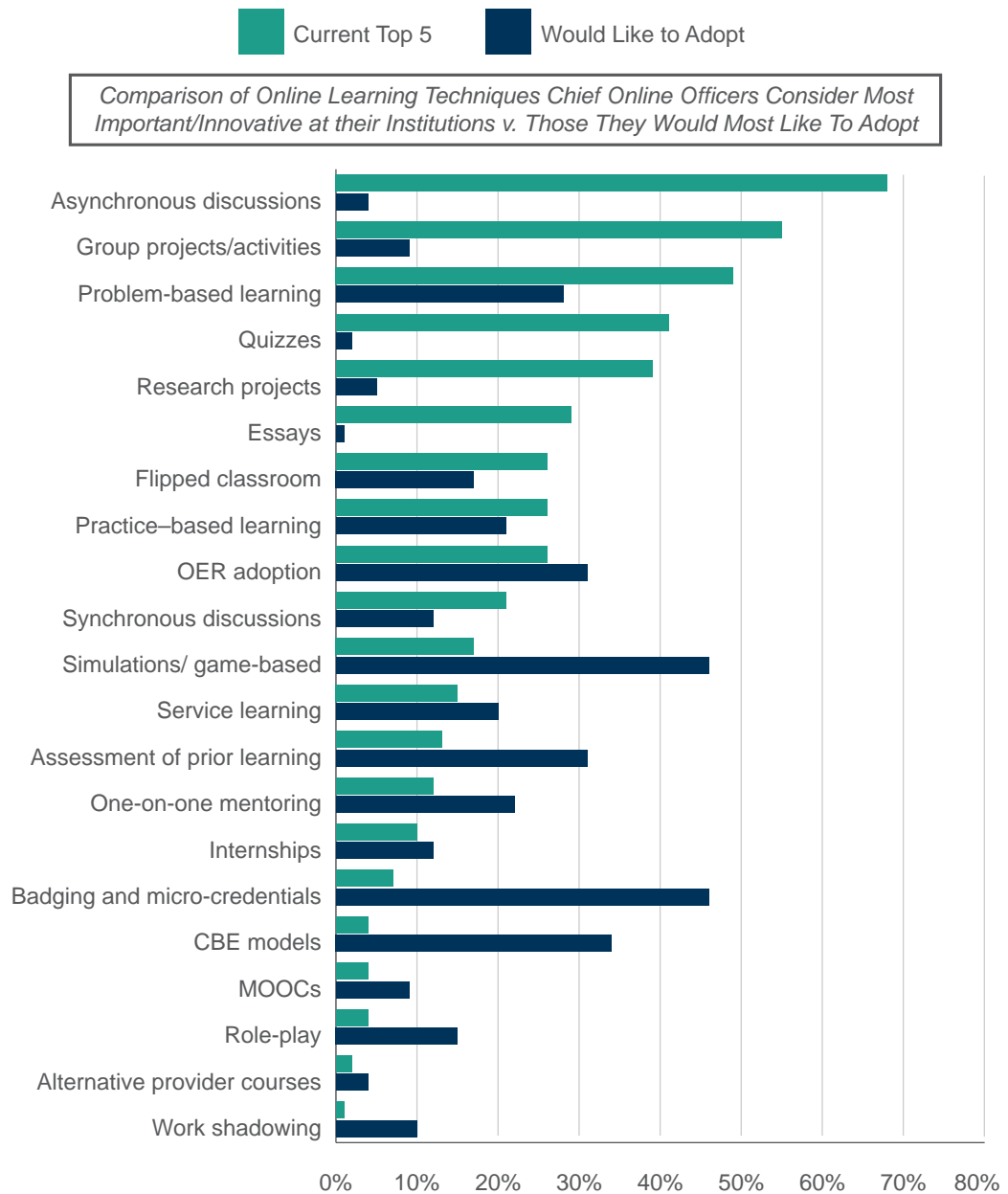
A stronger student experience might be the very thing to enhance marketing and brand. Chief online officers may see demonstrable student success gains as the first test before any publicity benefits are contemplated. Across the panoply of tools and techniques available in today's online learning marketplace, a lack of clear evidence of impact on student learning must give institutional leaders pause. Fourth place for "experimentation" reinforces what may often be a superficial understanding of alignment between institutional or programmatic goals or problems and technology solutions and a desire to deepen that understanding.

To complement an assessment of current and desired online learning tools and technologies, CHLOE 2 also asked about online teaching, learning, and assessment techniques. In some cases, like CBE and OER, tools and techniques are closely related. As with technologies, we asked chief online officers to select the five techniques they judge most important or innovative for their institution's online programs today. Figure 41 compares current and desired adoption.

[Our data suggest that] learning analytics is the only currently non-mainstream technology destined for truly mainstream adoption in the near future

Problem-based learning is a stand-out in Figure 41. The technique is the third most referenced among CHLOE respondents' current top five, but is also the sixth most desired for adoption. This may reflect the relative absence of distinctive market-facing pedagogies in today's online market, and a desire to lead with teaching and learning effectiveness rather than delivery mode or convenience. Without a doubt, the definition and implementation of problem-based learning varies among the sample.

Beyond that, the only techniques that promise greater adoption than at present are simulations and game-based learning, badging and micro-credentials, CBE, and assessment of prior learning. It is interesting that the much-touted flipped classroom exhibits stronger contemporary than desired adoption. Perhaps the technique lends itself better to campus classrooms or to synchronous sessions that remain the exception in online learning. Of course, already widely adopted tools or techniques necessarily limit future adoption.

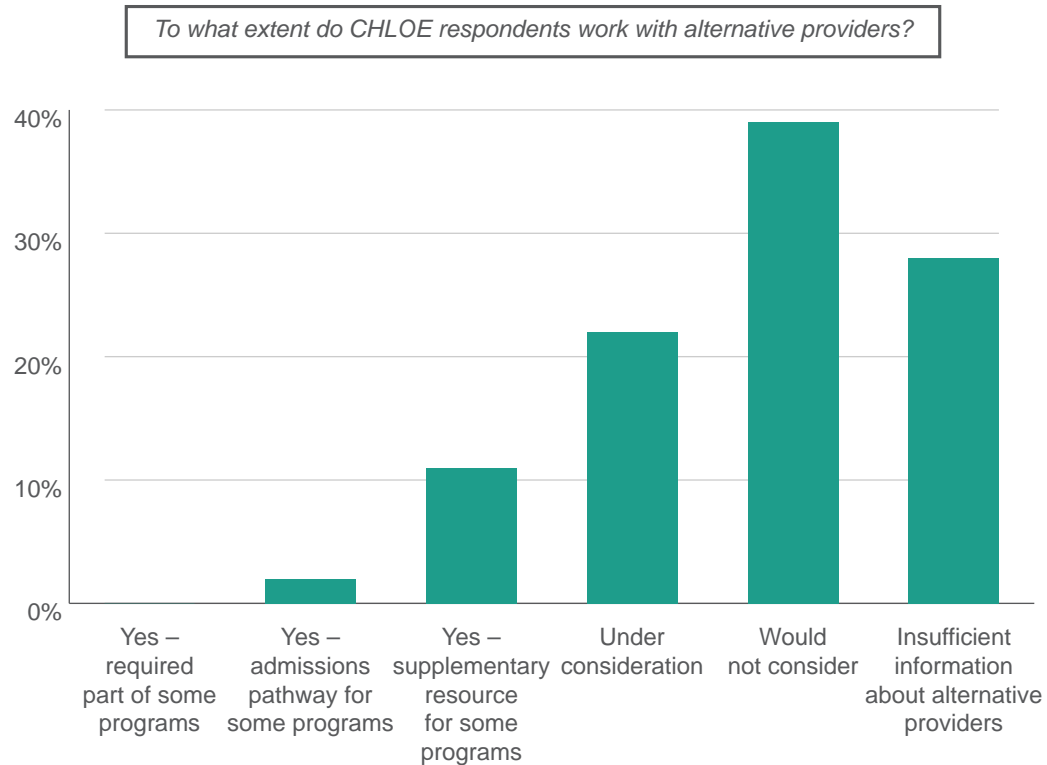
Figure 41. Asynchronous Discussions Today; Simulations Tomorrow?

The adoption of courses purchased from alternative providers appears to be both little adopted and of limited interest going forward.

Compared to technologies, teaching and learning techniques present less homogeneity in terms of combined current and desired adoption. While four technologies commanded combined allegiance of more than 75%, only one technique (problem-based learning) did so, at 77%. There were few significant differences by institutional type or scale of online enrollment.

The final CHLOE 2 Survey question about online teaching and learning concerned alternative providers, such as edX, Coursera, Straighterline, or coding bootcamps (Figure 42). The question asked chief online officers if they used such providers as admissions pathways or to fulfill certain course requirements.

Figure 42. Use of Alternative Providers



Half of CHLOE respondents cite past and/or anticipate future major technology change for their fully online programs

Figure 42 clearly demonstrates that formal pathway or course-outsourcing relationships with alternative providers are highly unusual at this point. A view of certain kinds of providers, like MOOC companies, as an optional resource for students is more common. The rise of MicroMasters programs—where MOOC-style courses are used to try to entice students into conventional enrollment—may see a growth in more formal relationships going forward.

Straighterline, a provider of low-cost online general education courses, boasts more than 100 institutional credit transfer partners. Indeed, 22% of the CHLOE 2 sample said alternative provider alliances of one kind or another were under consideration.

On the other hand, 39% of chief online officers said such partnerships were out of the question. This view suggests many leaders struggle to see the point of such collaborations, or perhaps worry about brand impact, quality, or how accreditors might react. More than a quarter of respondents said they lack sufficient information to judge the value of any alternative provider alliance, undoubtedly exacerbated by the fact that alternative providers are numerous and diverse, and many are of recent origin.

Schools with more than 7,500 online course and program students were most likely to say that an alternative provider collaboration was under consideration: 37% versus 8% for schools with fewer than 1,000 such students.

Looking Ahead: The Chloe 3 Survey

Our long-term objectives for CHLOE remain:

- 1) to serve as a reliable picture of current practices and emerging trends in online learning.
- 2) to gradually identify a range of successful models for online program policy, structure, and management.

We hope that CHLOE's success in achieving these objectives will serve as an aid to institutions in finding their own individual paths through an array of choices that online learning has opened.

Having established a number of baseline characteristics and trends in mainstream online learning in the first CHLOE Survey and confirmed them with expanded participation in the second survey, we anticipate that the next CHLOE Survey will shift toward in-depth coverage of several current themes and a few new ones. Among the areas under consideration for CHLOE 3 are:

- **Online Courses and Blended Programs.** Until now, the CHLOE project has focused on fully online programs. We recognize, however, that approaches to online learning stressing the development of blended programs and/or concentrating on creating online course options across the curriculum deserve serious attention. These approaches may be more difficult to scale, less visible than fully online programs, and harder to measure. Few institutions appear to have committed to blended learning at scale, and many questions remain about the details of blended learning. Yet they have the potential to combine the best of online and on-ground education.
- **Differentiation of Practice by Academic Discipline.** Another aspect of online learning that deserves greater attention is the role of individual departments and disciplines in adapting online tools and pedagogy to meet their unique needs.
- **Governance of Online Learning.** CHLOE 1 and 2 explored the role of the chief online officer and growing oversight of online learning by academic affairs. The next challenge is to explore in more depth the structures and processes governing the development and management of online learning at the institutional level.

- **Student Engagement.** A key to successful online programs is assuring that students are actively engaged through the online medium. CHLOE wants to know how programs are measuring student engagement, including faculty-to-student, student-to-content, and student-to-student.
- **The Quality Assurance Process.** CHLOE has documented the widespread adoption of quality standards. It remains to explore the process of quality assurance from the establishment of standards, to their application and management, to their evaluation, to the actions taken in response to feedback from evaluation.
- **Innovation vs. Stability.** The first two CHLOE surveys found that the majority of online programs envision gradual and supplementary changes to their technology and online pedagogy, while about a quarter of the field, at any given time, appears committed to major change. The next survey may explore the institutional characteristics and conditions that lead to greater innovation and the factors that move innovations into the mainstream.
- **The Evolving Role of For-Profit Online Learning.** Working with a limited response from the for-profit sector, CHLOE 2 identifies some intriguing differences from the other sectors engaged in online learning in matters of priority and practice. Despite its recent difficulties, for-profit remains a significant component of the online learning picture, and we hope to expand CHLOE's coverage.
- **Models for Online Success.** With the governance piece in place, CHLOE will be positioned to complete its picture of alternative models of online success. This ranges from the enterprise-level national program to the community-based program and from the multi-disciplinary fully online program to the specialized and blended.

The CHLOE Team welcomes your reactions to our current findings and input to our future plans. Please send your comments to Richard Garrett (rgarrett@eduventures.com) and Ron Legon (rlegon@qualitymatters.org).

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Acknowledgements

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Appendix A:

Online Enrollment Trends

Appendix A summarizes online enrollment trends in U.S. higher education. This is essential content for the CHLOE survey.

“Distance-Exclusive” student enrollment at U.S. colleges and universities has been tracked since 2012, at both the undergraduate and graduate level. “Distance-Exclusive” encompasses any form of distance learning, but it is safe to assume that the vast majority consists of fully online programs. Students enrolled in “some” distance courses are also reported.

Overall enrollment in U.S. higher education has fallen since the recession-induced spike of 2008-2012. Numbers at for-profit schools and community colleges have been affected most negatively, and enrollment among older undergraduates is also noticeably down. Four-year public and private nonprofit institutions have grown modestly, as has the number of graduate students.

Distance enrollment has increased every year since 2012, both at the undergraduate and the graduate level, meaning that online students account for a bigger proportion of the total. Table A1 shows enrollment at the undergraduate level by type of institution.

Table A1. “Distance-Exclusive” Undergraduate Enrollment in U.S. Higher Education 2012-16

Type of Institution	2012	2013	2014	2015	2016	Growth 2012-2016	Growth 2015-2016
Public 4Y	366,675	398,616	445,303	474,105	545,646	49%	15%
Private 4Y	261,840	289,449	346,539	387,640	405,420	55%	5%
For-Profit 4Y	675,647	613,140	592,823	513,471	467,576	-31%	-9%
Public 2Y	657,117	662,821	690,151	717,537	708,887	8%	-1%
Private 2Y	798	822	814	1,203	17,547	N/A	N/A
For-Profit 2Y	21,681	19,322	21,600	10,514	10,035	-54%	-5%
TOTAL	1,983,758	1,984,170	2,097,230	2,104,470	2,155,111		
Growth	-	<0.1%	5.6%	0.3%	2.4%	8%	2.4%

Source: analysis of IPEDS data. Fall enrollment for U.S., degree-granting, Title IV-eligible schools.

In Fall 2016, the most recent year for which federal data is available, online students made up 13% of all undergraduates, up from 11% in Fall 2012. Among public 4-year schools, the ratio was only 7% in 2016, but 15% at private nonprofit providers. The latter share is skewed by a handful of particularly large online operations, such as Western Governor’s University and Southern New Hampshire University.

The majority – 65% – of students at 4-year for-profit institutions were enrolled fully online in Fall 2016. The ratio at community colleges was 12%.

Table A1 makes clear that nonprofit 4-year schools have grown online as their for-profit counterparts have shrunk, which explains the limited momentum in the undergraduate online market overall. In 2016, for-profits conceded their position as largest provider to online students at the 4-year level, with public institutions taking the lead.

Private nonprofit growth and for-profit retreat are exaggerated by the conversion of a not-insignificant number of for-profit schools to nonprofit status. This is most obviously the case at the 2-year level, where the conversion of a single institution – Ultimate Medical Academy – accounts for almost the entire jump of 16,000 “Distance-Exclusive” undergraduates between Fall 2015 and Fall 2016.

The public 2-year trajectory is interesting. In Fall 2016, for the first time, fully online enrollment at community colleges declined. In a sector where total enrollment has fallen for a number of years in a row, this is evidence that online learning is not immune to broader trends.

“Some distance” enrollment is larger than fully distance. In Fall 2016, over three million undergraduates took at least one online course – 18% of all undergraduates, and up from 14% in 2012. This is faster than fully distance growth – up 7% compared to only 2%. Public 2- and 4-year institutions are most visible in the “some” online category, reporting 19% and 22% of undergraduates under this heading. For most undergraduates, institutions may view blended learning rather than fully online as the best fit.

The fact that both fully and partially online enrollment growth picked up in Fall 2016, compared to hardly any growth in the prior year, is a sign of continued dynamism in the undergraduate online market as a whole.

Table A2 shows enrollment at the undergraduate level by type of institution.

Table A2. “Distance-Exclusive” Graduate Enrollment in U.S. Higher Education 2012-16

Graduate	2012	2013	2014	2015	2016	Growth 2012- 2016	Growth 2015- 2016
Public 4Y	208,334	221,585	242,551	265,277	291,578	40%	10%
Private 4Y	204,790	229,823	257,196	279,779	305,653	49%	9%
For-Profit 4Y	226,014	225,672	225,424	223,812	221,344	-2%	-1%
TOTAL	639,138	677,080	725,171	768,868	818,575	28%	6.5%
Growth	-	5.9%	7.1%	6.0%	6.5%		

Source: analysis of IPEDS data. Fall enrollment for U.S., degree-granting, Title IV eligible schools.

The fully online graduate market is smaller than at the undergraduate level, but the online share of the graduate market is considerably larger – 28% compared to 13%. This is consistent with an older and more academically experienced student population, one that values the convenience of online learning as a way to more easily combine study with family and work. Many institutions have been more willing to offer online graduate programs than online undergraduate programs.

Among public and private nonprofit schools, fully online enrollment is growing fast. As at the undergraduate level, true online enrollment scale is confined to a handful of providers, but the disparity

is less pronounced. For-profit numbers are down but only slightly, pointing to the enduring strength of certain graduate-oriented institutions, such as Capella University and Walden University.

The “some distance” enrollment total is significantly below that of fully distance – under 300,000 (about 9% of all graduate students) – but exhibits strong growth. In Fall 2016, “Some Distance” graduate enrollment grew 14% over the prior year, compared to only 6.5% fully distance growth. This may reflect institutional or student enthusiasm for a blend of campus and online learning or perhaps the needs of certain disciplines where fully online delivery is not possible or not permitted by regulators.

Federal data also covers online program growth. Figure A1 compares online student and program trends.

Figure A1. Is online enrollment growth spurring over-supply of online programs?

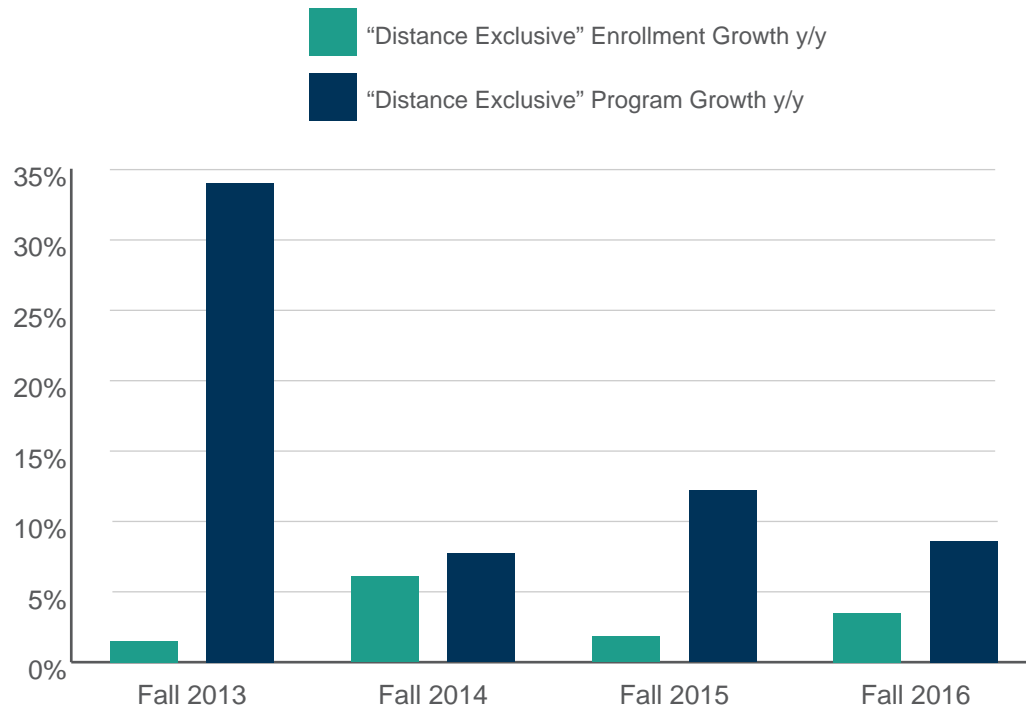


Figure A1 shows that for all years where federal data is available, online program numbers have grown faster than the number of online students. Dramatic program growth in 2013 may in part be a function of institutions catching up to new reporting requirements.

It may not be surprising that program growth is running ahead of enrollment. In a market where online enrollment growth continues to outpace enrollment on campus, there is some logic in institutions developing additional online programs. The question is whether such growth risks an over-supply of online programs. Another view might be that program growth helps support enrollment growth, offering greater institutional and programmatic diversity and choice. More programs offered by more institutions may hobble enrollment at the largest online schools or may prompt market leaders to innovate in order to pull away from the competition.

In the end, not every institution or program will benefit equally from online enrollment growth, and some institutions will over-extend. Average enrollment per online program will continue to decline so long as program growth exceeds enrollment growth.

Appendix B: Strategic Priorities Compared

The following charts show the proportion of CHLOE 2 respondents that cite a particular priority for online learning in their institution's strategic plan. The first two charts show the most and least commonly cited priority. For-profit responses are included but reflect a very small sample.

Figure B1. Enrollment Growth
(Most often noted – All Sectors 73% of Sample)

Figure B2. Cost Reduction
(Least noted – All Sectors 11% of Sample)

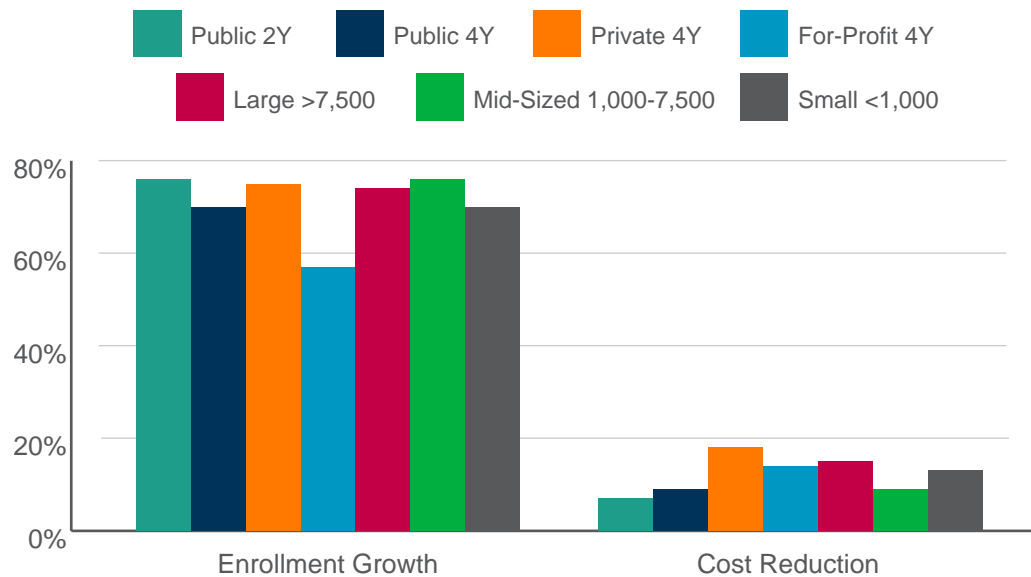
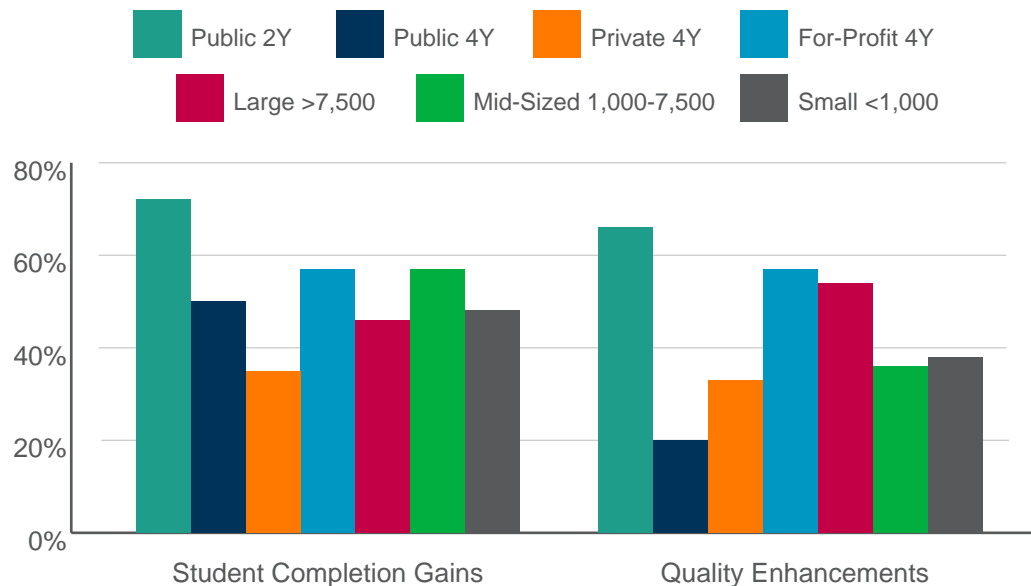
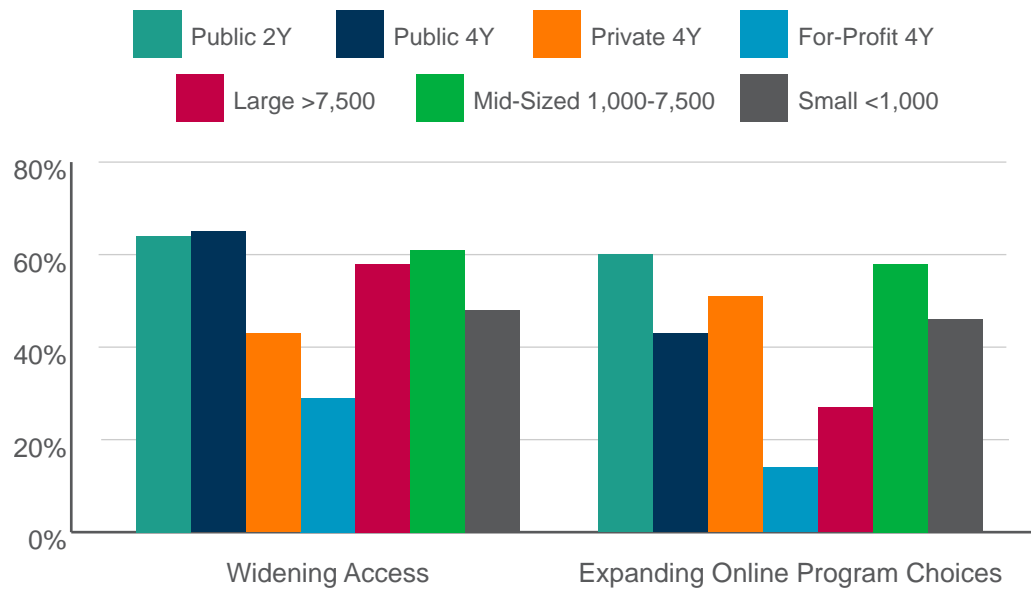
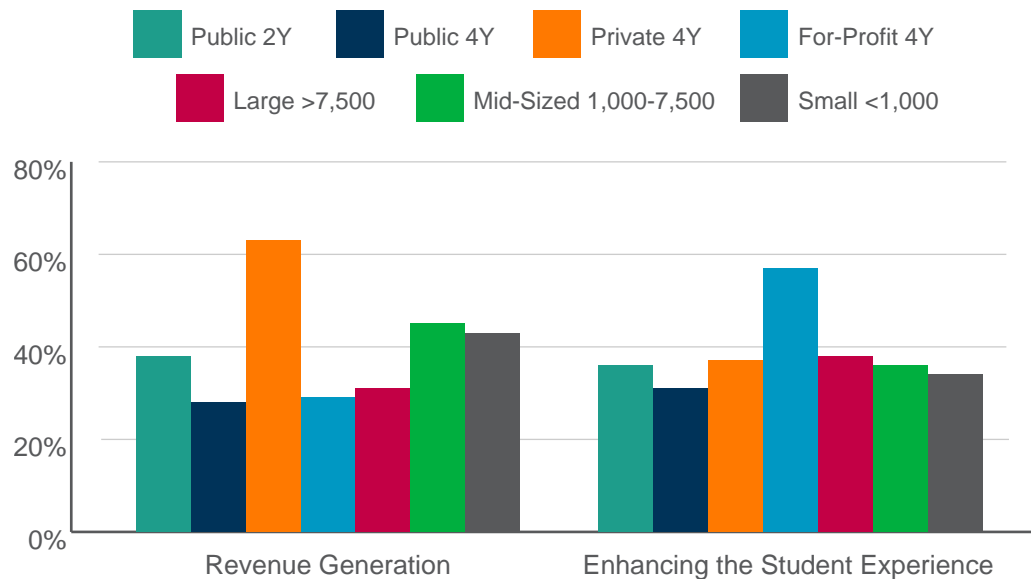


Figure B3. Student Completion Gains
(52% of Sample – Highest for Community Colleges)

Figure B4. Quality Enhancements
(40% of Sample – Highest for Community Colleges)



**Figure B5. Widening Student Access
(56% of Sample)**
**Figure B6. Expanding Online Program Choice
(49% of Sample)**

**Figure B7. Revenue Generation
(42% of Sample – Highest
in Private Nonprofits)**
**Figure B8. Enhancing the Student Experience
(36% of Sample – Highest
in Limited For-Profit Sample)**


Appendix C: Additional Quality Assurance Data

Figure C1. Quality Metrics Adopted and Applied Internally

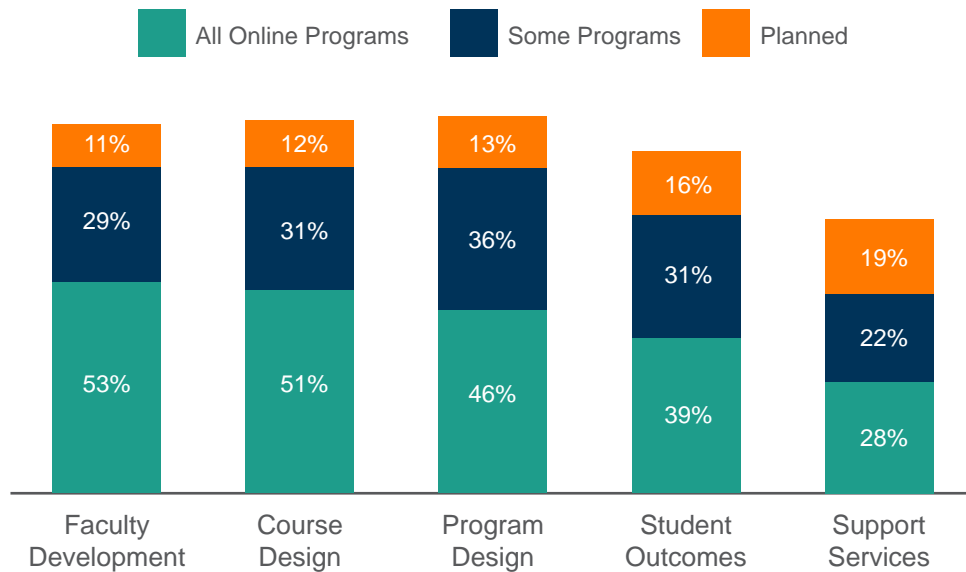
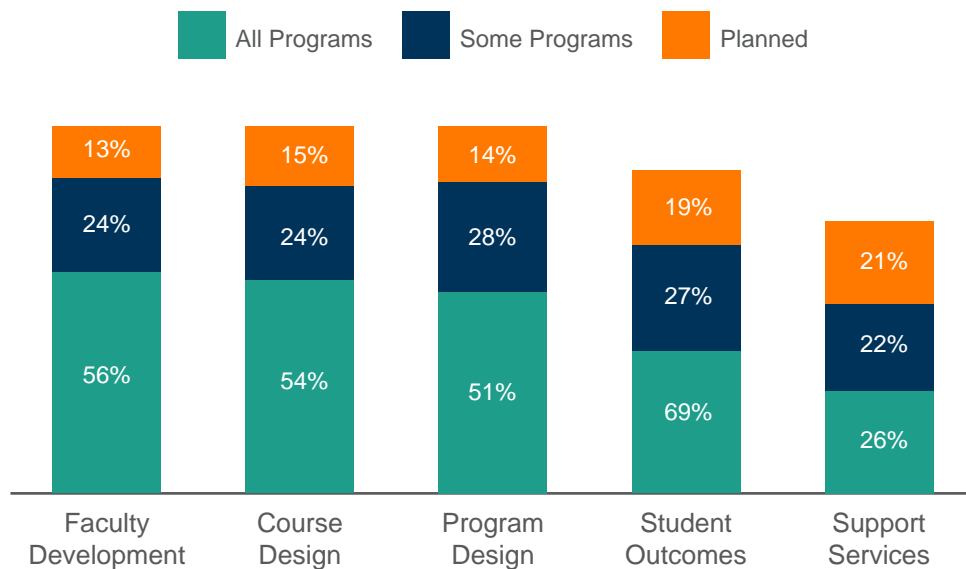


Figure C2. Provide Training on Quality Standards



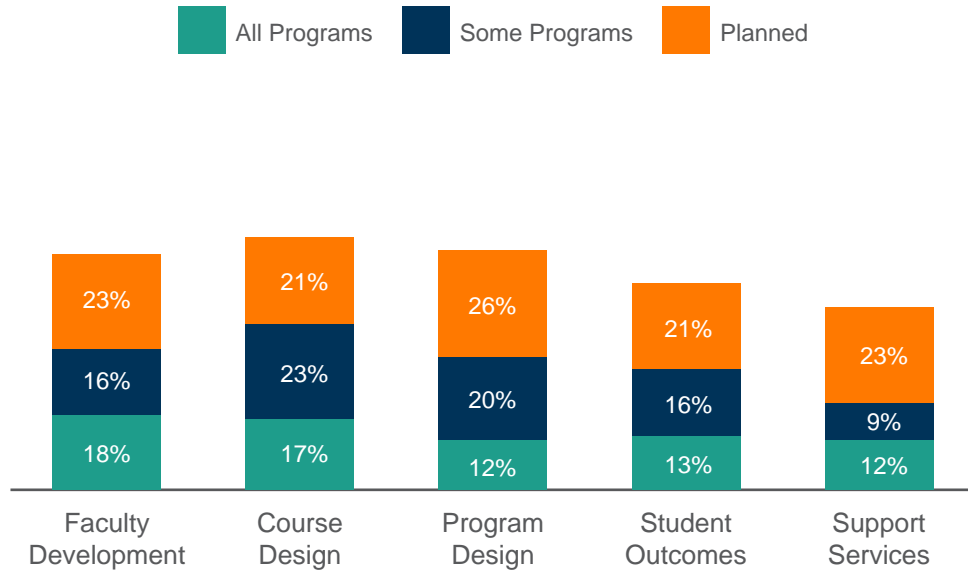
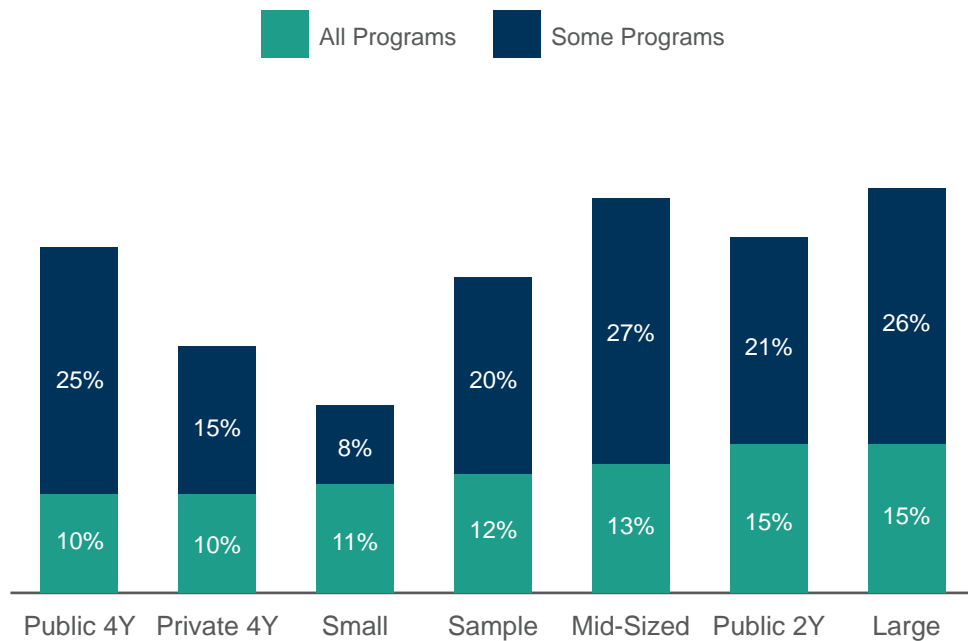
**Figure C3. Seek External Certification
of Quality Online Standards**

**Figure C4. Programs Seeking External Certification
of Program Design by Sector and Size**


Figure C5. Programs Seeking External Certification of Course Design by Sector and Size

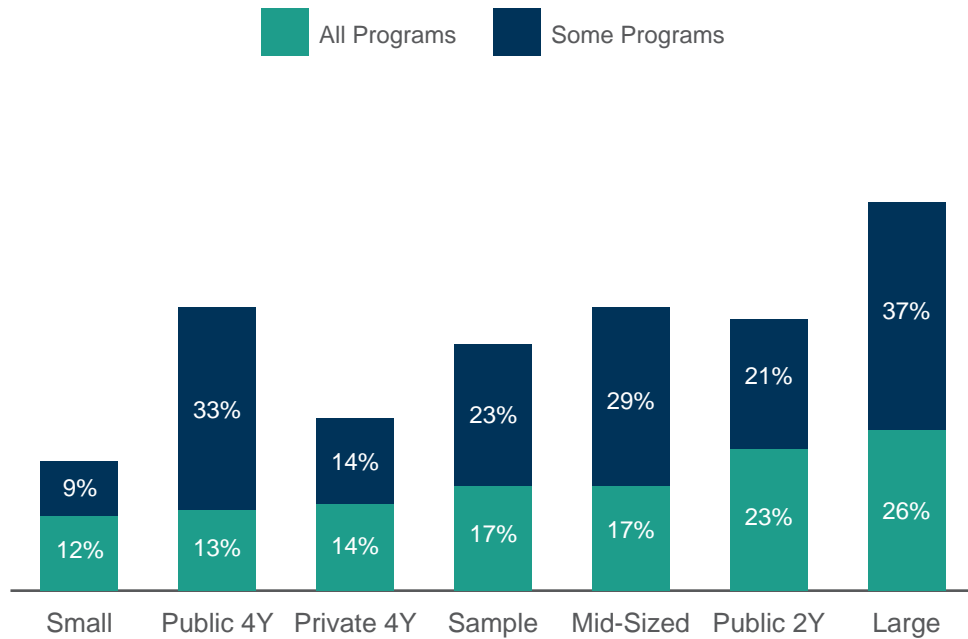


Figure C6. Programs Seeking External Certification of Faculty Development by Sector and Size

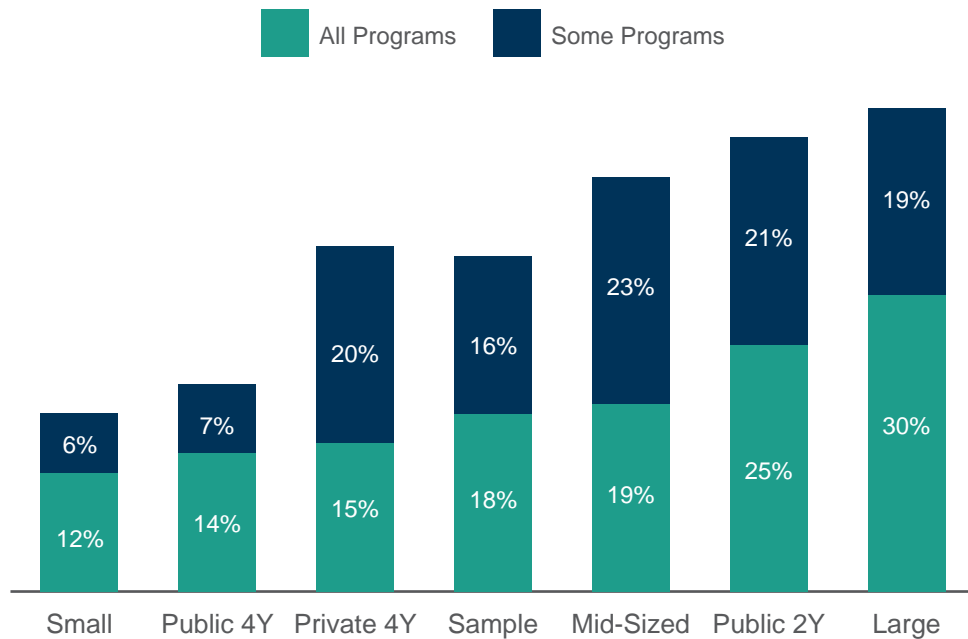


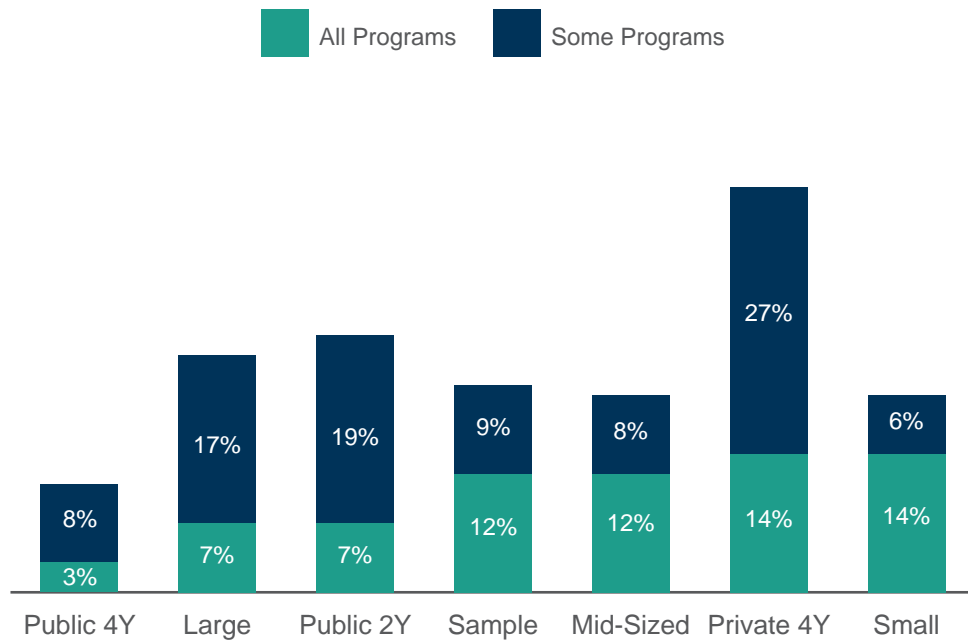
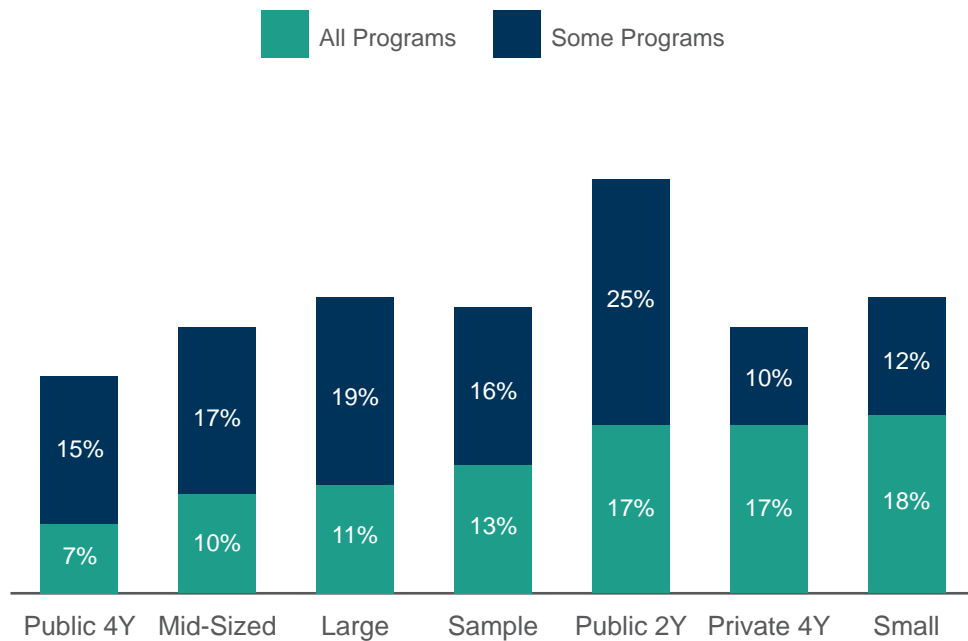
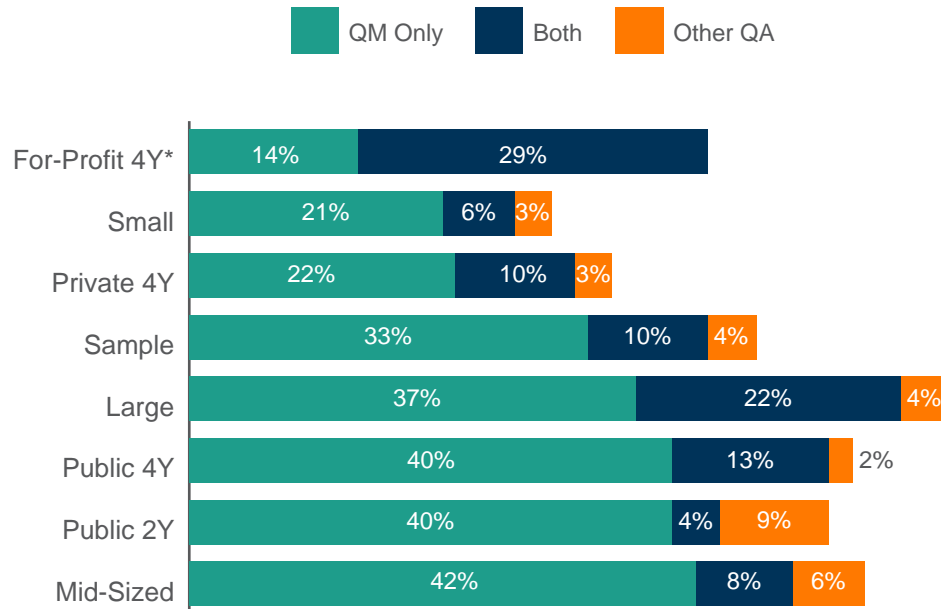
Figure C7. Programs Seeking External Certification of Support Services by Sector and Size

Figure C8. Programs Seeking External Certification of Student Outcomes by Sector and Size


Figure C9. Use of QM and Other External Entities to Certify Online Course Quality

Figure C10. Use of QM and Other External Entities to Certify Online Support Services Quality
